



DIFFERENTIATED INSTRUCTION IN SECOND LANGUAGE TEACHING:
EDUCATORS' PERSPECTIVES, PRACTICES AND CHALLENGES IN RWANDA

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Doctor of Philosophy (PhD) in Education

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Abstract

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In addition to demographic factors like gender, age, race, and socio-economic backgrounds, modern students display nuanced differences in intelligence, learning styles, and personality, posing a contemporary challenge for educators seeking to cater to diverse needs (Eikeland & Ohna, 2022; Tomlinson, 2017; Koehler, 2010). To tackle this issue, several studies have suggested the adoption of differentiated instructional strategies to enhance learner engagement and ultimately improve learning outcomes (Tomlinson, 2017; Awla, 2014; Koehler, 2010). However, there exists a noticeable gap in the application of these strategies, particularly in second language teaching in Rwanda (Ngendahayo & Askill-Williams, 2016). Furthermore, empirical research exploring the perceptions and implementation of differentiated instruction among teacher trainers and trainees in these contexts, as well as the factors influencing its adoption, is lacking. This study aimed to investigate how English teacher trainers and trainees in Rwanda perceive and implement differentiated learner-centered strategies, with the goal of providing insights into differentiated instructional practices and addressing existing gaps in the academic literature.

The study employed a mixed methods research design, incorporating guided interviews and questionnaires to collect in-depth data from participants affiliated with educational institutions in Kigali City, including the Adventist University of Central Africa, the Kigali Institute of Education, Mt. Kenya University, and Institut Catholique de Kabgayi (ICK). The choice of utilizing a mixed methods approach was in alignment with the recommendations of Schoonenboom and Burke (2017), who advocated for the integration of both quantitative and qualitative methods to achieve a more comprehensive analysis that contributes significantly to the existing body of knowledge. Primary data were gathered through the administration of questionnaires to participants. The selection of this instrument was deemed appropriate due to the delineated population, geographical proximity within Kigali City, and the absence of language barriers, as highlighted by MacDonald and Headlam (year not specified). Furthermore, the study incorporated semi-structured exploratory interviews, guided by a thematic approach rather than rigid, predefined questions, following the methodological guidance of MacDonald and Headlam (year not stated).

The results show that English teacher trainers and trainees have positive attitudes toward differentiated instruction but often lack a nuanced understanding of its practical application, highlighting broader issues related to teacher capacity building and professional support within educational institutions. There is a need to reimagine teacher training and capacity building to address the misalignment in practice and effectively equip teachers with the requisite skills for the reality of the 21st-century classroom. The study also underscores the substantial challenges hindering the effective implementation of differentiated instruction and recommends workable solutions to remedy this.

In summary, the results of this study have considerable implications for instructional methodologies and the improvement of teaching practices within the framework of English language education in Rwanda. They represent a valuable asset for educators, policymakers, and researchers involved in this field.

Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated otherwise by reference or acknowledgment, the work presented is entirely my own.

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I confirm that I retain the intellectual property and copyright of the thesis submitted. I also allow Unicaf University in Zambia to produce and disseminate the contributions of the thesis in all media forms known or to come as per the Creative Commons BY Licence (CC BY).

Dedication

This work is dedicated to my mother, Benter Achieng Ogolla, who at great personal sacrifice has weathered life's battering to stand in the gap for me; my forte and mainstay through this journey.

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I would like to express my sincere gratitude to everyone who contributed to the completion of this research endeavor.

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Table of Contents

List of Abbreviations	xiii
List of Tables.....	xiv
List of Figures	xv
CHAPTER 1: INTRODUCTION	1
Statement of the Problem.....	3
Nature and Significance of the Study	6
Theoretical/scientific knowledge.....	9
Applied scientific knowledge.....	11
Research Objectives.....	14
Research Questions and Research Hypotheses.....	15
CHAPTER 2: LITERATURE	18
Theoretical/Conceptual Framework.....	19
Socio-cultural Theory of Learning	19
Progressive Education Theory.....	21
Multiple Intelligence and Learning Profiles Theories	24
Theories of Second Language Acquisition.....	28
Input Hypothesis in Second Language Acquisition and Teaching	31
Comprehensive Input	33
Theory of Differentiated Instruction.....	76
A summary of the Theories	81
The Concept of Differentiated Instruction.....	86
What is Differentiated Instruction?.....	86
Differentiation according to Readiness.....	89
Differentiation according to Interests	99
Differentiation according to Student Profiles	102
Methods of Differentiation?.....	106
Differentiation of Content.....	108
Differentiation of Process	112
Differentiation of Product.....	115
Differentiation of the Learning Environment	118
The Rationale for Differentiated Instruction	120
Teacher Perception of Differentiated Instruction.....	122
A Summary of the Relevant Studies	124
Summary of the review.....	133
CHAPTER 3: RESEARCH METHOD	135
Research Approach and Design	138
Population and Sample of the Research Study.....	142

Materials/Instrumentation of Research Tools.....	144
Operational Definition of Variables	146
Construct/Variable 1. Content	147
Construct/Variable 2. Process.....	148
Construct/Variable 3. Product.....	148
Construct/Variable 4. Learning Environment	149
Study Procedures and Ethical Assurances	150
Ethical Assurances	152
Informed Consent.....	153
Anonymity and confidentiality.....	155
Honesty and Integrity	156
Conflict of Interest	157
Protecting the participants	157
Data Collection and Analysis.....	158
Summary.....	159
CHAPTER 4: FINDINGS.....	160
Trustworthiness of Data	161
Conformability	161
A summary of the Theories	162
Credibility	174
Transferability	176
Dependability	178
Reliability and validity of data.....	180
Results	181
Demographic Description.....	181
Research Question 1: What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?	186
Research Question 2: How do English teacher trainers and trainees implement differentiation in their classrooms?	191
Research Question 3: What are the challenges faced in differentiating instructions?	216
Analysis/Evaluation of Findings.....	232
Participants' Perceptions on Differentiated Instruction	232
Implementation of Differentiated Instruction	237
Differentiated Communication	252
CHAPTER 5: IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS.....	259
Implications	261
Research Question 1: What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?	261
Research Question 2: How do English teacher trainers and trainees implement differentiation in their classrooms?	265

Research Question 3: What are the challenges faced in differentiating instructions?	274
Recommendation	281
Recommendations for application	281
Recommendations for future research	302
Conclusions	331
Implementation of differentiation.....	333
Challenges Faced in the Implementation of Differentiated Instruction.....	336
Possible Next Steps	337
Overall Conclusion.....	341
REFERENCES.....	343
APPENDICES	449
Appendix A: Survey	449
Appendix B: Interview Questions for English Teacher Trainers.....	459
Appendix C: Interview Questions for English Teacher Trainees	461
Appendix D: Investigator's Verification of Explanation	463
Appendix E: informed Consent Form	464
Appendix F: UREC's Decision.....	466
Appendix G: Gatekeeper Letter	467

List of Abbreviations

DI	Differentiated Instruction
EFL	English as a Foreign Language
ESL	English as a Second Language
CLIL	Content and Language Integrated Learning
DoC	Differentiation of Content
DoLE	Differentiation of Learning Environment
DoP	Differentiation of Product
DoP	Differentiation of Process
SLA	Second Language Acquisition
FLA	First Language Acquisition

List of Tables

Table 1 A Summary of the Relevant Studies	132
Table 2 Distribution of the study population	150
Table 3 A summary of the Theories	170
Table 4 Participant Roles and Gender Distribution	191
Table 5 Participants' Level of Education	193
Table 6 T-test for Perceptions	194
Table 7 A Summary of the Challenges and Proposed Solutions	233
Table 8 Means and Standard Deviations for Statements B1 to B5	235
Table 9 Participants' Ratings of the Classroom Physical Environment	240
Table 10 Participants' Ratings on Course Assessments (Product Differentiation)	242
Table 11 Participants' Ratings of Student Behavior	245
Table 12 Participants' Ratings of Teaching and Learning	248
Table 13 Participants' Ratings of the Instructional Strategies in the Course	251
Table 14 Participants' Rating of their Use of Languages Other Than English	255
Table 15 Participants' Rating of their Use of Languages Other Than English	259

List of Figures

Figure 1 The Sequential Exploratory Design	148
Figure 2 A tabulated form of explanatory sequential design.	149
Figure 3 Conceptual Framework	155
Figure 4 The Sequential Exploratory Design	187
Figure 5 Age Distribution of the Participants	189
Figure 6 Distribution of Experience Across Participants	193
Figure 7 Respondents' Perception on Differentiated Instruction	195
Figure 8 Respondents' Differentiation of the Learning Environment	200
Figure 9 Respondents' Differentiation of Content	201
Figure 10 Respondents' Differentiation of Product	203
Figure 11 Respondents' Differentiation of Differentiated Instructional Strategies	204
Figure 12 Respondents' Assessment of Student Behavior During Process Differentiation.	206
Figure 13 Respondents' Differentiation in Communication	207

CHAPTER 1: INTRODUCTION

The increasing diversity among students calls for effective research-proven teaching strategies that meet each student at their point of need (Eikeland & Ohna, 2022; Tomlinson, 2017; Koehler, 2010). Beyond gender, age, race, and socio-economic distinctions, students exhibit additional subtle variations in intelligence, learning styles, and personality differences (Melese, 2019; Parkash, 2017; Tomlison, 2017; Fitzgerald, 2016; Alwa, 2014; Subban, 2006). Nobody captures the pivotal implications of this to the teaching practice like Albert Einstein when he says, “Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid,” (quoteinvestigator.com, 2020). Put simply, Einstein presupposes that learners have unique abilities and learn differently.

Alwa (2014) further sheds light on the uniqueness of learning abilities by categorizing learning styles into 3: cognitive, sensory and personality. These, he explains, are further broken into sub-categories like kinesthetic, tactile, auditory, visual and intuitive. He posits that for effective learning to take place, it is paramount that the learning and teaching styles are matched, (Awla, 2014; Fouka & Marianna, 2011). The process of matching these two is what is otherwise called differentiated instruction.

Like the rest of the world, Rwanda’s classrooms are characterized by diverse learners and its education system is rapidly changing leading to the implementation of educational practices that may work in favor or disfavor of learners. In recognition of this, in 2016, the government of Rwanda changed its pedagogical approach from knowledge-based to competency-based (Ngendahayo & Askill-Williams, 2016), and with the Covid-19 pandemic, a quick transition was further implemented from the face-to-face modality to blended learning. In the face of such

changes, educators in Rwanda now have to not only acclimate to the changes but also find ways of dealing with the question of student diversity in their classes.

This dynamic educational landscape in Rwanda, and the world over, calls for contemporary, research-based ways to approach teaching and learning to optimize learner engagement and learning outcomes. In light of this, it is counterintuitive to subject what would be a multi-ethnic, multiple intelligent and divergent personality composition of a group of students to the exclusive one-size-fits-all approach that does not customize learning to the diversity in today's classroom (Melese, 2019; Parkash, 2017; Fitzgerald, 2016). "The homogeneity of yesteryear has been replaced by widespread diversity, however in many contexts, teachers do not appear to have adjusted their methods to keep abreast of these trends," (Suban, 2006, p935). This is, then, today's teacher's dilemma: "How to reach out effectively to students who span the spectrum of learning readiness, personal interests, and culturally shaped ways of seeing and speaking about and experiencing the world," (Tomlinson, 2014, p.1).

Teachers who have honed their skills in differentiation believe that content must be delivered in different ways, assessments administered in multiple ways and students are given choices in modes of submitting the varied assessments, (Tomlinson, 2017). This is to say, "Differentiated instruction is a teaching strategy that enables educators to modify their instruction to address the strengths and needs of a diverse set of learners," (Koehler, 2010). Scores of researchers (Awla, 2014; Koehler, 2010; Subban, 2006 and Tomlinson, 2014) contend that differentiated instruction positively impacts learners' performance. However, despite its promotion as an enthralling and efficient strategy for streamlining the outmoded knowledge-based approach to "include students of diverse abilities, interests and learning profiles, the philosophy is lacking in empirical validation," (Subban, 2006). A glean through the

studies conducted in the area reveals literature reviews, testimonies and anecdotal reports of how educators are doing it. There is a need to examine this more deeply especially within the mixed research methodology and design to gauge how differentiated instruction would impact language students in higher institutions of learning.

Against this backdrop, the study zeroes in on Rwanda's educational setting, where English language teaching faces its own set of challenges and opportunities. The Rwandan context, marked by diverse learners and a changing educational landscape, provides a unique lens through which to examine the perceptions and practices of English teacher trainers and trainees regarding differentiated learner-centered strategies. By delving into this specific context, the research seeks to contribute not only to the broader discourse on language instruction but also to the localized understanding of how these strategies can be effectively employed in the Rwandan educational framework.

This study investigated English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda, in the hope of providing substantial facts to guide instruction and bridge the gap that currently exists in the body of literature. While differentiation is a teaching and learning strategy applicable to all learning subjects and at all levels of education, this study will only focus on higher institutions of learning, specifically teacher training institutions, and will be limited to the perception and implementation of differentiated teaching and learning strategies.

Statement of the Problem

The growing diversity among student characteristics, coupled with the concept of inclusive education, necessitates teaching strategies capable of addressing the needs of all

students in mixed-ability classrooms (Moosa & Sahreefa 2019; Tomlison, 2017). In addition to this, scores of researchers (Moosa & Sahreefa 2019; Tomlison, 2017; Awla, 2014; Koehler, 2010; Subban, 2006) prove that differentiated instruction is an effective teaching approach to address the diverse needs in the classroom and optimizes learning outcomes. However, in many contexts- Rwanda inclusive, teachers do not appear to have adjusted their methods to keep abreast of the trends, despite the replacement of the homogeneity of yesteryear by widespread diversity.

In Rwanda, for instance, the government has advocated for such learner-centered approaches and even supported various teacher capacity-building programs to support teachers in implementing differentiated learner-centered approaches to no avail. Furthermore, even though numerous studies and researchers advocate for the efficacy of differentiated instruction, particularly in streamlining outdated knowledge-based approaches, the specific application and empirical evidence of its implementation in Rwanda remain underexplored. Existing literature primarily comprises literature reviews, testimonies, and anecdotal reports from other countries, lacking empirical evidence regarding English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda.

This research aimed to establish the English teacher trainers' and trainees' perception of differentiated instruction and to investigate how they are implementing it as part of the learner-centered strategies in Rwanda. The study also purposed to address the existing gap in the body of literature regarding differentiated instruction as enacted especially in the English teacher training educational spaces in Rwanda.

The complexities within the modern classroom in Rwanda underscore the need for teaching strategies that go beyond traditional, one-size-fits-all approaches. Differentiated

instruction offers a promising avenue to address this complexity by acknowledging and responding to the unique learning needs of each student. The diverse spectrum of students in Rwandan classrooms, encompassing varying academic abilities, learning styles, and cultural backgrounds, necessitates a pedagogical shift that is both flexible and responsive. As the educational landscape continues to evolve, it becomes imperative to examine how educators perceive and navigate these complexities, shedding light on the practical challenges they encounter in implementing differentiated instruction.

Despite the government's advocacy for learner-centered approaches, the translation of such policies into effective teaching practices poses notable challenges. English teachers, like their counterparts globally, confront barriers in adapting their instructional methods to the diverse needs of students. These challenges may include a lack of tailored resources, insufficient training, and inherent resistance to change. Understanding these impediments is crucial for informing targeted interventions that facilitate a smoother integration of differentiated instruction into English classrooms in Rwanda.

Teacher perceptions play a pivotal role in shaping instructional practices. Exploring English teacher trainers' and trainees' perceptions of differentiated instruction provides a nuanced understanding of the factors influencing its adoption or reluctance. Factors such as preconceived notions about effectiveness, attitudes towards pedagogical change, and awareness of the benefits of differentiated instruction all contribute to the tapestry of teacher perceptions. Unraveling these intricacies can illuminate key leverage points for educational leaders and policymakers to tailor interventions that address specific perceptual barriers hindering the widespread implementation of differentiated instruction.

As the research aims to investigate the practical implementation of differentiated instruction in Rwandan English classrooms, it seeks to bridge the gap between policy intentions and classroom realities. By delving into the lived experiences of English teacher trainers and trainees, the study endeavors to uncover the intricacies of the teaching-learning dynamic, shedding light on the specific challenges and successes encountered. This micro-level analysis contributes not only to the academic discourse surrounding differentiated instruction but also offers actionable insights for policymakers and educators to align policies with the on-the-ground realities of English education in Rwanda.

In summary, the exploration of differentiated instruction in the Rwandan context necessitates a multifaceted analysis that considers the complexity of classroom diversity, challenges in adapting teaching practices, the influence of teacher perceptions, and the alignment of policy intentions with classroom realities. Each of these aspects contributes to a comprehensive understanding of the dynamics at play, offering valuable insights that can inform evidence-based strategies for enhancing the implementation of differentiated instruction in English classrooms in Rwanda.

Nature and Significance of the Study

The study aimed to investigate the perception and implementation of differentiated learner-centered strategies by English teacher trainers and trainees in Rwanda, through the utilization of a mixed methods research design that combines qualitative and quantitative approaches, the study explored the research questions in both breadth and depth. The choice of

design was not only informed by the nature of the research questions but also because this design provides depth, methodological flexibility, and a logical ground for research.

More specifically, to determine English teacher trainers' and trainees' perceptions of differentiated instruction, quantitative tools were employed, but to delve into the enactment and challenges faced in the practice of differentiated instruction, a mixed research design was deemed necessary. To this end, the study adopted a sequential explanatory mixed methods design, beginning with quantitative data collection and proceeding to in-depth qualitative analysis. This two-phase design helped to overcome biases and enhance inferences.

The study enlisted the participation of 4 English teacher training universities in Rwanda. A survey was administered to both the English teacher trainers and their trainees to determine their perception of differentiation. Interview sessions were then held to get to the depth of implementation of differentiated practices, the challenges faced and how these challenges are being remedied.

The present study sought to meticulously investigate the cognitive processes and practical implementation of differentiated learner-centered strategies within the context of English teacher training in Rwanda. The research framework employed a sophisticated mixed methods approach, strategically integrating both qualitative and quantitative methodologies. This methodological selection was not only contingent upon the inherent complexities of the research questions but also driven by the inherent strengths of this design, namely its capacity to provide depth, methodological flexibility, and a robust logical underpinning for research endeavors.

The utilization of quantitative tools was deemed imperative to ascertain the nuanced perceptions of English teacher trainers and trainees regarding differentiated instruction.

However, recognizing the imperative to delve into the lived experiences and challenges encountered during the practical implementation of these pedagogical strategies, the adoption of a mixed research design became indispensable. Consequently, the study embraced a sequential explanatory mixed methods design, initiating the research process with quantitative data collection and subsequently advancing to a comprehensive qualitative analysis. This sequential approach was meticulously orchestrated to attenuate potential biases and enhance the substantive validity of the study's inferences.

The participation of four English teacher training universities in Rwanda added a robust dimension to the study's scope. The initial quantitative phase involved the systematic administration of surveys to both English teacher trainers and their trainees, meticulously gauging their perceptual frameworks concerning differentiated instruction. Subsequently, interview sessions were conducted in a qualitative paradigm to unravel the intricacies of differentiated instructional practices, elucidating the challenges confronted during implementation and the remedial strategies proactively employed.

The sequential and integrated nature of the mixed methods design facilitated a nuanced exploration of the research questions. The quantitative phase yielded a panoramic understanding of participants' overarching perceptions, while the qualitative phase added granularity by illuminating the contextualized complexities of differentiated instruction implementation, including a discerning analysis of encountered challenges and the attendant remedial measures. This methodical and meticulous approach significantly fortified the study's internal and external validity, contributing substantive insights into the multifaceted landscape of differentiated instruction within the realm of English teacher training in Rwanda.

Theoretical/scientific knowledge

This study aspired to establish itself as a cornerstone within the realm of language education, serving not only as a valuable reference but also as a comprehensive guide for language educators. By immersing itself in the intricacies of differentiation implementation, the research sought to unravel the cognitive processes and practices of English teacher trainers and trainees in Rwanda. The overarching goal was to contribute significantly to the theoretical and scientific knowledge in the field of language education. Through a detailed exploration, the study aimed to shed light on the multifaceted complexities of differentiation, providing a robust reference point for educators navigating the landscape of effective instructional practices.

Indeed, the findings of this study transcend conventional perspectives, offering an in-depth understanding of the theoretical underpinnings and practical applications of differentiation. The knowledge generated by this research is expected to resonate beyond the immediate context, serving as a valuable resource for educators worldwide grappling with the challenges and opportunities inherent in differentiated instruction.

This study positioned itself as a cornerstone in the realm of language education, aiming to transcend the boundaries of conventional research. Language education is a dynamic and evolving field, and this research sought not only to contribute to existing knowledge but also to establish itself as a point of reference for language educators. By delving into the intricacies of differentiation implementation within the specific context of English education in Rwanda, the study intended to provide a comprehensive guide that goes beyond surface-level insights, offering educators a deeper understanding of effective pedagogical strategies.

The heart of this research lay in unraveling the cognitive processes and practices of English teacher trainers and trainees in Rwanda concerning the implementation of differentiated instruction. The study aimed to go beyond mere observation and surface-level descriptions, striving to unearth the underlying thought processes that guide educators in their adoption of differentiated instructional strategies. By doing so, it sought to provide a nuanced exploration that contributes not only to the practical application of differentiation but also to the theoretical foundations that inform language education practices.

The overarching goal of this research was to make a significant contribution to the theoretical and scientific knowledge in the field of language education. By conducting a detailed exploration of differentiated instruction, the study aimed to add depth to existing literature and frameworks. This involved not only documenting practical insights but also engaging with theoretical frameworks that underpin effective language education. The aim was to enrich the academic discourse, providing language educators with a solid theoretical foundation to inform their instructional practices.

Through its detailed exploration, the study sought to illuminate the multifaceted complexities of differentiation in language education. Differentiated instruction involves a nuanced interplay of cognitive, pedagogical, and contextual factors. By shedding light on these intricacies, the research aimed to provide language educators with a robust reference point. This comprehensive understanding goes beyond a surface-level appreciation of differentiation, offering educators insights into the depth and breadth of effective instructional practices in the English language classroom.

The findings of this study were not confined to the immediate context of English education in Rwanda; rather, they were positioned to transcend conventional perspectives and geographical boundaries. The research aimed to offer an in-depth understanding of the theoretical underpinnings and practical applications of differentiation. This knowledge, expected to resonate beyond the immediate context, was envisioned to serve as a valuable resource for educators worldwide. As language educators grapple with the challenges and opportunities inherent in differentiated instruction, the research sought to provide a global impact by contributing to a collective knowledge base that informs effective language teaching practices around the world.

Applied scientific knowledge

In the domain of applied scientific knowledge, this study emerges as a beacon, poised to enrich the existing tapestry of information concerning instructional practices, with a specific focus on differentiation. By meticulously examining how teachers engage with and implement Differentiated Instruction, the research provides a nuanced understanding that surpasses traditional theoretical frameworks. The insights gained from this exploration are foreseen as invaluable for the Ministry of Education, offering a comprehensive perspective on the practical intricacies of DI implementation.

This applied knowledge holds significant implications for educational policies and practices, acting as a catalyst for informed decision-making. As educational landscapes continually evolve, the study's insights contribute to a dynamic understanding of how differentiation is manifested in real-world classrooms. It provides a bridge between theoretical

concepts and the lived experiences of educators, fostering a deeper appreciation for the complexities and potential solutions associated with differentiated instruction.

The study's impact extends beyond the academic sphere, reaching the corridors of the Rwanda Board of Education and the Ministry of Education. Positioned as a robust resource, it aims to enhance their comprehension of language teachers' perspectives on differentiation. By systematically exploring the challenges encountered during the implementation of differentiated instruction, the research endeavors to present practical solutions that resonate with the realities of educators. In doing so, the study aligns with the broader objective of equipping educational authorities with the knowledge needed to champion and support teachers in the effective implementation of differentiation strategies, thereby fostering a more responsive and inclusive educational landscape.

Within the domain of applied scientific knowledge, this study emerges as a beacon poised to enrich the existing tapestry of information concerning instructional practices, specifically honing in on the intricate realm of differentiation. The meticulous examination of how teachers engage with and implement Differentiated Instruction elevates this research beyond traditional theoretical frameworks. By delving into the lived experiences of educators, the study provides a nuanced understanding that goes beyond theoretical abstractions, offering practical insights into the complexities of implementing differentiation in real-world classrooms.

The applied knowledge emanating from this study not only holds substantial implications for educational policies and practices but also serves as a potent catalyst for informed decision-making. In the ever-evolving landscape of education, where paradigms and

methodologies continually shift, the insights gleaned from this research play a pivotal role in cultivating a dynamic understanding of how differentiation manifests in real-world classrooms.

This study acts as a crucial bridge connecting theoretical concepts with the lived experiences of educators. By delving into the intricate realm of Differentiated Instruction, the research not only identifies challenges but also provides practical insights that foster a deeper appreciation for the complexities associated with implementing differentiation. The nuanced understanding gained through this exploration becomes instrumental in developing potential solutions that resonate with the practical realities faced by teachers on a day-to-day basis.

Policymakers and educational leaders stand to benefit significantly from these insights, as they can draw upon the research findings to shape policies that align seamlessly with the actual experiences of educators implementing differentiation strategies. This alignment ensures that educational policies are not detached from the practical challenges faced in classrooms but are, instead, rooted in the real-world scenarios encountered by teachers.

In essence, the study's contribution goes beyond theoretical frameworks; it actively informs the decision-making processes of policymakers and educational leaders. By providing a comprehensive understanding of the intricacies of differentiation in practice, this research equips them with the knowledge needed to enact policies that are not only visionary but also attuned to the pragmatic realities of teachers implementing differentiation strategies. In doing so, the study becomes a valuable resource for shaping an educational landscape that is responsive, adaptive, and supportive of effective teaching practices.

As the study systematically explores the challenges faced by educators during the implementation of differentiated instruction, its objective is not merely to identify obstacles but to present practical solutions. This proactive approach aligns with the broader goal of equipping educational authorities with the knowledge needed to champion and support teachers in the effective implementation of differentiation strategies. By addressing the real-world hurdles faced by educators, the study aims to contribute to the development of targeted interventions and support mechanisms that enhance the overall effectiveness of differentiated instruction in Rwandan classrooms.

In summary, this research stands not only as a contribution to academic knowledge but also as a practical guide for educators and educational authorities. By delving into the intricacies of differentiated instruction, it provides insights that are poised to influence educational policies, inform decision-making, and equip educators with the tools needed for effective implementation. The study's impact transcends theoretical frameworks, making a tangible difference in the realm of education in Rwanda.

Research Objectives

The study was guided by the following specific objectives:

- i. Investigate English teacher trainers' and trainees' perceptions of differentiated learner-centered practices.
- ii. Navigate through the methods of differentiation practised by English teacher trainers and trainees in the institutions of higher learning in Rwanda.

- iii. Establish the challenges faced in differentiation and the possible solutions.

Research Questions and Research Hypotheses

This study was anchored by a set of carefully crafted research questions aimed at unraveling the intricate facets of differentiated instructional practices among English teacher trainers and trainees in Rwanda. These questions served as the guiding pillars, providing a roadmap for a comprehensive exploration.

The following questions guided this study:

RQ1: What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?

RQ 2: How do English teacher trainers and trainees implement differentiation?

RQ 3: What are the challenges faced in differentiating instructions?

Research Question 1 (RQ1): Perceptions on Differentiated Instructional Practices The first research question delved into the perceptions held by English teacher trainers and trainees regarding differentiated instructional practices. By asking, "What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?" the study sought to unearth the nuanced viewpoints and beliefs that shape their understanding of differentiated instruction. This initial exploration set the stage for understanding the cognitive landscape surrounding differentiation, providing a foundation for further inquiry.

Research Question 2 (RQ2): Implementation of Differentiation Building upon the insights gained from the first question, the second research question aimed to unravel the practical

aspects of differentiation. "How do English teacher trainers and trainees implement differentiation?" guided the study into the classrooms, where the rubber meets the road. This question sought to uncover the strategies, methodologies, and instructional techniques employed by educators when translating their perceptions of differentiated instruction into actual teaching practices.

Research Question 3 (RQ3): Challenges in Differentiating Instructions Recognizing that the implementation of differentiated instruction is not without its challenges, the third research question delved into the obstacles encountered by English teacher trainers and trainees. "What are the challenges faced in differentiating instructions?" probed the complexities and hurdles inherent in adopting and executing differentiated instructional practices. This question aimed to provide a realistic portrayal of the impediments educators confront, shedding light on potential areas for improvement and targeted support.

Hypotheses: In addition to the research questions, this study formulated hypotheses to guide the analytical framework:

Null Hypothesis: There is no association between the perceptions of English teacher trainers and trainees on differentiated instructional practices.

Hypothesis 1 (H1): There is a positive correlation between the perceptions of English teacher trainers and trainees on differentiated instructional practices, indicating a shared understanding and alignment in their viewpoints.

Null Hypothesis: The implementation of differentiation by English teacher trainers and trainees is not influenced by factors such as training, resources, and contextual support, leading to variations in the adoption and effectiveness of differentiated instructional practice

Hypothesis 2 (H2): The implementation of differentiation by English teacher trainers and trainees is influenced by factors such as training, resources, and contextual support, leading to variations in the adoption and effectiveness of differentiated instructional practices.

Null Hypothesis: Challenges in differentiating instructions are not multifaceted and do not include issues related to resource constraints, pedagogical beliefs, and classroom dynamics.

Null Hypothesis (H0): Challenges in differentiating instructions are not multifaceted and do not include issues related to resource constraints, pedagogical beliefs, and classroom dynamics. Identifying and addressing these challenges is crucial for enhancing the successful implementation of differentiated instruction.

Hypothesis 3 (H3): Challenges in differentiating instructions are multifaceted and include issues related to resource constraints, pedagogical beliefs, and classroom dynamics.

These hypotheses served as guiding principles for the analytical phase of the study, enabling a structured and systematic investigation into the complex landscape of differentiated instructional practices among English teacher trainers and trainees in Rwanda.

CHAPTER 2: LITERATURE

The purpose of this study is to investigate English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda. Despite the myriad evidence proving the efficiency of DI, many educators have not adopted it as a strategy of instruction (Nicholas et al., 2021; Morina, 2019; DeNeve et al., 2015; Tomlinson, 2014). This raises questions like, what is differentiated instruction, what is its rationale, and how do teachers perceive and implement it?

This chapter delves into an extensive exploration of literature pertinent to the theoretical framework surrounding differentiation. It encompasses an in-depth examination of the meaning of differentiation, its implementation, and the perceptions of teachers regarding differentiated instruction. A comprehensive approach is adopted, drawing insights from a range of scholarly sources such as journals, textbooks, peer-reviewed articles, and various published works. The goal is to address critical questions surrounding differentiation by synthesizing knowledge gleaned from diverse and reputable outlets.

To ensure the breadth and depth of the literature review, an array of resources has been meticulously accessed. The databases employed include ProQuest Education Journals, JSTOR, SAGE, ERIC, ScienceDirect, ResearchGate, and Google Scholar. These platforms were utilized with targeted keyword searches, focusing on terms like "differentiated instruction," "effects of differentiated instructions," "teachers' perceptions of differentiated instructions," and "theories supporting differentiated instruction." The chosen keywords were instrumental in retrieving a nuanced and comprehensive array of literature relevant to the study's objectives.

The overarching objective of this literature review is twofold. Firstly, it seeks to validate the assertions and claims put forth by this study. By grounding the research in existing scholarly discourse, the study aims to establish a solid foundation and align its objectives with established theories and practices. Secondly, the review aims to provide a comprehensive understanding of differentiated instruction, unraveling its rationale and delineating effective strategies for implementation.

Through an exhaustive exploration of the literature, the researcher endeavors to gain valuable insights into the state of knowledge in the chosen topic area. This not only facilitates a nuanced understanding of the current landscape but also serves as a benchmark for identifying gaps and areas where further investigation is warranted. By engaging with the existing body of work, the researcher aims to position the current study within the broader scholarly conversation, contributing to the cumulative knowledge base surrounding differentiated instruction.

Theoretical/Conceptual Framework

Theories of Second Language Acquisition

The learning of a second language has a crucial and complex role in the fields of linguistics, education, and cognitive research. This complex phenomenon has not only aroused curiosity but has also maintained the profound attention and scrutiny of academics and practitioners for a significant duration, including many decades of devoted inquiry. SLA is a compelling and often difficult process undertaken by people as they explore unfamiliar linguistic terrain, striving to attain fluency in languages that are different from their mother tongue. The

difficult process of language development involves the interaction of cognitive processes, socio-linguistic dynamics, and psychological variables, each contributing to its complex nature. Language acquisition is a complex process that shapes people's language abilities and is closely intertwined with their cognitive and social aspects. This process has important consequences for both cognitive and educational theories, as shown by studies conducted by AlHammadi (2016), Wilson (2018), Alduais et al. (2022), and Wang et al. (2023).

This section delves into the complex nature of Second Language Acquisition (SLA), drawing on the important perspectives of well-known researchers and their various theoretical frameworks. This study investigates the complex processes involved in the process of acquiring language, uncovering the subtle details of how individuals become proficient in many languages. Notable scholars who contributed to this intellectual pursuit include Stephen Krashen and his Input Hypothesis, Lev Vygotsky and Michael Long who advocate for the Interactionist Theory, Jean Piaget who made significant contributions to Cognitive Development Theory, and Ellen Bialystok whose Dual Language Systems Theory revolutionizes our understanding of language processing in bilingual situations. The distinguished academics mentioned, Lichtman and VanPatten (2021), play a crucial role in enhancing understanding in the complex field of Second Language Acquisition (SLA). Their work offers useful insights and direction for researchers and educators alike.

The central concept of this section is Stephen Krashen's persistent Input Hypothesis, a notion that has greatly impacted our understanding of Second Language Acquisition (SLA). Krashen's theory posits that language learners make optimal advancements when they are exposed to linguistic information that is understandable, and somewhat above their present level of skill. This concept underscores the vital need to be exposed to meaningful language to

facilitate the development of linguistic abilities. Krashen's study emphasizes the significance of a language-rich environment as a stimulus for language learning. This approach provides a fundamental understanding that influences teaching methods and tactics for learning languages in different educational environments. Krashen's theory provides a framework that guides educators and researchers in comprehending how linguistic input influences the language skills of learners. It has made a significant contribution to the various theories of Second Language Acquisition (SLA) (Krashen, 1985; Higgs, 1985; Liu D., 2015; Bailey & Fahad, 2021).

Within the domain of socio-linguistic theories, the focus is on the Interactionist Theory, a conceptual framework originated by Lev Vygotsky and subsequently expanded upon by Michael Long. Vygotsky's socio-cultural theory underscores the significant influence of social contact and joint endeavors on the process of language development. The idea posits that language is not a standalone cognitive function, but rather arises and develops via dynamic interactions with others. Michael Long's contributions to the interactionist theory explore the complex network of cognitive processes and social involvement, clarifying the crucial role of negotiating meaning in language learning settings for language acquisition. The Interactionist Theory reveals the complex dynamics of language development, emphasizing the importance of social involvement and collaborative discourse as drivers for linguistic evolution. This enhances our comprehension of the social aspects of Second Language Acquisition (SLA) as explored by Vygotsky (1978), Mahn & John-Steiner (2013, pp. 117-146), and Bodrova & Leong (2015).

The Cognitive Development Theory formulated by Jean Piaget, first intended to explain the cognitive development of children, has important consequences for the subject of Second Language Acquisition (SLA). Piaget's theory provides useful insights into how language learners integrate new linguistic structures and ideas into their previous cognitive frameworks by

delineating several phases of cognitive growth, such as assimilation and accommodation. The cognitive approach offers valuable insights into the complex mechanisms that drive language acquisition, allowing us to understand the developing cognitive framework of individuals learning a language. This highlights the fact that learners actively develop their comprehension of language via a dynamic interaction of cognitive processes, shedding light on the intricate path towards linguistic proficiency. Jean Piaget's theoretical contributions provide a cognitive framework that is relevant to SLA research. This framework helps scholars better understand the complex cognitive aspects of language acquisition. (Piaget, 1972; Ahmad et al., 2016; Marwaha et al., 2017; Oogarah-Pratap et al., 2020, pp. 133-148).

Ellen Bialystok's Dual Language Systems Theory signifies a revolutionary change in our comprehension of the representation and processing of languages. This hypothesis challenges traditional notions by proposing that multilingual persons possess two unique language systems that are tightly intertwined and mutually exert influence on each other. Bialystok's research elucidates the cognitive processes used by bilingual individuals to navigate the intricacies of several languages. Particularly, it examines the profound influence of this linguistic duality on the learning of a second language. Her groundbreaking research contributes to the academic body of knowledge on the processing and representation of language, with a focus on the complex cognitive structure in bilingual persons and its wide-ranging consequences for second language acquisition (SLA). By recognizing the interaction between these two language systems, her theory improves our comprehension of the cognitive aspects involved in second language acquisition (SLA), providing new perspectives on the linguistic challenges encountered by learners in bilingual and multilingual environments (Bialystok, 2001; Bialystok et al., 2009; Bialystok et al., 2012; Barac et al., 2014; Bialystok, 2017).

Input Hypothesis in Second Language Acquisition and Teaching

The subject of study known as Second Language Acquisition (SLA) is a fascinating and complex area of research that investigates the complex process that individuals go through in order to become fluent in languages that are not their mother tongue. In the field of SLA theories, the Input hypothesis which was first postulated by Stephen Krashen in the late 1970s, has a significant position. This concept has not only attracted the attention of academics, but it has also had a considerable influence on several pedagogical strategies and procedures that are used in the teaching of languages all over the world. The Input Hypothesis posits that language learners achieve the most efficient progress when they are exposed to linguistic input that is both intelligible and slightly more advanced than their present level of proficiency. This leads to learning that is both more effective and more efficient. Through the use of the formula $i+1$, the concept of expanding upon the learner's existing degree of linguistic knowledge is represented. An ideal environment in which learners are pushed but not overwhelmed, resulting in optimal language acquisition, is created when they are exposed to content that is slightly above the learner's present level ($i+1$), according to Krashen's argument. It is stated in this context that innovative language frameworks and lexicons are offered in a manner that supports considerable engagement and gradual integration (Krashen, 1985; White, 1987; Er, 2001; Zhang, 2009; Bailey & Fahad, 2021).

A number of ideas from the fields of linguistics, cognitive psychology, and educational psychology have been included in the formulation of the Input Hypothesis. The standard theories of language acquisition, which emphasize explicit instruction, grammar exercises, and rote memorization, are called into question by this approach. Krashen's theory, on the other hand, argues for a naturalistic approach that is a reflection of the subconscious and unconscious

processes that are engaged in first language acquisition (FLA). Not only does this theory have a beautiful logical structure, but it also has major implications for the surroundings in which language is taught. The information hypothesis encourages the creation of language-rich environments that provide students with many opportunities to engage with knowledge that is easily understood. The curriculum places a particular emphasis on the development of reading and listening skills, paying particular attention to the significant roles that these skills play in the process of language acquisition. In addition to this, it facilitates a shift in focus away from the technical features of language structure and toward the relevance that is represented in circumstances that are directly related to real life. Learners are motivated to derive meaning from the surrounding situations in which language is utilized as a result of this shift, which makes true communication easier to achieve (Krashen, 1985; Tricomi, 1986; Bailey & Fahad, 2021).

It is important to note that the Input Hypothesis has had a considerable and long-lasting impact on language education and pedagogy. It has been a significant factor in the development of instructional strategies such as communicative language education and the use of authentic resources in the classroom via its widespread influence. It is because of this belief that a shift has occurred away from teaching grammatical rules directly and toward putting more of an emphasis on the development of communication skills and language proficiency. A comprehensive analysis of the Input Hypothesis is presented in this section. Not only is it important to make clear the underlying concepts and conceptual framework of the theory, but it is also important to investigate the large amount of empirical research that has been conducted with the intention of either confirming or questioning the statements that it makes. In addition, the practical implications of the Input Hypothesis for language acquisition in a variety of educational environments will be investigated in this section. The purpose of this part is to offer a

comprehensive understanding of the hypothesis's application and significance in the context of the current research on SLA. It will do so by providing a critical discussion of the ongoing arguments and objections surrounding the hypothesis. There will be references made to several sources, including Krashen (1985), Higgs (1985), Er (2001), Namaziandost et al. (2019), Bailey & Fahad (2021), and Fei (2023).

Krashen's Input Hypothesis is an essential part of the framework of Second Language Acquisition (SLA) theory. This hypothesis was developed by Krashen. The pedagogical change that is suggested by this hypothesis is one that emphasizes immersion, authentic conversation, and meaningful language interactions. This hypothesis gives a fresh viewpoint on language educational practices. According to Krashen (1985), Higgs (1985), White (1987), Liu (2015), Bailey and Fahad (2021), and Gong (2023), this section presents a comprehensive analysis of the theory and its implications. It provides a valuable understanding of the intricate processes involved in the acquisition of language as well as the evolving field of language education in a context that is globally connected.

Comprehensive Input

Comprehensible Input, which is a core idea within Stephen Krashen's Input Hypothesis, is an essential component of successful language acquisition. It is a representation of language input that learners can comprehend, even if it includes components that are somewhat above their current level of language skill. The capacity of intelligible information to provide an ideal learning environment is critical to understanding the relevance of this kind of input. Learners of a language make the greatest progress when they are in this zone of $i+1$, which is characterized by information that is both meaningful and somewhat demanding. Comprehensible input is

distinguished by many essential characteristics. Language learners are presented with events and scenarios that are based on real-life circumstances because it is integrated in a relevant context. Both understanding and engagement are improved as a result of this contextual richness. Moreover, it presents a modest linguistic challenge by introducing new vocabulary, difficult sentence structures, or nuanced language usage. This encourages learners to expand their language talents while still retaining an understanding of the general content. Importantly, understandable input offers learners contextual cues that help them grasp novel parts. These signals might be provided in the form of gestures, pictures, or past knowledge. This is done to increase the learners' desire to interact with the language material (Patrick, 2019; Bailey & Fahad, 2021). It is meant to be interesting and relevant, reflecting the learners' interests and aims.

The use of Comprehensible Input has significant repercussions for the practice of language teaching. It is important for teachers to carefully pick or modify instructional resources so that they are in line with the levels of competency of their students. This may be accomplished by combining graded readers, simplified texts, or audio recordings that provide suitable difficulties while still being understandable. In the framework of language training, contextual learning experiences should be given priority, with an emphasis placed on the fact that language is a tool for communicating meaning and serving real-world communication goals. Learners are provided with chances to interact with Comprehensible Input in genuine situations via the use of activities like as role-playing, simulations, and problem-solving exercises. Additionally, educators have the ability to adopt scaffolded training, which involves progressively introducing increasingly complicated language concepts as learners grow. This ultimately assists learners in building on the language competency they already possess. Learning settings that are interactive and support meaningful communication are very important. These environments should promote

group discussions, peer cooperation, and language exchanges in order to improve students' exposure to a variety of language forms. In conclusion, learners may be guided toward language improvement within the sphere of Comprehensible Input by providing them with constructive feedback and formative assessment techniques. Comprehensible Input, in its core, not only serves as the basis for efficient language acquisition, but it also plays a role in shaping language teaching methods, which in turn encourages engagement, contextual comprehension, and progressive language growth (Rodrigo et al., 2004; Patrick, 2019; Bailey & Fahad, 2021).

Comprehensible Input and Language Proficiency

Language proficiency and comprehensible input are both required. With regard to the Input Hypothesis, one of the primary areas of concentration in the study is the connection that exists between Comprehensible Input and language competency. Researchers are interested in gaining an understanding of how learners' exposure to language input that is somewhat beyond their present levels of competence influences their language development and ultimate proficiency when they are exposed to it. The $i+1$ principle is a common way of describing this connection. In this concept, i indicates the learner's current level of language ability, while 1 represents language input that is somewhat more difficult or demanding. When language learners are exposed to intelligible material, their language competence tends to increase at a quicker pace compared to when they are exposed to input that is too far above their present level. This is something that has been proved by numerous studies. Providing learners with the required cognitive challenge without overloading them is the goal of comprehensible input in education. They can interact with the content of the language in a meaningful way, therefore gaining access to new vocabulary, grammatical structures, and cultural subtleties within the context of the

experience. Various assessment instruments, including language competency exams, oral and written assignments, and comprehension exercises, are used by researchers to evaluate the development of learners. Learners who are exposed to Comprehensible Input tend to do better in terms of vocabulary acquisition, grammatical correctness, and overall language competence, according to the results of these evaluations (Krashen, 1985; Higgs, 1985; Liu, 2015; Bailey & Fahad, 2021; Gong, 2023).

This association between comprehensible input and language competency extends to receptive skills like as listening and reading comprehension, which are also included in the scope of this relationship. Individuals who are learning a language and have been exposed to a consistent supply of comprehensible input are more likely to have improved listening and reading abilities. These abilities are essential for efficient communication and the use of language. In general, the findings of the study provide compelling evidence in favor of the Input Hypothesis, which asserts that exposure to comprehensible input is an essential component in the process of improving language competency. The existence of this association highlights the need to develop language-rich settings that provide learners with the chance to interact with material that is not just significant but also a little bit difficult. By doing so, educators can nurture language development that is in accordance with the concepts of the Input Hypothesis, which will eventually result in language learners who are more adept and competent (Krashen, 1985; Higgs, 1985; Liu, 2015; Bailey & Fahad, 2021; Gong, 2023).

Modifications to the inputs have an impact. One of the most important aspects of the implementation of the Input Hypothesis is the alteration of inputs, which may include the simplification of language or the changing of content to make it more understandable. To shed light on the practical implications of Krashen's theory, researchers and educators have

investigated how these alterations might affect language learning and competency. Simplifying vocabulary and sentence patterns to fit the present competency levels of learners is a typical kind of input modification. In the process of teaching a new idea, for instance, teachers could choose words that are easier to understand and sentences that are shorter to guarantee that students can comprehend the meaning without feeling overwhelmed. It has been shown via research that these adjustments successfully improve understanding, so enabling students to interact with the material in a more meaningful manner. Input modification also includes the use of contextual information and redundancy, which is another part of the approach. The creation of a language-rich environment that facilitates understanding may be accomplished by educators via the provision of learners with a substantial amount of contextual information and the repetition of essential terminology and structures. Comprehensible input is information that learners can comprehend, even if it includes aspects that are somewhat beyond their present skill level (Loschky, 1994; Zhang, 2009; Liu, 2015; Bailey & Fahad, 2021; Liu, 2022). This approach is in line with the Input Hypothesis, which places a focus on the concept of comprehensible input.

Furthermore, researchers have explored the influence that various input modifications have on the reduction of the Affective Filter, which is a notion that is fundamental to the Input Hypothesis. Learners experience less worry and uncertainty when they are exposed to linguistic input that is suited to their level and given in an engaging and supportive way. This results in an atmosphere that is more favorable to learning. Therefore, in accordance with Krashen's theory, this results in the development of a favorable emotional state that makes the process of language learning easier. There are major consequences for language training that are brought about by input alterations. The materials and techniques used in instruction may be modified by teachers so that they can give students comprehensible input while yet retaining a certain degree of

linguistic difficulty. The use of graded readers, the simplification of texts, the incorporation of images, and the implementation of activities that are rich in context are all potential strategies. It is not just that these alterations improve understanding, but they also add to a learning experience that is more fun and productive (Loschky, 1994; Zhang, 2009; Liu, 2015; Bailey & Fahad, 2021; Liu, 2022). There are differences between individuals. Language learners are not all the same; they come from different backgrounds, have different motives, and have different cognitive capacities, all of which have an impact on their journey of language acquisition. This is something that the Input Hypothesis acknowledged. The purpose of the research that investigates individual variations in language learning within the framework of the Input Hypothesis is to get an understanding of how these characteristics influence the efficiency of Comprehensible Input in fostering language competence. One of the most important aspects of individual variations is the learners' previous experience with speaking the language. As a result of the transfer of linguistic information and cognitive abilities, individuals who have previously been exposed to a language that is similar to the target language or who have acquired many languages may have a higher rate of acquisition. On the other hand, learners who are beginning from scratch or who have had little experience with the target language may need a greater amount of exposure to Comprehensible Input to obtain the same level of competence (Krashen, 1985; Higgs, 1985; Er, 2001; Fey et al., 2017; Bailey & Fahad, 2021).

In addition, individual variations are greatly influenced by factors such as motivation and attitudes toward language acquisition. Learners who are intrinsically driven and who have a real interest in the language and culture have a tendency to interact more deeply with Comprehensible Input, which results in quicker development. On the other hand, learners who are driven by extrinsic factors may need extra incentives to maintain their engagement with

language input. When educators have a better understanding of these variances in motivation, they are better able to personalize education to match the requirements of their students. A significant number of the elements that determine individual variations in language acquisition are cognitive. These factors include the capacity of working memory and learning techniques. Learners who have a greater capacity for working memory may be able to process and remember Comprehensible Input more effectively. On the other hand, learners who employ effective learning strategies, such as active engagement with the material or mnemonic techniques, can maximize their experience of learning a language (Krashen, 1985; Higgs, 1985; Er, 2001; Fey et al., 2017; Bailey & Fahad, 2021).

Additionally, individual differences might express themselves in the form of a person's aptitude for learning a language. Some language learners are born with a natural skill or aptitude for learning languages, which allows them to advance more quickly than others their age. However, aptitude is just one of several factors that determine language competence, and it should not be considered the only element that might predict language proficiency. For educators and researchers to successfully utilize the Input Hypothesis, it is of the utmost importance to take into account individual variances in language learning. Increasing the efficacy of language education may be accomplished by adapting the curriculum to meet the needs of a wide range of learner profiles via the provision of a wide range of comprehensible input kinds and levels. Additionally, educators are better able to facilitate each learner's unique language learning journey when they have a better understanding of the role that individual differences play in language acquisition (Krashen, 1985; Higgs, 1985; Er, 2001; Fey et al., 2017; Bailey & Fahad, 2021). Knowing the role that individual differences play in language acquisition helps educators set realistic expectations and provide appropriate support.

Limitations and Obstacles

The Input Hypothesis is not without its difficulties and restrictions, even though it provides vital insights into the process of language learning and teaching. These are the challenges that need to be addressed by researchers and educators to improve the application of the theory and get a better understanding of its bounds. The measuring of comprehensible input is undoubtedly one of the most serious challenges. Comprehensibility may be defined in a manner that is both subjective and reliant on the present circumstances. The things that are understandable to one student may not be understandable to another learner, and variables like past knowledge, cultural familiarity, and individual variations can all have an impact on how well one understands something. When doing research, researchers are faced with the issue of generating standardized metrics for comprehensibility and ensuring that the input utilized in studies is in accordance with the principles of the theory. Furthermore, despite the fact that a large number of studies provide evidence in favor of the Input Hypothesis, the results of the research may be affected by a variety of variables, including the evaluation techniques that are used, the sample sizes, and the degree of specificity of instructional practices. White (1987), Oller (1988), Liu (2015), and Bailey and Fahad (2021) all point out that variations in research designs and situations may lead to contradictions in findings, which makes it difficult to draw conclusive conclusions regarding the theory's potential to be applied universally.

The practical application of the Input Hypothesis in educational contexts is another restriction that must be taken into consideration. In spite of the fact that the theory places a strong emphasis on the significance of intelligible information, successfully putting this concept into practice might be difficult. The available resources, the number of students in each class,

and the needs of the curriculum can provide challenges for educators. It may be a challenging task to strike a balance between the need for intelligible information and these kinds of practical issues. In addition, the Input Hypothesis focuses heavily on receptive abilities, the primary areas of emphasis being listening comprehension and reading comprehension. Despite the fact that these abilities are fundamental, they do not cover the full of language ability. Due to the fact that the theory does not provide any clear direction on the development of productive abilities such as speaking and writing, it is up to educators to include these features in their teaching techniques. In conclusion, the Input Hypothesis works on the assumption that the process of language learning is mostly a subconscious one that takes place in a natural way. This notion has been called into question by research in the fields of explicit language education and purposeful language practice. These studies have shown that some components of language acquisition may be improved by explicit instruction and conscious effort (White, 1987; Oller, 1988; Liu, 2015; Bailey & Fahad, 2021).

Ongoing Investigations and Discussions

In the area of secondary language acquisition (SLA), the Input Hypothesis has spurred a great deal of current research and academic disputes. Its concepts are still being investigated, improved upon, and questioned by researchers, which sheds insight on its application and usefulness in modern language learning environments. In the realm of continuing study, one of the most significant areas of focus is the role that technology plays in providing comprehensible input. Language students today have access to a wide variety of multimedia resources, online courses, and mobile applications that are designed specifically for language learning thanks to the proliferation of digital resources.

An investigation into the ways in which technology-mediated input, such as video material, podcasts, and interactive language platforms, might improve language learning is now being carried out by researchers. The purpose of this study is to investigate the degree to which digital resources agree with the concepts of the Input Hypothesis and to determine the extent to which they are useful in supporting language acquisition. The appropriate balance between Comprehensible Input and explicit teaching in language schools is another important topic that continues to be the subject of debate. Some educators think that explicit instruction of grammatical rules and planned language practice are valuable, despite the fact that the Input Hypothesis supports an approach that is essentially naturalistic.

The purpose of the research that is being conducted in this area is to shed light on the conditions that warrant the use of explicit teaching in conjunction with Comprehensible Input, as well as the possible advantages of adopting a balanced strategy that integrates both. According to what was said before, one more fascinating topic of study that is now being conducted deals to individual variances in the process of language learning. The efficiency of Comprehensible Input is being investigated further by researchers, who are diving further into the complex interaction of components such as cognitive ability, learner profiles, and motivation. By gaining an understanding of the ways in which these individual variations interact with the concepts of the Input Hypothesis, language teaching may be made more individualized and successful (White, 1987; Oller, 1988; Liu, 2015; Bailey & Fahad, 2021).

In addition, continuing research investigates whether or not the Input Hypothesis is ubiquitous across a variety of learner groups and languages. Despite the fact that the idea has been examined mostly in the setting of English as a second language, academics are now studying whether or not it may be applied to a wider variety of languages. In addition to this,

they are investigating the ways in which the ideas of the theory are implemented in a variety of educational environments, such as heritage language programs and bilingual education. Concerning the arguments, there are some academics that question the assumption made by the Input Hypothesis, which states that the majority of language learning occurs subconsciously and automatically. It is their contention that conscious, purposeful learning and explicit teaching may play a significant role in the evolution of language, particularly with regard to certain linguistic features. The focus of these discussions is on finding a viewpoint that is fair and takes into account the relevance of both implicit and explicit language acquisition processes (White, 1987; Oller, 1988; Liu, 2015; Bailey & Fahad, 2021).

Observations and Implications for Language Teaching

The Input Hypothesis has had significant repercussions on the teaching of languages, causing pedagogical practices to undergo significant transformations and posing challenges to conventional methods. Its fundamental ideas place an emphasis on the significance of comprehensible input, the development of receptive language abilities, and the establishment of surroundings that are rich in language. An in-depth examination of the ways in which these concepts have impacted language education and pedagogy is presented in this section. Putting a focus on comprehensible input as a driving force behind language learning is one of the fundamental concepts that underpin the Input Hypothesis, as was already discussed before. The relevance of this focus resides in the realization that language learning flourishes in an environment in which learners are pushed by the linguistic content they encounter, but they are not overwhelmed by it. Comprehensible Input is at the center of the instructional implications that are associated with the idea. This highlights the significance of developing settings that are

rich in language and provide learners with chances to interact with language information that is not only easily accessible but also intellectually interesting. For educators, this principle implies the necessity of selecting and designing materials that align with the proficiency levels of learners. This ensures that learners are able to comprehend the material while also being exposed to linguistic elements that expand their linguistic repertoire (Krashen, 1985; Higgs, 1985; Er, 2001; Bailey & Fahad, 2021; Fei, 2023).

Furthermore, the growth of receptive abilities, including listening and reading comprehension, is a part of the focus placed on comprehensible input throughout the whole process. Engaging in activities that foster active listening and reading is something that language learners are encouraged to do. This gives them the opportunity to derive meaning from the context in which they are reading and progressively integrate new vocabulary, grammatical structures, and cultural insights. By using this method, language development is encouraged in a manner that is analogous to the natural processes that people go through in order to learn their first language. This is because the acquisition of language happens primarily via receptive skills before productive abilities. Communicative language education and task-based language learning are two examples of pedagogical techniques that place an emphasis on meaningful conversation and engagement. Comprehensible Input acts as a foundational component for both of these approaches. Learners are exposed to real-world language usage and cultural subtleties via the use of genuine materials such as podcasts, novels, news articles, and multimedia tools. This correlates with the use of authentic materials. In the end, the emphasis placed on Comprehensible Input highlights the pivotal role that linguistic exposure plays in the process of language acquisition. It also guides educators in the process of creating environments that support learners

on their journey toward linguistic competence and communicative proficiency (Krashen, 1985; Higgs, 1985; Er, 2001; Bailey & Fahad, 2021; Fei, 2023).

The importance of receptive skills is emphasized. The importance of receptive abilities is emphasized by the Input Hypothesis, which highlights the crucial role that listening and reading comprehension play in the process of language acquisition. This is a key conclusion of the hypothesis. This fundamental concept is in agreement with the overall idea of the theory, which states that language learners gain the most from being exposed to comprehensible input. The major mechanisms by which students get access to and interact with this material are via the activities of listening and reading. For those who are learning a language, listening comprehension is often the first step toward achieving language fluency. Because of this, they are able to comprehend spoken language, which includes characteristics such as intonation patterns, pronunciation subtleties, and natural language rhythm. It is vital to have the ability to listen in order to engage in discussions, participate in oral exchanges, and grasp spoken discourse. Listening skills are the cornerstone of successful communication. In light of this, the Input Hypothesis emphasizes the need to cultivate active listening abilities as a prerequisite for the use of language in a constructive manner. Along the same lines, reading comprehension is an essential component in the process of language development. Readers who are proficient not only have access to a huge store of textual materials, but they also have the capacity to explore and comprehend texts that are difficult to grasp. Students who read are more likely to acquire new vocabulary, be exposed to a variety of writing styles, and have a greater knowledge of other cultures. The approach encourages language learners to examine a broad variety of resources, including books and articles as well as information found online, in order to develop their

language skills (Er, 2001; Xu, 2011; Chao, 2013; Min, 2016; Mushait & Mohsen, 2019; Bailey & Fahad, 2021). This is accomplished by placing an emphasis on reading comprehension.

The importance of receptive skills is shown by research that demonstrates that language learners who succeed in listening and reading comprehension tend to display greater overall language competency. This study highlights the importance of receptive skills. Learners are provided with a strong foundation upon which they may enhance their speaking and writing talents when they possess proficient comprehension skills. In addition, these abilities provide students with the ability to interact with genuine language input in real-world situations, which eventually results in improved communication and language use. When it comes to the practical application of the Input Hypothesis, educators and language instructors are led by it when it comes to the development of activities and materials that advance listening and reading comprehension. To do this, it may be necessary to make use of audio materials, podcasts, conversations, and genuine texts that are tailored to the learners' current levels of skill. The development of these receptive skills enables educators to equip students with the resources necessary to access, process, and internalize comprehensible input, which in turn enables students to embark on a journey toward linguistic competence and communicative proficiency (Er, 2001; Xu, 2011; Chao, 2013; Min, 2016; Mushait & Mohsen, 2019; Bailey & Fahad, 2021). One other fundamental aspect of the Input Hypothesis is the encouragement of the use of authentic language and the acquisition of contextual knowledge. Taking into account the fact that language learning is most successful when students interact with language in its natural, real-world context, this concept acknowledges that this is the case.

Learners are provided with the opportunity to experience authentic language forms, cultural subtleties, and communicative functions via the use of authentic language resources and

interactions, which match how language is traditionally used in daily life. There is a vast variety of resources that are included in authentic language materials. These resources include books, newspapers, movies, podcasts, and social media platforms. Through the use of these resources, students are given the opportunity to experience language in its spoken and written forms as it is often used by native speakers. Language material that is authentic not only provides learners with the opportunity to get familiar with a wide range of vocabulary and phrases, but it also provides them with insights into cultural norms, idiomatic expressions, and pragmatic language usage. Authentic resources are encouraged to be included in the teaching methods of language teachers under the Input Hypothesis. Learners are able to bridge the gap between classroom learning and language usage in the actual world with the assistance of this strategy. When learners are presented with real information, they are presented with a positive challenge that encourages them to extract meaning from context, infer grammatical rules, and adapt to diverse registers of language (Bahrani et al., 2014; Beresova, 2015; Babu & Rao, 2019; Al-Shammari, 2021).

In addition, the Input Hypothesis places a significant focus on meaningful language experience, and contextual learning is an essential component of this. Learners of a language get an advantage when they are able to arrange newly learnt language pieces inside a context that is meaningful to them. The integration of language abilities, such as listening, reading, speaking, and writing, into authentic communicative contexts is encouraged via the use of contextual learning. It is possible, for instance, for language learners to take part in activities such as role-playing or group discussions that are based on real-life circumstances. In addition to rote memorization or isolated language exercises, these activities encourage language usage that goes beyond those two methods and provide students with the opportunity to use their abilities in

appropriate situations. The idea asserts that language is most effectively learnt when it is used for the goal of communication and is based on interactions that take place in the actual world. This technique is consistent with that assumption. By making the experience of learning a language more interesting and relevant, the encouragement of genuine language usage and contextual learning ultimately contributes to the enrichment of the language learning experience. Learners are encouraged to engage with language resources that accurately portray the complexity and variety of real-world communication to better understand the language. In accordance with the principles of the Input Hypothesis (Bahrani et al., 2014; Beresova, 2015; Babu & Rao, 2019; Al-Shammari, 2021) educators are able to enable students to develop not only linguistic competence but also cultural awareness and communicative proficiency through the instruction of language through the utilization of authentic resources and contextual learning.

The introduction of technology has brought about a fundamental transformation in the process of language acquisition, providing learners with new chances and routes via which they may interact with Comprehensible Input. Within the context of the Input Hypothesis, the role that technology and multimedia play in providing students with realistic, engaging, and varied language experiences is of the utmost importance. Language learning applications, online courses, video platforms, and language exchange platforms are examples of the types of technology-mediated language resources that have become indispensable tools for language learners. Learners are able to interact with actual language input via the use of these tools, which include a range of multimedia content such as video lectures, interactive activities, podcasts, and online forums. In particular, video material is consistent with the Input Hypothesis's focus on comprehensible input and the use of actual language. Websites such as YouTube and mobile applications for language learning provide videos that span a broad variety of subject areas and

levels of language proficiency. Learners of a language are able to access information that corresponds to their current level of competence and interests, which presents them with the opportunity to interact with language input that is not only understandable but also interesting. Additionally, the development of listening comprehension abilities, which is an essential component of the Input Hypothesis, is facilitated by the use of podcasts and other audio resources. Podcasts in the target language may be listened to by foreign language learners. These podcasts often include native speakers covering a variety of subjects. For the purpose of supporting the development of good listening skills, these audio resources provide learners with exposure to natural speech patterns, intonation, and pronunciation (Salaberry, 2001; Chapelle, 2007; Chang et al., 2012; Cueto et al., 2017; Shadiev & Wang, 2022; Li & Li, 2023).

In addition, technology makes it possible for learners to communicate with one another and participate. The use of interactive exercises, quizzes, and language games that encourage active interaction with language information is a common feature of language learning applications and online platforms. This interaction is a reflection of the Input Hypothesis, which encourages students to actively engage with the language that they are being exposed to. Additionally, visual features, such as photographs, subtitles, and graphics, are often included in multimedia products. These elements provide crucial contextual clues to the audience. These signals contribute to the understanding of linguistic information, which is in line with the theory's focus on making input intelligible via a variety of different approaches. Despite the fact that technology and multimedia provide a multitude of advantages to language learners, it is essential to keep in mind that the manner in which they are included in the teaching process determines the extent to which they are useful in language learning. It is the responsibility of educators to guide students in the selection of relevant resources, the establishment of learning

objectives, and the development of organized learning experiences that are in accordance with the principles defined by the Input Hypothesis. In general, the role that technology and multimedia play in language acquisition is very important since it helps to facilitate access to comprehensible input, authentic language usage, and interactive language experiences. According to Salaberry (2001), Chapelle (2007), Chang et al. (2012), Cueto et al. (2017), Shadiev and Wang (2022), and Li and Li (2023), these resources offer language learners a wide range of tools that enable them to interact with language content that is in accordance with the principles of the Input Hypothesis. As a result, they are able to improve their language proficiency and communicative competence.

Methodologies of Instruction 1. A significant influence on pedagogical techniques in language education has been exerted by the Input Hypothesis, which has served as a guiding principle for the development of language teaching methods and curricula. There have been a number of educational techniques that have arisen that are in agreement with the ideas of the theory. These approaches place an emphasis on the significance of meaningful communication, authentic language usage, and clearly understandable input. Communicative Language Teaching (also known as CLT) is a notable teaching technique that has been substantially inspired by the Input Hypothesis. By encouraging meaningful interactions in the target language, communicative language teaching (CLT) places an emphasis on the development of communicative competence among learners. Students are encouraged to participate in activities that include the use of language in real-world situations, such as role-playing, conversations, and activities that involve problem-solving. CLT places an emphasis on the fact that language learners should be exposed to language input that is a reflection of real communicative circumstances. This allows students to use their linguistic knowledge in a context that is relevant to them. The Task-Based Language

Teaching (TBLT) method is yet another instructional strategy that is consistent with the Input Hypothesis for language learning. As a method of language learning, Task-Based Language Teaching (TBLT) focuses on the performance of meaningful activities. As a means of motivating learners to concentrate on meaning rather than form, assignments are offered to them that require them to utilize the target language for practical objectives. The Input Hypothesis places a strong focus on meaningful language exposure and contextual learning, which is consistent with this course of action. Pedagogical techniques that are motivated by the Input Hypothesis are characterized by the fact that they need the incorporation of actual materials and resources into language training. The incorporation of graded readers, podcasts, news stories, and multimedia material into educational programs is done with the intention of providing students with exposure to real-world language examples. This technique not only provides students with the opportunity to get familiar with a variety of language forms, but it also encourages students to develop their cultural awareness and interact with real language situations (Er, 2001; Hong, 2008; Hussain, 2019; Abdullaev, 2021).

Furthermore, educational techniques that are significantly affected by the Input Hypothesis often argue for a learner-centered and discovery-based approach to the process of language acquisition. Participants in the language learning process are encouraged to actively interact with the content of the language, draw inferences, and create connections between what they experience and the linguistic information they already possess. This learner autonomy is consistent with the assumption of the Input Hypothesis, which states that language learners flourish when they are presented with Comprehensible Input that corresponds to their unique levels of skill. In conclusion, the Input Hypothesis's focus on Comprehensible Input, genuine language usage, and meaningful communication has had a significant impact on the pedagogical

techniques that have been used in the field of language education. CLT and TBLT are two examples of approaches that place an emphasis on communicative competence and contextual learning. These approaches guide educators in the creation of language-rich settings that help students on their path toward linguistic fluency and successful communication. Language education is improved by these pedagogical innovations because they are in accordance with the ideas of the Input Hypothesis and because they encourage student engagement and language growth (Er, 2001; Hong, 2008; Hussain, 2019; Abdullaev, 2021).

Theories of Learning

The theoretical underpinnings of differentiated instruction draw inspiration from the insights of numerous educational theoreticians, each of whom has contributed to a conceptual framework depicting ideal conditions for optimal learning. This study firmly grounds itself in the rich tapestry of educational theory, specifically relying on the conceptual framework woven from the threads of four key theories that serve as the bedrock of differentiated instruction.

Socio-cultural Theory of Learning

The Socio-cultural Learning Theory engendered in Vygotsky's (1978) Zone of Proximal Development is integral to this study (Flem, Moen, and Gudmundsdottir, 2000; Goldfarb, 2000). Premised on the positive influences of sociocultural context on learning, the theory assumes that learners engage differently with the content as defined by their socio-cultural backgrounds (Piltén, 2016; MacGillivray and Rueda, 2001). To develop critical thinking, it is important to situate learning techniques to the learner's socio-cultural context and profile through their social interactions (D'Agnese, 2017; Gudmundsdottir, 2000). The integral role of social interactions in the cognitive development of learners cannot be over-emphasized (Scherba de Valenzuela, 2002).

Additionally, the theory posits that education is a lifelong process and not a product of an end (Lai et al., 2020; Riddle and Dabbagh, 1999). Viewing education as a lifelong process makes it imperative to teach learners how to learn by offering them multiple platforms upon which to make connections. It also presumes that there is always something new to learn based on what has already been learned. This difference between what has already been learned and what can be learned is what Vygotsky (1978) calls the Zone of Proximal Development. Because of that, effective instruction recognizes that learners are not without knowledge and that the existing knowledge can be used as an impetus to new learning (MacGillivray and Rueda, 2001). This can best be done through meaningful teacher guidance and mentorship (Blanton, 1998).

Further to this, Vygotsky (1978) explains that to mediate the social environment, to allow students to connect past to present knowledge, teachers usually use speech as a tool. He argues that instruction can only be effective if it is enacted at a level beyond a student's independent instructional level band when it applies verbal scaffolding from the teacher. The theory is cognizant of different learners' strengths and weaknesses and prescribes an instructional approach that appeals to the different needs of the learners. Simply put, the Zone of Proximal Development can only be filled through responsive teaching that differentiates instruction to cater for individual needs (MacGillivray & Rueda, 2003).

Progressive Education Theory

The progressive education theory as derived by Dewey in 1938 posits that learning optimally occurs when students are presented with different scenarios or opportunities that allow them to make connections with the old knowledge (as learned, experienced and lived) for new learning to occur. Based on this, "Education, therefore, must begin with a psychological insight

into the child's capacities, interests, and habits" (Dewey, 1929, Article 1, para. 7). He emphasizes an approach to instruction that leverages prior knowledge in the formulation of new knowledge—"Education must be conceived as a continuing reconstruction of experience" (Dewey, 1929, Article 3, Paragraph 17). To facilitate this process Dewey (1929) argues that teachers must play the roles of facilitators who guide students to connect educational content to their lived experiences and prior knowledge. He is loath to the traditional education system that positions a teacher as the center of knowledge, disseminating isolated pieces of information to passive learners. To him,

The teacher is not in the school to impose certain ideas or to form certain habits in the child but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these. Thus the teacher becomes a partner in the learning process, guiding students to independently discover meaning within the subject area (Article 2, para. 14).

In addition to this, Dewey's (1938) Progressive Education Theory not only calls for a change in instruction but also a reinvention of the curriculum. The theory posits that the curriculum must advance new knowledge to enable learners to connect it to old knowledge. Reis, et al. (1993) reveal that in normal circumstances, students come to class with some knowledge and that it is advisable for teachers to begin with the known to the unknown. They add that differentiation is a great strategy to measure what is already known and to tap into students' strengths for new learnings. They posit that the curriculum must be differentiated to reintroduce learners to multiple perspectives of looking at content. In a study involving about 300 teachers, Reis and Westberg (1994) discovered that teachers have the ability to content by eliminating 42% to 54% of the regular academic content area instruction for high-ability students when prior

knowledge is taken into consideration during lesson planning. Hence, learners can be guided to connect past knowledge to fresh content to create new knowledge (Dewey, 1938).

John Dewey's Progressive Education Theory, developed in 1938, serves as a foundational framework that emphasizes a student-centered approach to learning. According to Dewey, the optimal conditions for learning arise when students are presented with diverse scenarios or opportunities that enable them to forge connections between existing knowledge and new learning experiences. This philosophy is encapsulated in Dewey's assertion that "Education must be conceived as a continuing reconstruction of experience" (Dewey, 1929, Article 3, Paragraph 17).

Dewey's educational philosophy places a significant emphasis on understanding the psychological dimensions of a child's capacities, interests, and habits. In his view, effective education commences with a profound insight into the learner's individuality. Teachers, therefore, are not mere transmitters of knowledge but rather facilitators who guide students in the exploration and connection of educational content to their lived experiences and prior knowledge. Dewey challenges the traditional model where teachers serve as the primary source of information and advocates for a more collaborative relationship between teachers and students, stating that "The teacher is not in the school to impose certain ideas or to form certain habits in the child, but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these" (Dewey, Article 2, para. 14).

Furthermore, Dewey's Progressive Education Theory not only calls for a shift in instructional methods but also necessitates a rethinking of the curriculum. The curriculum,

according to Dewey, should not merely present isolated pieces of information; instead, it should introduce new knowledge that learners can connect to their existing understanding. This aligns with the idea that teachers should start with what is known to the students before moving on to the unknown. Reis et al. (1993) corroborate this perspective, suggesting that differentiation is a powerful strategy to assess prior knowledge and leverage students' strengths for new learning.

In practice, Dewey's theory encourages educators to embrace a curriculum that caters to individual differences and diverse perspectives. Reis and Westberg's (1994) findings underscore the potential of considering prior knowledge during lesson planning, allowing teachers to tailor instruction to students' needs. This approach not only facilitates the connection of past knowledge to new content but also fosters the creation of new knowledge, aligning with Dewey's vision of education as an ongoing reconstruction of experience. Overall, Dewey's Progressive Education Theory advocates for an educational paradigm that prioritizes student engagement, critical thinking, and the meaningful application of knowledge within the context of individual experiences.

Multiple Intelligence and Learning Profiles Theories

Howard Gardner (2011) posits the multifaceted nature (as opposed to the single nature) of intelligence in his Multiple Intelligences Theory. He classifies intelligence into nine different types arguing that each of the types has varying levels depending on an individual. The nine types of intelligence include: “(1) logical/mathematics; (2) interpersonal; (3) intrapersonal; (4) spatial; (5) verbal; (6) auditory; (7) naturalist; (8) musical; and (9) existential,” (Gardener, 2002, p.96). To him, learning is optimal when learners engage their full potential through the exploitation of their strongest areas of intelligence. Based on this, he admonishes teachers to

invest in differentiated methodologies to tap into students' intelligence types in order to enrich learners' learning experiences (Leshkovska & Spaseva, 2016).

Logical/Mathematical Intelligence: Logical/mathematical intelligence, according to Gardner, reflects an individual's aptitude for reasoning, analyzing problems systematically, and engaging in mathematical operations. People endowed with strong logical/mathematical intelligence often excel in activities that demand critical thinking, problem-solving, and numerical reasoning. In educational contexts, optimizing the learning experience for these individuals involves incorporating tasks that stimulate logical reasoning, mathematical challenges, and analytical thinking. By doing so, educators can tap into and nurture the intellectual strengths associated with this form of intelligence.

Interpersonal Intelligence: Interpersonal intelligence is characterized by an individual's ability to comprehend and navigate social interactions effectively. Those with heightened interpersonal intelligence typically demonstrate empathy, adept communication skills, and a proclivity for collaborative teamwork. In an educational setting, fostering activities that encourage group discussions, collaborative projects, and team-based learning experiences caters to the strengths of individuals with high interpersonal intelligence. Such approaches not only enrich the learning environment but also align with Gardner's emphasis on recognizing and leveraging diverse intellectual capacities.

Intrapersonal Intelligence: Intrapersonal intelligence revolves around self-awareness, introspection, and an understanding of one's own emotions, motivations, and goals. Individuals with strong intrapersonal intelligence benefit from activities that promote self-reflection,

goal-setting, and opportunities for personal expression. Educators can support intrapersonal learners by incorporating strategies that allow for self-discovery, fostering a sense of autonomy, and providing platforms for individual expression within the educational framework.

Spatial Intelligence: Spatial intelligence encompasses the ability to perceive and manipulate visual-spatial information effectively. Those with heightened spatial intelligence excel in tasks involving visualization, spatial reasoning, and an understanding of spatial relationships. In educational settings, educators can enhance spatial intelligence by integrating visual aids, hands-on activities that involve spatial manipulation, and projects that require a keen understanding of spatial arrangements. This approach acknowledges and nurtures the unique cognitive strengths associated with spatial intelligence.

Verbal/Linguistic Intelligence: Verbal/linguistic intelligence denotes proficiency in language-related activities, encompassing reading, writing, speaking, and listening. Individuals with high verbal/linguistic intelligence excel in verbal communication, storytelling, and linguistic pursuits. In educational contexts, educators can cater to these strengths by incorporating diverse literature, language-rich activities, writing assignments, and opportunities for oral expression. This approach aligns with Gardner's vision of differentiated methodologies to tap into students' diverse intelligence types, enhancing the overall learning experience.

Auditory Intelligence: Auditory intelligence involves a heightened sensitivity to sound patterns, pitch, and rhythm. Individuals with strong auditory intelligence thrive in tasks that require acute listening skills, musical appreciation, and an ability to recognize auditory nuances. Educators can support auditory learners by incorporating lectures, discussions, audio materials,

and music into the learning environment. By doing so, they acknowledge and capitalize on the auditory strengths of these learners, fostering a more inclusive and effective learning atmosphere.

Naturalist Intelligence: Naturalist intelligence relates to an individual's ability to recognize and categorize elements in the natural world. Those with heightened naturalist intelligence often display a keen awareness of nature, patterns in the environment, and a strong connection to the outdoors. Educators can enhance naturalist intelligence by incorporating outdoor activities, nature observations, and ecological studies into the curriculum. This approach aligns with Gardner's emphasis on recognizing and nurturing intelligence types beyond traditional academic realms, promoting a holistic and comprehensive approach to learning.

Musical Intelligence: Musical intelligence involves a heightened sensitivity to rhythm, melody, and pitch. Individuals with strong musical intelligence excel in activities such as playing instruments, composing music, and appreciating musical patterns. In educational contexts, educators can support musical learners by incorporating music into lessons, providing opportunities for musical expression, and fostering an appreciation for different musical genres. This approach not only recognizes the unique strengths associated with musical intelligence but also enriches the overall learning experience by incorporating diverse modalities of expression. These various types of intelligence, as identified by Gardner, underscore the diversity of human cognition and advocate for differentiated methodologies in education that honor and harness these diverse intellectual capacities.

In Tomlinson's (2009; 2014; 2017) modern adaptation to Gardener's (2011) theory – the Learning Profiles Theory- she underscores the relationship between students' preferences and

learning styles to their ability to internalize content. Tomlinson (2001) argues that teachers must have in mind the multiple intelligences in their classrooms when planning and designing curriculum and instruction. She highlights, “(a) group orientation; (b) cognitive style; (c) learning environment; and (d) intelligence preference” (p.27) as some of the salient factors to put into consideration. These factors were derived from a study investigating the impact of an individual’s profile factors on their performance. The Learning Profiles theory posits that each of the profile aspects affects a person’s process of knowledge simulation and that they must be given thought during the planning and delivery of a lesson.

The Learning Profiles Theory encompasses 4 major aspects: “(a) culture; (b) gender; (c) learning styles, and (d) intelligence preferences” (Tomlinson, 2010, p. 314). According to Tomlinson (2010, p. 314), “individuals learn differently in varied contexts and thus the instruction and environment within a classroom should be differentiated to include a multitude of contexts in which learning can occur.” She further (2017) argues that differentiated instruction incorporates multi-modal approaches to teaching and learning, affording students choices for processing and demonstrating mastery of content, and understanding themselves as learners.

The Methodologies of Research

The research that investigates the Input Hypothesis makes use of a wide range of approaches in order to study its principles, put its predictions to the test, and assess the consequences that it has for language learning. A wide variety of techniques are included in this category. Some examples of these procedures include experimental studies, classroom-based research, longitudinal studies, and corpus linguistics analysis.

Experimental studies.

The concepts and consequences of the Input Hypothesis in the field of SLA have been investigated via the use of experimental research, which have played a vital role in this investigation. These studies often include the manipulation of factors in order to investigate how differences in the quantity and kind of input effect the competence and performance of language learners. Controlled experiments are often designed by researchers who are doing experimental investigations. These trials let the researchers to carefully assess the effects of comprehensible input. For instance, in order to establish the ideal $i+1$ level, as stated by Krashen, learners may be presented with several degrees of linguistic difficulty, ranging from straightforward to more difficult language input. Using this method, researchers are able to determine how learners react to information that is customized to their present level of skill and whether or not exposure to language structures that are somewhat more complicated leads to improved language development. The link between the medium of input and the process of language learning is also investigated via experimental investigations. Researchers are looking at whether practising listening comprehension via reading materials, listening comprehension activities, or a mix of the two is more beneficial to students. Tragant and Muñoz (2004), Abbuhl and Mackey (2008), pp. 99-111, Zhang (2009), Blom and Unsworth (2010), Mackey and Gass (2012), Celik (2015), Aljumah (2020), and Gass and Plonsky (2020) are some of the studies that have contributed to our understanding of the role that receptive skills play in language development. These studies also guide educators in the process of designing language learning activities that are in line with the Input Hypothesis.

There is also experimental research that investigates the influence that technology and multimedia have on the process of language learning. The expansion of digital resources has led academics to study the ways in which multimedia input, such as video material and interactive

activities, might improve language acquisition. As part of their investigation, they investigate whether or not the theory's focus on intelligible and engaging linguistic content is compatible with technology-mediated input. Not only do these investigations offer light on the efficacy of the Input Hypothesis, but they also equip language instructors with ideas that may be put into practice. In order to help students on their path toward language competence and communicative proficiency, instructional techniques, curriculum design, and the selection of resources are all influenced by the findings of experimental investigations. Despite the ongoing influence of technology on language learning environments, experimental research continues to be an invaluable instrument for investigating the ever-changing landscape of language acquisition within the framework of the Input Hypothesis (Tragant & Muñoz, 2004; Abbuhl & Mackey, 2008, pp. 99-111; Zhang, 2009; Blom & Unsworth, 2010; Mackey & Gass, 2012; Celik, 2015; Aljumah, 2020; Gass & Plonsky, 2020).

The research conducted in the classroom

Due to the fact that it focuses on the practical application of the theory in actual educational settings, classroom-based research is an important area that is included in the study of the Input Hypothesis. The researchers who work in this area often work together with language teachers and students to investigate how the ideas of the theory might be successfully implemented in language classrooms and curricula. The examination of instructional practices that are in accordance with the Input Hypothesis is an essential component of research that is conducted in the classroom area. Language courses that promote Comprehensible Input and genuine language usage are designed and implemented via a collaborative effort between researchers and educators using language. The purpose of this research is often to investigate the influence that certain instructional strategies, such as the use of multimedia resources,

communicative activities, and task-based learning, have on the developmental process of language learners. The purpose of this endeavor is to uncover successful instructional approaches that are in line with the ideas of the theory. In addition, research conducted in schools investigates the use of technology in the context of language training inside traditional classroom settings. It investigates the ways in which digital tools, such as interactive whiteboards, language learning software, and online platforms, might make it easier to offer Comprehensible Input and engage students in activities that are important to them in terms of language acquisition. According to Nunan (1994), Celik (2015), Klimova and Pikhart (2021), and Lee (2022), researchers investigate the efficacy of technology-enhanced language education in fostering listening and reading comprehension, which are at the core of the Input Hypothesis.

In addition, this area of study investigates the difficulties and achievements that must be overcome in order to successfully apply the ideas of the theory in a variety of classroom settings. Researchers study the ways in which the Input Hypothesis may be used in a practical and efficient manner, taking into account elements like as the size of the class, the demographics of the learners, and the availability of resources. These studies offer educators vital insights that assist them in navigating the practical concerns that are involved in integrating theory into practice. When doing research in the classroom, it is common to conduct longitudinal studies that monitor the development of students over time. Investigating the ways in which learners' exposure to real language resources and comprehensible input contributes to their language proficiency and communicative competence is the responsibility of researchers. The results of this longitudinal research provide educators with evidence-based techniques for teaching language over an extended period of time and give a comprehensive perspective on the influence that the theory has on language development. In a nutshell, classroom-based research operates as

a bridge between theory and practice, providing vital insights into the implementation of the Input Hypothesis in the field of language instruction. Within the context of actual educational environments, it explores instructional methodologies, the incorporation of technology, as well as contextual problems and the development of language over the long term. Researchers working in this area contribute to the refining and optimization of language education methods by working together with educators and students. These practices are governed by the concepts of the Input Hypothesis (Nunan, 1994; Celik, 2015; Klimova & Pikhart, 2021; Lee, 2022).

Studying subjects throughout time. study in the subject of SLA and the Input Hypothesis makes extensive use of longitudinal studies, which are an important subfield of study. This kind of research is distinguished by its extensive length, which often extends over a period of several years, and its primary emphasis on monitoring the development of language learners over the course of time. The key principles of the Input Hypothesis are aligned with the findings of longitudinal research, which gives vital insights into the long-term impacts of exposure to Comprehensible Input and genuine language usage. In the context of language learning, one of the key goals of longitudinal research is to investigate the process by which language learners build their linguistic competence and communicative skills over an extended period of time. Learners' language abilities, such as their ability to comprehend what they read and listen to, their vocabulary acquisition, and their grammatical correctness, are regularly monitored by researchers during the whole of their language proficiency journey. This prolonged period of time makes it possible to get a full grasp of the processes and markers that are involved in the process of language learning. It is common practice for longitudinal research to study the influence that comprehensible input has on the development of language. The Input Hypothesis proposes that learners would develop more robust language abilities over time if they are

consistently exposed to input that is somewhat beyond their present competence levels. Researchers investigate whether or not this hypothesis is supported consistently. These studies provide empirical evidence supporting the usefulness of the theory's principles in promoting long-term language learning (Ortega & Iberri-Shea, 2005; Caruana et al., 2015; Aljumah, 2020). These studies were conducted by Ortega and Iberri-Shea.

A further benefit of longitudinal research is that it investigates the impact that individual variations play in the progression of language acquisition. Several factors, including learner motivation, aptitude, and previous language experience, have the potential to dramatically impact both the pace of language development and the amount to which it occurs. The purpose of the research is to determine how these individual variations interact with the concepts of the Input Hypothesis and to determine if certain learner profiles benefit more from certain teaching styles. Among the topics that are investigated in longitudinal research is the influence that contextual variables have on the process of language learning. Over the course of their studies, researchers investigate the ways in which learners' language development is influenced by classroom environments, instructional approaches, and exposure to real language resources. The findings of this study provide educators with the information they need to make educated choices on the development of curricula, instructional practices, and the use of technology in language classrooms. Within the context of the Input Hypothesis, longitudinal studies, in their most fundamental form, provide a view that is both all-encompassing and nuanced on the processes of SLA. The findings of this research give important information on the development of language over lengthy periods of time, the efficacy of intelligible input, the impact of individual differences, and the role that contextual elements play in the procedure of language acquisition. The scientific knowledge of the intricacies of language learning is improved by longitudinal

research, which also helps the development of evidence-based language teaching strategies (Ortega & Iberri-Shea, 2005; Caruana et al., 2015; Aljumah, 2020).

Examinations of the Corpus Linguistics. Corpus linguistics studies have evolved as a helpful tool in the research of the Input Hypothesis. These analyses provide a data-driven way to explore language input and language usage in a variety of circumstances. The field of corpus linguistics is concerned with the gathering and examination of expansive and well-organized collections of texts, known as corpora, with the purpose of identifying patterns, trends, and linguistic discoveries. In the context of second language acquisition (SLA) and the Input Hypothesis, corpus linguistics studies contribute to a more in-depth knowledge of the language input that learners experience and how it matches with the principles of the theory. One of the most important contributions that corpus linguistics has made to the investigation of the Input Hypothesis is the systematic assessment of language input in terms of how easily it may be understood and how difficult it really is. Corpora of real spoken and written texts in the target language are collected and analyzed by researchers. They evaluate several aspects of the texts, including the frequency of vocabulary, sentence structure, and discourse elements. These studies assist assess if the linguistic input that is provided to learners really corresponds to the concept of $i+1$, which states that the input is only slightly above the levels of competence that learners currently possess (Krashen, 1982; Er, 2001; Aljumah, 2020; Bailey & Fahad, 2021; Lu, 2023).

In addition, the study of corpus linguistics gives academics the opportunity to investigate the prevalence of authentic language resources that place an emphasis on listening and reading comprehension, which are essential components of the Input Hypothesis concept. Through the examination of language usage in real-world circumstances, researchers are able to determine the frequency and distribution of spoken and written materials that are in accordance with the

theory's focus on meaningful input. This information provides educators and others responsible for designing curricula with information on the availability of resources that are suitable for language training. Furthermore, corpus linguistics investigations add to our comprehension of the variations in language and the authenticity of language. Investigators have the opportunity to explore the ways in which language input differs across a variety of genres, registers, and communication settings. This investigation helps shed light on the variety of language forms and styles that learners may encounter, which is essential for the development of communicative competence at the beginning of the learning process. In addition, researchers are able to detect distinctive phrases, colloquialisms, and cultural subtleties via the study of real language data (Krashen, 1982; Er, 2001; Aljumah, 2020; Bailey & Fahad, 2021; Lu, 2023). These linguistic elements enhance language input and contribute to cultural awareness.

As an additional point of interest, research in corpus linguistics often investigates the influence that technology and digital resources have on language input. Researchers acquire insights into how technology-mediated input corresponds with the principles of the Input Hypothesis by researching online communication, social media discourse, and multimedia material. This allows them to better understand how those principles are applied. By conducting this test, instructors and students are provided with information on the changing landscape of language input in the digital era. A data-driven view of language input and language usage is provided by corpus linguistics investigations, which are conducted within the context of the Input Hypothesis. The results of these studies provide empirical information about the authenticity, comprehensibility, and variety of language resources that are accessible to students. Corpus linguistics research helps us gain a better understanding of the practical implications of the theory, which in turn guides educators and curriculum designers in the process of providing

students with language input that supports their journey toward linguistic competence and communicative proficiency (Krashen, 1982; Er, 2001; Aljumah, 2020; Bailey & Fahad, 2021; Lu, 2023).

The study of neurolinguistics. When it comes to the investigation of the Input Hypothesis, neurolinguistic research is a cutting-edge aspect that provides insights into the brain mechanisms and cognitive processes that are the foundation of language learning. With the goal of shedding light on the neurological foundation of the theory's concepts, this discipline investigates how the brain processes and reacts to the usage of Authentic Language and Comprehensible Input. When it comes to neurolinguistic research, one of the most important areas of interest is the investigation of patterns of brain activity that occur during language processing activities. Researchers have the ability to monitor which parts of the brain are activated when people are exposed to various forms of linguistic input via the use of neuroimaging methods such as functional magnetic resonance imaging (fMRI) and electroencephalography (EEG). This method assists in the identification of brain networks that are linked with the processing of comprehensible input and offers a neurological foundation for the statements that the theory makes about the significance of meaningful language exposure. In addition, neurolinguistic studies explore how the brains of language learners react to information that is consistent with the $i+1$ principle. An investigation is being conducted to determine whether or not learners who are exposed to language input that is somewhat more difficult than their present level of competence experience an increase in neural activity in areas of the brain that are related with language acquisition and comprehension. This study contributes to the validation of the core assumption of the theory, which is about the function that optimum input plays in the process of language learning. In addition, neurolinguistic research investigates the

influence that individual variations have on the patterns of brain activity that occur throughout the process of language learning. The manner in which the brain reacts to the input of language may be affected by a variety of factors, including the learner's motivation, ability, and age. The objective of the research conducted in this field is to discover the neural correlates of effective language acquisition and to develop neural markers that have the potential to predict language competence outcomes (Tragant & Muñoz, 2004; Vanhove, 2013; Roberts et al., 2016; Morgan - Short, 2020; Bagherkazemi & Shekarabi, 2022; Chen, 2022).

In addition, this area of study explores the neuronal plasticity of the brain in response to the input of language. Researchers investigate how the structure and function of the brain change over time as a consequence of events that take place throughout the process of language acquisition. The findings of this study not only provide light on the malleability of the brain, but they also tell teachers and students about the potential advantages of being exposed to authentic and comprehensible language input on a constant basis. Within the context of the Input Hypothesis, neurolinguistic research, in its most fundamental form, provides a neuroscientific viewpoint on the processes and mechanisms that are involved in the learning of language. The purpose of this study is to improve the academic knowledge of the neurological foundation of language acquisition by analyzing brain activation patterns, neural plasticity, and individual variations. Additionally, this research offers empirical evidence for the concepts that underlie the theory. According to Tragant and Muñoz (2004), Vanhove (2013), Roberts et al. (2016), Morgan - Short (2020), Bagherkazemi and Shekarabi (2022), and Chen (2022), neurolinguistic insights are a significant contribution to the ongoing dialogue between cognitive science and language education. These insights help to foster a deeper appreciation of the intricate processes that underlie second language acquisition (SLA).

Interactionist Theory

Numerous research projects have been conducted in order to shed light on the varied and convoluted nature of second language acquisition (SLA). These studies have focused on the complicated process that people go through in order to acquire a second language (L2). A more sophisticated understanding of second language acquisition is very necessary in light of the fact that bilingualism is becoming more popular all over the globe and that there is a concurrent need for effective language teaching strategies in a society that is becoming more interconnected. Observing and analyzing the complex relationship that exists between social contact and cognitive processes that are essential to SLA is made possible by the Interactionist Theory, which provides a visible lens through which one may do so. This hypothesis, which is situated at the intersection of social and cognitive elements, places an emphasis on the important role that interaction experiences play in the process of acquiring a second language. One of the most important things that educators, researchers, and people who plan language policy should do is acquire a profound understanding of the principles that underpin the Interactionist Theory (Long, 1996, pages 413-468; Swain & Lapkin, 1998; Hall et al., 2006; Rudd & Lambert, 2011, pages 830-831; Gass et al., 2020, pages 430-445; Alharbi, 2023).

By offering a nuanced analysis of the Interactionist Theory and engaging in a critical evaluation of its core notions, practical applications, and inherent limits within the context of second language acquisition, this academic effort makes a contribution to the academic debate that is relevant to second language acquisition. Engaging with the interactionist viewpoint is favorable to the identification of effective instructional techniques that make use of the power of social interaction to support the development of second language skills. In addition, the

utilization of this theoretical perspective is instrumental in the process of navigating the challenges and opportunities that are inherent in the diverse and continuously evolving terrain of language education within globalized contexts (Long, 1996, pages 413-468; Swain & Lapkin, 1998; Hall et al., 2006; Rudd & Lambert, 2011, pages 830-831; Gass et al., 2020, pages 430-445; Alharbi, 2023).

To perform a critical study of the Interactionist Theory in respect to SLA is the main goal of this part, which will be discussed more below. This study seeks to explicate the basic concepts that are inherent within the theory by conducting a comprehensive examination of the existing literature. Additionally, it seeks to demarcate the practical consequences that the theory has within the sphere of language instruction and to highlight areas in which the theory may display shortcomings. As a result of this, the purpose of this part is to provide significant insights that are relevant for both theoretical examination and practical application within the field of SLA. In the next part, which follows this introduction segment, the section is divided into various sub-sections, each of which is intended to allow a cohesive and methodical examination of the Interactionist Theory within the scope of SLA. In the beginning, the historical framework that serves as the foundation for the Interactionist Theory will be introduced.

In the next section, an explanation of the theory will be provided, which will include a summary of its primary components and the fundamental concepts that underpin it. In the next subsection, we will investigate the practical implications of the Interactionist Theory and provide a discourse on the operationalization of the theory within educational contexts that are specifically devoted to language training. In the last sub-section, we will identify and investigate the constraints and difficulties that are associated with the implementation of the interactionist framework in both the field of SLA research and in the field of practice. Following the

conclusion of this part, a summary of the most important results will be presented, along with some ideas for potential future study directions within this academic discipline.

It was around the middle to late part of the twentieth century that the Interactionist Theory reached its zenith within the area of SLA. This theory represented a paradigmatic shift from the behaviorist theories that were prevalent during that time period. In accordance with the intellectual tutelage of B.F. Skinner, in the beginning, according to Skinner, language acquisition was conceived of as a process of habituation that was deeply rooted in stimulus-response dynamics. The learner's internal cognitive processes were given very little consideration. In spite of this, the behaviorist paradigm started to lose its traction with the introduction of Noam Chomsky's groundbreaking Theory of Universal Grammar in the 1950s and 1960s. This theory was a theoretical framework that put the learner's cognitive capabilities and internal processes that are essential to language learning in the spotlight. The subsequent decades, notably the 1970s and 1980s, saw the Interactionist Theory gain greater academic momentum. This was largely due to the fact that Lev Vygotsky's landmark Sociocultural Theory had a substantial impact on the theory. Vygotsky advanced the proposition that cognitive development, inclusive of language acquisition, is inextricably intertwined with social interactions and the broader cultural milieu, thereby facilitating a doctrinal shift towards acknowledging the social facet of learning (Skinner, 1957; Chomsky, 1957; Chomsky, 1965; Vygotsky, 1978; Gass, 2010, pp. 217-231; Muho & Kurani, 2011; Mackey & Goo, 2012, pp. 2748-2758; Sarem & Shirzadi, 2014; Gass & Mackey, 2015, pp. 180-206).

In the early years of the 1980s, Stephen Krashen's Input Hypothesis made a significant addition to the growing corpus of interactionist ideas when it was first introduced. In order to facilitate effective language acquisition, Krashen emphasized the significance of being exposed

to comprehensible input, which refers to language that is at a level that is much higher than the learner's current level of skill. The relevance of providing learners with linguistic input that is both demanding and understandable was brought to light by this paradigm. This, in turn, helped to increase learner engagement and made the process of language learning easier. In the decade that followed, Merrill Swain presented the Output Hypothesis, which postulated the critical significance of language creation, also known as Output, within the context of the learning trajectory. In accordance with Swain's theory, the active creation of language results in the deep processing and internalization of linguistic structures. This highlights the active exploitation of language as an essential component of the acquisition process. The formulation of Michael Long's Interaction Hypothesis in the 1980s and 1990s was a significant turning point in the history of interactionism within SLA. It was a paradigm shift that was of the utmost importance. Interactional communication, which is exemplified by the process of meaning negotiation, was proposed by Long as an essential component of the process of language learning. According to his argument, this type of interaction simultaneously directs attention to linguistic form and content, which plays a significant role in the process of language acquisition (Krashen, 1982; Long, 1983; Swain, 1985, pages 235-253; Swain, 1995, pages 125-144; Long, 1996, pages 413-468; Thorne, 2003; Gass, 2010, pages 217-231; Muho & Kurani, 2011; Mackey & Goo, 2012, pages 2748-2758; Sarem & Shirzadi, 2014; Gass & Mackey, 2015, pages 180-206).

In the realm of modern academia, the Interactionist Theory is continuously evolving and being refined as a result of the introduction of new technical advancements and the unstoppable trend of globalization. The current research initiatives in this subject are methodically exploring interaction within the limitations of virtual and multicultural contexts. They are examining the dynamics and ramifications that are embedded inside these one-of-a-kind settings for SLA.

Consequently, the Interactionist Theory as it stands today mirrors the diversity and complexity inherent within the global language learning community, offering a robust, comprehensive, and dynamic theoretical framework that facilitates understanding and navigating the labyrinthine process of SLA (Long, 1996, pp. 413-468; Thorne, 2003; Gass, 2010, pp. 217-231; Muho & Kurani, 2011; Mackey & Goo, 2012, pp. 2748-2758; Sarem & Shirzadi, 2014; Gass & Mackey, 2015, pp. 180-206).

Learning via collaboration. It is inextricably rooted in the notion that social contact provides a linchpin for both cognitive and language development, which is the foundation of the paradigm of Collaborative Learning, which is situated centrally within the theoretical framework of the Interactionist Theory. As a method of teaching, the Collaborative Learning paradigm encourages and requires students to participate in educational activities that are coordinated with one another and also promote their participation. By using this approach, a dynamic and fluid learning environment is created. In this environment, language is not only absorbed in a passive way; rather, it is actively deployed, analyzed, and contextualized within a wide variety of communication situations and contexts. Within the context of this dynamic, students are compelled to actively immerse themselves in dialogical exchanges and involved negotiations of meaning, with each participant making a discernible contribution to a reservoir of common knowledge. The goal of this collaborative effort is to promote and nurture a more comprehensive and nuanced knowledge of the target second language, as well as enhanced command of that language. The efficacy and potency of Collaborative Learning can be attributed to its intrinsic characteristics and features, which inherently promote a sense of shared responsibility and active participation amongst the cohort of learners (Vygotsky, 1978; Long & Porter, 1985; Donato,

1994, pp. 33-56; Cohen, 1994; Ohta, 1995; Swain & Lapkin, 1998; Dillenbourg, 1999, pp. 1-19; Johnson & Johnson, 1999; Lantolf, 2000, pp. 1-26; Storch, 2002; Gillies, 2003).

This collaborative environment not merely works as a conduit for the fluid transmission of information but plays a vital role as a cognitive tool of substantial significance, promoting the processing, refining, and sharpening of language abilities amongst learners. Furthermore, the environment that is created by Collaborative Learning increases the likelihood that students will participate in calculated linguistic risks, experiment with innovative language structures, and get rapid and constructive feedback from their classmates. When it comes to the cultivation and development of fluency and accuracy in the realm of second language acquisition and use, it is essential to have an environment that is both dynamic and interactive (Vygotsky, 1978; Long & Porter, 1985; Donato, 1994, pages 33-56; Cohen, 1994; Ohta, 1995; Swain & Lapkin, 1998; Dillenbourg, 1999, pages 1-19; Johnson & Johnson, 1999; Lantolf, 2000, pages 1-26; Storch, 2002; Gillies, 2003).

However, in order for educators to successfully use Collaborative Learning within educational settings, they must engage in careful planning and adopt a strategic foresight mindset. This is a prerequisite for the successful deployment of this method. Students should be given assignments that are thoughtfully designed to encourage and support organic and spontaneous communication and collaboration among themselves and with one another. During the process of designing the task, it is important to give careful attention to the dynamics that are intrinsic to the group of learners. These dynamics include factors such as the degrees of competency, individual preferences for learning, and personality features. Objectives and expectations that are both clear and explicit need to be outlined, and they should be complemented by evaluation criteria that are both well-defined and transparent, and they should

be relevant to each collaborative effort. Learners are provided with essential assistance via this technique, which guides them through the process of collaborative learning with clearly defined objectives and benchmarks being established. Educators need to be aware of the possible difficulties and roadblocks that may arise during the implementation of collaborative learning, despite the fact that it comes with a multitude of benefits. These challenges may include unequal participation among members of the group, engagement in behavior that is not related to the task at hand, and the emergence of conflicts within the group (Vygotsky, 1978; Long & Porter, 1985; Donato, 1994, pages 33-56; Cohen, 1994; Ohta, 1995; Swain & Lapkin, 1998; Dillenbourg, 1999, pages 1-19; Johnson & Johnson, 1999; Lantolf, 2000, pages 1-26; Storch, 2002; Gillies, 2003).

In order for educators to effectively navigate these challenges, they need to take an active role in monitoring group dynamics attentively, intervening when it is necessary, and cultivating an environment that is supportive and conducive to learning, so that students can develop and refine their skills in collaboration and communication. Students are given the ability to take responsibility for and ownership of their individual and collective learning trajectories when reflective practices and self-assessment procedures are included in the learning experience. This may considerably enhance the learning experience. Therefore, it is possible to consider Collaborative Learning as a concrete and practical expression of the Interactionist Theory. It serves as a vehicle via which social interaction and cognitive growth synergistically combine to underlie the process of Strategic Language Acquisition (SLA). The implementation of Collaborative Learning has the potential to not only accelerate and facilitate the acquisition of language competence but also to simultaneously nurture and develop critical life skills. This is only possible when the implementation is precise and conscientious. This duality of function

prepares students adeptly for navigation within an increasingly globalized and multilingual global landscape (Vygotsky, 1978; Long & Porter, 1985; Donato, 1994, pp. 33-56; Cohen, 1994; Ohta, 1995; Swain & Lapkin, 1998; Dillenbourg, 1999, pp. 1-19; Johnson & Johnson, 1999; Lantolf, 2000, pp. 1-26; Storch, 2002; Gillies, 2003).

Strategies based on input. The effectiveness of the Interactionist Theory is dependent on the presence of feedback methods in the field of language acquisition. These strategies are essential components. The delicate process of SLA is methodically supplemented and facilitated by these techniques, which operate as essential instrumentalities. Feedback functions as a discernible navigational aid for learners within the framework that is outlined by the Interactionist Theory. It sheds light on the intricate linguistic terrains that learners travel when learning a new language. As a result, it provides learners with rapid and informative evaluations of their language performance, highlighting areas in which learners demonstrate competency while also shedding light on aspects that need work. When feedback is included into the interactionist paradigm, it plays a significant role in supporting the development of linguistic correctness and fluency in learners. This is a significant benefit that is granted by the inclusion of feedback. Learners are provided with the opportunity to recognize and correct their linguistic errors through the utilization of a variety of feedback modalities, which include but are not limited to explicit correction, recasts, clarification requests, and metalinguistic feedback. This is a process that is essential for the learners' ongoing language development (Lyster & Ranta, 1997).

Furthermore, the wide variety of feedback mechanisms that are accessible within the Interactionist framework is intrinsically adaptable, making it possible to successfully respond to a wide variety of learning styles and specific educational requirements that are reflected by the

learner population. According to Ellis et al. (2006), the versatility of feedback strategy selection and implementation results in a flexible pedagogical approach that can be meticulously tailored to align with the specific learning profiles of individual learners or adapt to the unique dynamics of various classroom contexts. This allows for a personalized and responsive learning experience to be provided to the students. Learners are not only guided by such a flexible method that is infused with insightful feedback but they are also given the ability to negotiate the difficulties of language acquisition with a heightened awareness and comprehension of their learning trajectory. Nevertheless, in order for educators to successfully use Feedback methods within the educational environment, they need to demonstrate both a sophisticated comprehension of these tactics and a precise implementation of them. Feedback must be both constructive and articulate, and it must be offered in a way that is contextually relevant and ideally supports the educational process in order to allow successful learning. When it comes to the giving of feedback, educators are faced with the responsibility of negotiating a fragile balance. When it comes to providing learners with enough assistance via feedback, it is essential to strike a careful balance that allows for adequate instruction without overwhelming them to the point of despair. Because an excessive amount of corrective feedback may have a negative impact on a learner's self-confidence and communicative readiness, it is essential to strike a balance between the two. On the other hand, feedback that is either inadequate or non-directive may unwittingly accelerate the process of language mistakes and conceptual misconceptions being ingrained within the cognitive schema of the learner (Lyster & Ranta, 1997; Ellis et al., 2006).

Furthermore, it is of the utmost significance for educators to foster a pedagogical culture in which students do not regard feedback as a form of criticism but rather as an irreplaceable and constructive instrument aimed at advancing their understanding of language and cognitive

growth. Educators have the ability to successfully inspire students to readily receive and reflect upon feedback by creating an educational atmosphere that is defined by optimism and encouragement. This allows students to use feedback as a basic base upon which to improve and polish their language abilities. It is consistent with the values that are advocated by the interactionist viewpoint that this nuanced approach to the supply and receiving of feedback be taken. In the context of this theoretical framework, Interaction and Feedback are not merely ancillary components; rather, they are integral, symbiotically linked elements of the language acquisition process. Each of these elements plays a pivotal role in facilitating and shaping the learner's journey towards linguistic proficiency (Lyster & Ranta, 1997; Ellis et al., 2006).

Feedback is not a panacea, nor is it generally applicable in a way that is globally applicable in a manner that is one size fits all. Despite the undeniable relevance of Feedback, it brings its own constellation of obstacles. The effectiveness of feedback is dependent on a wide range of elements, some of which include, but are not limited to, the learner's current level of skill, the intrinsic difficulty of the job at hand, and the particular form of the language fault that is being addressed. In light of this, it is the responsibility of educators to exercise feedback with the utmost care and discernment, taking into account not just the particular contextual environment in which learning takes place but also the distinctive qualities that are inherent to each and every individual learner. Lyster and Ranta (1997) and Ellis et al. (2006) state that the objective of such an approach is to maximize the positive influence that feedback has on the service level agreement (SLA) process.

Feedback methods are significant instruments that have the potential to significantly enhance the process of service level agreement (SLA) when they are properly appreciated and implemented by skilled individuals. When feedback is well prepared and strategically

implemented, it not only sheds light on the path that learners take to acquire a language, but it also strengthens the fundamental concepts that underpin the Interactionist Theory. Through the use of this reinforcement, a learning environment that is characterized by complex dynamism and responsiveness is fostered. Within this environment, students are actively encouraged to participate and interact with one another, which ultimately results in the mastering of a second language. The provision of feedback in a planned manner is an essential component in the process of assisting the journey of the learner toward linguistic competence and self-assurance in the use of a new language. Learners are not only guided but also actively aided in their pursuit of both proficiency and confidence in their newly learned language (Lyster & Ranta, 1997; Ellis et al., 2006). This is accomplished via the provision of this measured guidance and assistance.

Future Research in Second Language Teaching

Beyond the limitations of the native linguistic environment, second language acquisition (SLA) is a vibrant and multidimensional field of academic investigation that offers crucial insights into the labyrinthine intricacies that are inherent in the process of language learning. It is certain that the requirement for the continuation and development of research initiatives within the realm of SLA is strong. This authority is emphasized by a confluence of elements that are significant. In the first place, the diverse range of learning environments in which SLA takes place, which includes the structured environments of formal classrooms, the virtual realms made possible by digital platforms, and the spontaneous and organic settings of informal community gatherings, inexorably necessitates a nuanced and sophisticated comprehension of the numerous processes that are taken into consideration. It is very necessary to do a thorough study in order to methodically uncover the unique difficulties and possibilities that are inherent to each individual

situation. This analytical endeavor facilitates the formulation and implementation of tailored instructional strategies and robust support mechanisms, intricately designed to cater to the specific demands and peculiarities of diverse learning environments (Vanhove, 2013; Hartshorne et al., 2018; Mickan et al., 2019; Lestari & Wahyudin, 2020; Larsen-Freeman, 2021, pp. 793-798; Bylund et al., 2023).

Furthermore, in an era that is marked by the unrelenting forces of globalization and unprecedented levels of human mobility, the phenomenon of multilingualism has unquestionably developed as a widespread norm within the cultural fabric of the whole of humanity. As humans strive to acquire and efficiently use several languages, academic research plays a position of fundamental relevance. This is because individuals are attempting to traverse the convoluted labyrinth of learning and proficiently using numerous languages. It plays a significant role in shedding light on the myriad of cognitive, social, and cultural factors that are inextricably entwined with the progression of multilingual language development. In addition, it provides essential insights into the dynamic and ever-changing tapestry of language use within the intricate and interrelated global environment that we are a part of. An additional thrust that is fueling the need for continued study within the domain of SLA is represented in the meteoric achievements that have been accomplished in the area of technology. A transformational influence has been generated on educational practices as a result of the seamless integration of technology advancements into the pedagogical architecture of language learning. At the same time, learners have been given unrestricted access to a huge reservoir of digital materials and tools. In light of this, it is of the utmost importance that academic initiatives be mobilized in order to rigorously investigate the implications of technology integration on School-Based Learning. In order to provide educators with the necessary guidance to optimally harness the

latent potential of technology while also deftly navigating and mitigating the challenges that it precipitates, it is essential that such a scholarly endeavor be undertaken (Vanhove, 2013; Hartshorne et al., 2018; Mickan et al., 2019; Lestari & Wahyudin, 2020; Larsen-Freeman, 2021, pp. 793-798; Bylund et al., 2023).

Moreover, the recognition of individual differences among language acquirers, inclusive of factors such as ability, intrinsic and extrinsic drive, and favored learning modes, highlights the critical demand for careful scholarly investigation. An effort of critical relevance for the actualization of effective and impactful instructional methods is to delve into the study of customized and adaptive pedagogical approaches with the strategic purpose of enhancing language educational results. This is an endeavor that should be pursued. In addition, the crucial function of scholarly research extends to the creation of educational innovation as well as the dissemination of information. In order to fulfill this need, it is necessary to conduct an in-depth analysis and evaluation of the effectiveness of developing pedagogical techniques and instructional materials that are constantly being introduced into the ever-changing educational scene. By participating in such evaluative research activities, educational practitioners are given the ability to strategically adopt and incorporate teaching practices that are supported by supporting data. These approaches, which have been validated through empirical research, have the potential to facilitate and improve the processes of language acquisition and the attainment of linguistic proficiency among a wide range of learner demographics (Vanhove, 2013; Hartshorne et al., 2018; Mickan et al., 2019; Lestari & Wahyudin, 2020; Larsen-Freeman, 2021, pages 793-798; Bylund et al., 2023).

To add insult to injury, the complex sociocultural aspects that are intrinsic to the process of language learning call for careful consideration from academics. This spectrum of crucial

concerns is included by these aspects, which range from the development and negotiation of identities to the intricate dynamics of power relationships within linguistic communities to the feeling of belonging that persons who are involved in the process of language learning experience. It is of the utmost importance to acquire a sophisticated awareness of the interconnections between the process of language acquisition and these crucial social dimensions. This understanding is essential for the development of culturally responsive pedagogical practices that are designed to address and navigate the complex challenges that are associated with the multifaceted process of language education (Vanhove, 2013; Hartshorne et al., 2018; Mickan et al., 2019; Lestari & Wahyudin, 2020; Larsen-Freeman, 2021, pp. 793-798; Bylund et al., 2023). It is also essential for the cultivation and promotion of educational environments that are inclusive.

In conclusion, the process of language acquisition is a phenomenon that occurs continuously over the length of an individual's life. It encompasses a variety of stages, beginning in early infancy and continuing through maturity, and it continues into the latter stages of life. This ongoing and ever-changing process calls for academic investigation, with a particular emphasis on the mechanisms that are responsible for the adaptation and regulation of the processes that are relevant to SLA during the many periods of developmental life. In addition, academic undertakings of this kind must take into consideration and investigate the contextual variations that are linked with various lifetime learning contexts. These include but are not limited to, scenarios encompassing language development within professional and occupational contexts, as well as the maintenance and preservation of heritage languages within diasporic and expatriate communities (Vanhove, 2013; Hartshorne et al., 2018; Mickan et al., 2019; Lestari & Wahyudin, 2020; Larsen-Freeman, 2021, pp. 793-798; Bylund et al., 2023).

For the purpose of summarizing, it is indisputably obvious that it is crucial to commission extra academic inquiry and examination into the multifaceted world of SLA. It is significant that the inherent dynamism that characterizes the field, in conjunction with the intricate and sophisticated nature of the language acquisition process that takes place within a myriad of diverse and multifaceted contexts, significantly emphasizes and amplifies the necessity for sustained academic inquiry and innovative research initiatives. There is the possibility of deciphering and elucidating the mysterious parts of SLA via the use of research procedures that are rigorous and painstakingly carried out. In the end, the purpose of this work is to empower language learners, equip educational practitioners with the necessary information and tactics, and better inform and enhance pedagogical approaches. Through this empowerment, learners are better positioned to adeptly navigate the complexities of a globalized, multilingual, and intricately interconnected socio-cultural landscape, armed with enhanced linguistic competencies and a heightened sensitivity to the myriad cultural nuances they are likely to encounter (Vanhove, 2013; Hartshorne et al., 2018; Mickan et al., 2019; Lestari & Wahyudin, 2020; Larsen-Freeman, 2021, pp. 793-798; Bylund et al., 2023).

Theory of Differentiated Instruction

Many studies (Nicholas et al., 2021; Morina, 2019; DeNeve et al., 2015; Tomlinson, 2014) provide empirical evidence on the influence of learner diversity in terms of learning styles, interests, sociocultural disposition and learning needs on performance. According to Tomlinson (2017), differentiated instruction is a teaching philosophy premised on the fact that no two students are the same, all students have strengths and weaknesses, and that catering to learners' distinctive needs enhances performance. Tomlinson's theory underscores the importance of

intentionality when pivoting instruction and varying the learning content, process, product, or environment to enhance learning. Since no two learners are the same, it is counter-productive to subject all learners to the same content, tasks and assessments (Morina, 2019; DeNeve et al., 2015; Tomlinson, 2017). Varying instruction according to learners' interests, abilities and learning profiles yields better learning outcomes, increases learner engagement and inspires learners to advance their knowledge (Morina, 2019; DeNeve et al., 2015; Tomlinson, 2017).

According to this theory, it is impossible for teachers to effectively implement differentiated instruction if they lack knowledge of the learners' "backgrounds, readiness levels, languages, interests, and learning profiles of students" (Hall, 2002, p.86). Hall (2009) emphasizes that differentiation is solely implemented to maximize learning by matching a learner's educational experience to their individual needs. Differentiation also affords students multiple opportunities to demonstrate skills through numerous undertakings that also value their unique strengths (Nicholas et al., 2021; Morina, 2019; DeNeve et al., 2015; Tomlinson, 2014).

The cited studies, including those by Nicholas et al. (2021), Morina (2019), DeNeve et al. (2015), and Tomlinson (2014), collectively present empirical evidence highlighting the significant impact of learner diversity on academic performance. Tomlinson (2017) further expounds on the notion that differentiated instruction, as a pedagogical philosophy, is rooted in the recognition that each student possesses a unique set of strengths, weaknesses, and learning needs. The foundational premise of this approach is that tailoring instruction to accommodate these distinctive needs ultimately enhances overall performance.

Tomlinson's theory emphasizes the essential role of intentionality in educational practices. The idea is to intentionally adjust instruction by varying elements such as learning

content, processes, products, and environments. This intentional differentiation is grounded in the acknowledgement that uniformity in content, tasks, and assessments is counterproductive, given the inherent diversity among learners (Morina, 2019; DeNeve et al., 2015; Tomlinson, 2017). The theory posits that by adapting instruction based on learners' interests, abilities, and learning profiles, educators can achieve more favorable learning outcomes, heightened learner engagement, and foster a genuine enthusiasm for knowledge advancement (Morina, 2019; DeNeve et al., 2015; Tomlinson, 2017).

One critical aspect highlighted in Tomlinson's theory is the prerequisite for teachers to possess a deep understanding of their students' backgrounds, readiness levels, languages, interests, and learning profiles. Hall (2002) stresses the pivotal role of this knowledge in the effective implementation of differentiated instruction. Without a comprehensive understanding of these individual factors, educators may struggle to tailor instruction effectively to the diverse needs of their students.

Hall (2009) further underscores that the primary purpose of differentiation is to optimize learning outcomes by aligning each learner's educational experience with their specific needs. Differentiated instruction, as emphasized in the cited studies, goes beyond a one-size-fits-all approach. It seeks to provide students with multiple opportunities to demonstrate their skills through a variety of activities, thereby acknowledging and valuing their unique strengths (Nicholas et al., 2021; Morina, 2019; DeNeve et al., 2015; Tomlinson, 2014). This approach not only recognizes the diversity inherent in the learning process but also fosters a more inclusive and supportive educational environment where each student can thrive based on their individual capabilities and potential.

Differentiated instruction, as underscored by studies including Nicholas et al. (2021), Morina (2019), DeNeve et al. (2015), and Tomlinson (2014), holds paramount significance in contemporary educational paradigms. Tomlinson's theoretical framework emphasizes the crucial role of recognizing and responding to learner diversity based on factors such as learning styles, interests, socio-cultural dispositions, and learning needs. This pedagogical philosophy challenges the conventional notion that all students are uniform and advocates for a tailored approach that acknowledges individual strengths and weaknesses.

The importance of differentiated instruction is multi-faceted:

Firstly, it addresses the diverse learning styles present in any classroom. By customizing teaching methods to align with individual preferences, educators create an inclusive environment that caters to the varied ways in which students absorb and process information. Secondly, it maximizes individual potential by acknowledging and catering to each student's unique set of strengths, weaknesses, and readiness levels. This tailored approach seeks to unlock the latent potential of every learner, fostering an environment where each student can thrive.

Furthermore, differentiated instruction enhances student engagement by tailoring teaching to individual interests, abilities, and learning preferences. This personalized approach makes the learning experience more dynamic and relevant, motivating students to actively participate in their educational journey. The philosophy of differentiated instruction is particularly crucial in recognizing and accommodating the diversity present in students' backgrounds. It ensures that educational content is culturally responsive, inclusive, and reflective of the varied experiences students bring to the classroom.

Adapting to varying readiness levels is another key aspect. Students enter classrooms with different levels of preparedness for new material, and differentiated instruction allows educators to adjust the pace and complexity of instruction, preventing either under-challenging or overwhelming learners. Moreover, differentiated instruction provides personalized learning paths. It recognizes that each student follows a unique trajectory in their academic development and tailors content, tasks, and assessments accordingly, making learning experiences personally meaningful.

The approach also contributes to the creation of a positive learning environment. When students feel that their individual strengths, interests, and needs are acknowledged, it fosters a sense of belonging and contributes to a positive, inclusive atmosphere in the classroom. Differentiated instruction aligns with Howard Gardner's Multiple Intelligences Theory by accommodating various modalities of learning. Whether logical/mathematical, interpersonal, intrapersonal, spatial, verbal/linguistic, auditory, naturalist, musical, or existential intelligence, differentiated instruction recognizes and values the diverse intelligences of students.

Ultimately, the overarching importance of differentiated instruction lies in its potential to enhance learning outcomes. Empirical evidence suggests a positive correlation between differentiated instruction and improved academic performance. By tailoring instruction to individual needs, educators create a more effective and impactful learning environment, fostering the holistic development of each student.

A summary of the Theories

Theory	Definition of Differentiated Instructions	Assumptions	Aspects of Differentiated Instruction
Input Theory by Stephen Krashen	Varried input that optimizes language acquisition	Krashen's theory emphasizes the significance of comprehensible input in language learning, asserting that learners make optimal progress when exposed to language slightly beyond their current proficiency level (Krashen, 1985). This hypothesis has had a profound impact on language education methodologies, advocating for immersive and meaningful language-rich environments (Higgs, 1985; Bailey & Fahad, 2021).	Differentiate content to augment language acquisition
Interactionist Theory by Lev Vygotsky and Michael Long	Differentiate the content and the process of learning.	This theory underscores the role of social interaction and collaborative discourse in language development, emphasizing the importance of negotiation of meaning in language learning settings (Vygotsky, 1978; Mahn & John-Steiner, 2013; Bodrova & Leong, 2015).	Differentiate the process of learning to make it more collaborative.
Dual Language Systems Theory by Ellen Bialystok	Varry instruction according to learners' cultural and linguistic backgrounds.	Bialystok's theory challenges traditional notions by proposing that multilingual individuals possess two intertwined language systems, shedding light on the cognitive processes involved in bilingual language processing (Bialystok, 2001; Bialystok et al., 2009).	Differentiate both content and process.
Cognitive Development	Vary instruction according to	Piaget's theory provides insights into how learners assimilate and	Differentiate content,

Theory by Jean Piaget:	learners' readiness levels.	accommodate new linguistic structures within their existing cognitive frameworks, highlighting the active role of learners in constructing their understanding of language (Piaget, 1972; Ahmad et al., 2016).	process and product according to learners' readiness levels.
The Socio-cultural Learning Theory	is Responsive teaching that appeals to different learning needs (MacGillivray & Rueda, 2003).	<p>Learners engage differently with the content as defined by their sociocultural backgrounds (MacGillivray and Rueda, 2001).</p> <p>To develop critical thinking, it is important to situate learning techniques to the learner's socio-cultural context and profile through their social interactions (Gudmundsdottir, 2000).</p> <p>Education is a lifelong process and not a product of an end (Riddle and Dabbagh, 1999).</p> <p>There is always something new to learn based on what has already been learned.</p> <p>Viewing education as a lifelong process makes it imperative to teach learners how to learn by offering them multiple platforms upon which to make connections.</p> <p>Effective instruction recognizes that learners are not without knowledge and that the existing knowledge can be used as an impetus for new</p>	<p>Differentiate <u>learning techniques</u> to learners' socio-cultural context.</p> <p>Differentiate <u>learning content</u> to create multiple opportunities for lifelong learning.</p> <p>Differentiate <u>assessments</u> to help determine what the learners already know and to help them connect the dots back and forth.</p> <p>Differentiate the <u>process</u> of instruction and</p>

		<p>learning (MacGillivray and Rueda, 2001).</p> <p>Instruction can only be effective if it is enacted at a level beyond a student's independent instructional level band when it applies verbal scaffolding from the teacher.</p> <p>Prescribes an instructional approach that appeals to the different needs of the learners.</p>	learning
Progressive Education Theory	An approach to instruction that is informed by and aligns with a child's interests, abilities and habits.	<p>"Education must begin with a psychological insight into the child's capacities, interests, and habits" (Dewey, 1929, Article 1, para. 7).</p> <p>Learning optimally occurs when students are presented with different scenarios or opportunities that allow them to make connections with the old knowledge (as learnt, experienced and lived) for new learning to occur.</p> <p>Education must be conceived as a continuing reconstruction of experience" (Dewey, 1929, Article 3, Paragraph 17).</p> <p>Teachers play the role of facilitators who guide students to connect educational content to their lived experiences and prior knowledge.</p> <p>The teacher is not in the school to impose certain ideas or to form</p>	<p>Differentiate <u>learning activities</u> to allow students to connect the dots, back and forth, and to identify patterns and knowledge connections</p> <p>Differentiate <u>content/curriculum</u> to reintroduce learners to multiple perspectives of looking at content.</p> <p>Differentiate <u>instructions</u></p>

		<p>certain habits in the child but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these. Thus the teacher becomes a partner in the learning process, guiding students to independently discover meaning within the subject area (Article 2, para. 14).</p> <p>The curriculum must advance new knowledge to enable learners to connect it to the old knowledge. Differentiation is a great strategy to measure what is already known and to tap into students' strengths for new learning.</p> <p>The curriculum must be differentiated to reintroduce learners to multiple perspectives of looking at content.</p> <p>Learners can be guided to connect past knowledge to fresh content to create new knowledge (Dewey, 1938).</p>	<p>according to learners' existing knowledge and experience.</p>
Multiple Intelligence and Learning Profiles Theory	<p>Instruction that caters for the multifaceted nature of intelligence, as possessed by an individual and as it, varies from one individual to</p>	<p>There are nine types of intelligence: “(1) logical/mathematics; (2) interpersonal; (3) intrapersonal; (4) spatial; (5) verbal; (6) auditory; (7) naturalist; (8) musical; and (9) existential,” (Gardener, 2002, p.96).</p> <p>Effective instruction takes into</p>	<p>Differentiate <u>instruction</u> according to the multiple intelligences and learning styles.</p> <p>Integrate</p>

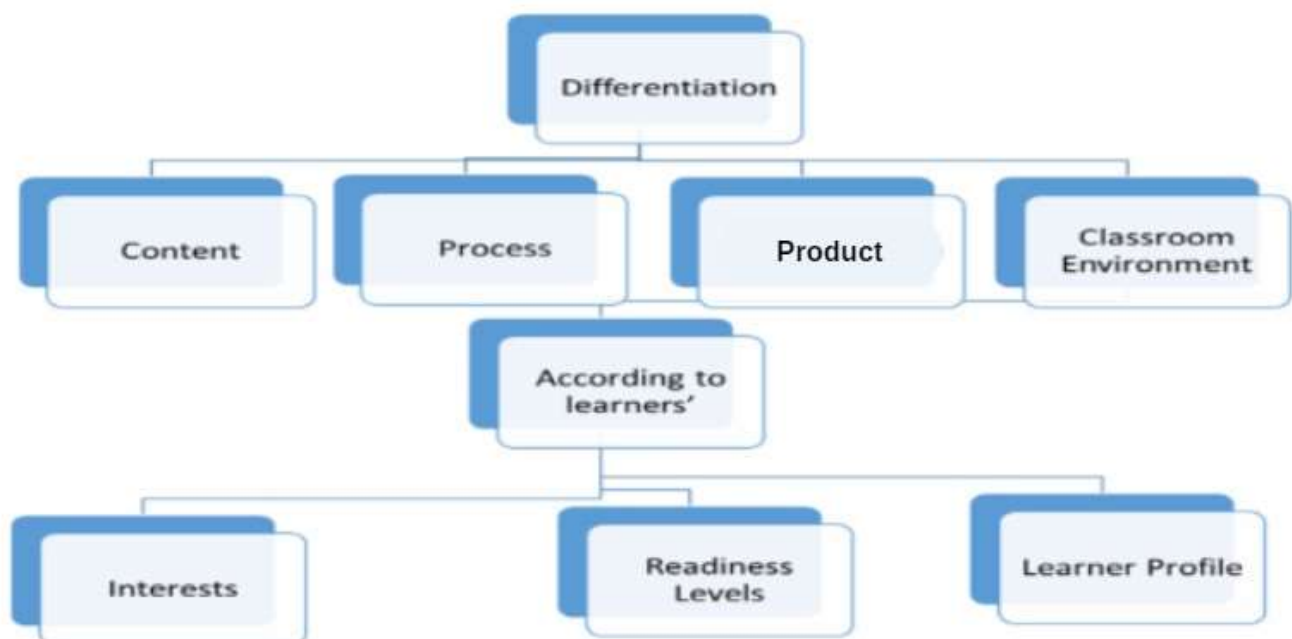
	<p>another Gardner, 2011.</p>	<p>consideration of multiple intelligences.</p> <p>Learning is optimal when learners engage their full potential through the exploitation of their strongest areas of intelligence.</p> <p>According to Tomlinson (2009; 2012), There is a relationship between students' preferences and learning styles to their ability to internalize content.</p> <p>Tomlinson (2001) argues that teachers must have in mind the multiple intelligences in their classrooms when planning and designing curriculum and instruction. She highlights "(a) group orientation; (b) cognitive style; (c) learning environment; and (d) intelligence preference" as some of the salient factors to put into consideration.</p> <p>The Learning Profiles theory posits that each of the profile aspects affects a person's process of knowledge simulation and that they must be given thought during the planning and delivery of a lesson.</p> <p>The Learning Profiles Theory encompasses 4 major aspects: "(a) culture; (b) gender; (c) learning styles, and (d) intelligence preferences" (Tomlinson, 2010, p. 314).</p>	<p><u>multimodal approaches</u> to teaching and learning.</p>
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		<p>According to Tomlinson (2010, p. 314), “Individuals learn differently in varied contexts and thus the instruction and environment within a classroom should be differentiated to include a multitude of contexts in which learning can occur.”</p> <p>He further (2012) argues that differentiated instruction incorporates multi-modal approaches to teaching and learning.</p>	
Theory of Differentiated Instruction	<p>A teaching philosophy premised on the fact that no two students are the same, all students have strengths and weaknesses, and that catering to learners’ distinctive needs enhances performance (Tomlinson, 2005; Loeser, 2008).</p>	<p>Tomlinson’s theory underscores the importance of intentionality when pivoting instruction and varying the learning content, process, product, or environment to enhance learning.</p> <p>According to this theory, it is impossible for teachers to effectively implement differentiated instruction if they lack knowledge of the learners’ “backgrounds, readiness levels, languages, interests, and learning profiles of students” (Hall, 2002, p.86).</p> <p>Hall (2002) emphasizes that differentiation is solely implemented to maximize learning by matching a learner’s educational experience to their individual needs.</p> <p>Differentiation also affords students multiple opportunities to demonstrate skills through numerous undertakings</p>	<p>Differentiate <u>instruction</u> according to learners' backgrounds, readiness levels, languages, interests, and learning profiles.</p>

		that also value their unique strengths (Mulroy & Eddinger, 2003; Tuttle, 2000).	
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In essence, the study aligns itself with the intellectual legacy of these educational theoreticians, leveraging their theoretical perspectives to frame and inform the research inquiry. By doing so, it ensures that the exploration of differentiated instruction is not only grounded in educational theory but also poised to contribute meaningfully to the ongoing discourse within the field.

The conceptual framework guiding this study is a synthesis of these four essential theories that collectively underpin the philosophy of differentiated instruction. By weaving together the strands of these theories, the research established a robust foundation for its exploration of differentiated instruction. Using these theoretical underpinnings, the researcher formulated the conceptual framework below.



This framework encompasses various dimensions, including the context, process, product, and learning environment, all of which are aligned with the individual learner profile, abilities, and interests. Moving forward, the subsequent sections will be guided by this schema, showing how employing differentiation strategies is perceived to optimize educational experiences and promote equitable learning outcomes for all learners.

The Concept of Differentiated Instruction

What is Differentiated Instruction?

While the meaning of “differentiation” is complex and varied (Graham et al., 2020; Bondi et al., 2019), researchers in education agree that it is about varying instructions to meet learner’s needs (Morina, 2019; Fitzgerald, 2016; Tobin & Tippet, 2014; Roy et al. 2013; Ruys, Defruyt, Rots & Aelterman, 2013; Hall, 2002; Tomlinson, 2000). A more zoomed-in analysis of the lexical repertoire around differentiation highlights phrases like learners’ needs, unique abilities, variant learning styles, diverse learners, and varied instructional practices. Despite this seemingly common understanding of differentiation, its varied enactment by different practitioners is a testament to the inconsistencies in its meaning and lack of conceptual clarity in its implementation (Graham et al., 2020; Bondi et al., 2019). As a result of this inconsistency, there are varied implementations for DI across schools and countries, with some schools settling for streaming according to abilities while others use tiered groupings within classes of mixed abilities (Graham et al., 2020).

To make matters even more confusing, different countries use different terminologies to denote differentiated instruction. Eikeland and Ohna’s (2022) configurative review of 28 research papers published between 2000 and 2017 reveals 39 different terminologies used to

denote DI. Denmark, for instance, calls it teaching or student differentiation, while Scandinavians refer to it as pedagogical differentiation (Eikeland & Ohna, 2022). Other countries like Rwanda, refer to it as differentiation of instruction, or more loosely, learner-centered instructional practices. An analysis of these 39 terms and their definitions led them to 3 high-level connotations and categories of DI: “Differentiating teaching, students, and content” (Eikeland & Ohna, 2022, P. 161). These 3 framings of differentiation point to types of or ways to differentiate instruction since teaching, students and content are all components of instruction.

In light of the variations in the meaning and practice of differentiation in education, it is important for this study to articulate a working definition of differentiated instruction. This study considers Tomlison’s summary and definition of differentiated instruction. Carol Ann Tomlinson, an established researcher and expert in this field, as cited by (Eikeland & Ohna, 2022, P. 161) defines differentiated instruction as “engaging students in teaching through different approaches to learning, by appealing to a range of interests, and by using varied rates of instruction along with varying degrees of complexity and differing support systems” (Tomlinson, 2014, pp. 3–4). For the purposes of this study, differentiated instruction is an umbrella term that encompasses everything a teacher does with his/her teaching, the students, the teaching environment, and the content to adapt instruction to the learners’ needs. While its implementation may be variedly dramatized, this study specifically looks at how teachers differentiate content, process, product and learning environment.

Despite the seeming lack of unanimity on a single definition of differentiated instruction, a huge body of literature demonstrate a consensus on the goal of differentiated instruction (Eikeland & Ohna, 2022; Graham et al., 2020; Bondi et al., 2019 Morina, 2019; Tomlison, 2017; Fitzgerald, 2016; Tobin & Tippet, 2014; Roy et al. 2013; Ruys, Defruyt, Rots & Aelterman,

2013). The goal of differentiated instruction is to improve learning outcomes by tailoring instruction to meet the needs of variant learners (Tomlinson, 2017). Proponents of DI argue that instruction (and everything that comes with it, including the classroom or online environment) must be tailored to the learners' needs, abilities, interests and learning styles (Hall, 2002; Tomlinson, 2000). It requires teachers to proactively pivot curriculum, teaching strategies, resources, activities, assessments or the learning spaces/platforms in order to better fulfill students' learning needs and increase their engagement (Tomlinson et al., 2003). The hallmark here, and the operative phrase, is proactive planning as opposed to reactive tinkering with activities during class sessions in an attempt to address student variance. Tomlinson (2017) also stresses that there should be a variety of possibilities for learning activities rather than differentiation being a specialized instruction. Simply put, differentiation is not individualized learning but the creation of multiple opportunities for learning (Tomlinson, 2017).

Tomlinson (2005) argues that accommodating divergent readiness levels, interests and learning profiles yields optimal results. Given the diversity that teachers meet in the classroom, it is highly recommended that they use techniques that take into account the special interests and skills of each student (Anderson, 2007). In fact, Salinger (2006) and Walpole, Justice and Invernizzi (2004), all advise that even the developmental differences among different learners should be approached with accommodative sensitivity while teaching. In other words, the rationale for differentiation of instruction is that diversity requires more flexible strategies that include all students (Tomlinson 2014; Tomlinson 2017).

In summary, this study notes the following important points. Differentiation of instruction refers to the application of variant strategies to enhance learning among heterogeneous learners. This is done in line with the learner's interests, readiness and profiles (Begum & Ambreen, 2021;

Tomlison, 2017). It is also important to note that DI is not about what is taught, but rather how it is taught. This means that teachers must find ways to be creative and versatile in order to meet students' learning needs, without diluting the standard of the content. For this reason, it is essential to consider how the processes, content, product and learning environment can be differentiated based on the learner's interests, readiness and profiles.

Differentiation according to Readiness

Readiness is a student's level of understanding as relates to their current skills level and prior knowledge (Tomlison, 2017; Hall, 2009). Students with a lower level of readiness may need more targeted and rigorous support and multiple layers of practice as opposed to their peers who are comparatively advanced in their level of readiness (Tomlison, 2001). As a result, teachers can vary the content, the process, or the product in order to cater to such needs (Tomlison, 1999). This premise is heavily backed by Vygotsky's (1978, 1986) social-cultural theory of learning which explains that learning is dependent on how close or far a learner is to their zone of proximal development (ZPD). The ZPD is *"a point of required mastery where a child cannot successfully function alone, but can succeed with scaffolding or support,"* (Vygotsky, 1978, p. 78). According to this theory, designing curriculum elements at or below a learner's mastery level is counterproductive as it becomes either too boring to engage their curiosity or too exhaustive to discourage them from even trying (Nicholas et al., 2021; Morina, 2019; DeNeve et al., 2015; Tomlinson, 2015).

Myriad brain research (Sousa, 2001; Wolfe, 2001) has equally surfaced empirical evidence to prove that learners learn best when they have a moderate challenge that is not too complex to frustrate their efforts nor too easy to thwart critical thinking. For optimal learning, a

teacher must, therefore, push students to their ZPD and coach them for success using individual and group tasks that are moderately complex to keep the fire burning. Clearly, administering the same activity to learners with varied layers of readiness would be counterproductive as the task may be way out of their ZPD.

Dewey's (1929) progressive theory of learning also posits that curriculum elements must align with the learner's knowledge and prior experience for learning to take place. Since learners have diverse levels of knowledge and experiences, it only makes sense that instruction is scaffolded to cater to these varying levels of readiness. Therefore, educators should endeavor to carry out pre-engagement activities that help them determine learners' interests, abilities and learning profiles before engaging learners (Dewey, 1929).

To differentiate instruction for learners' readiness, a teacher may differentiate tasks to vary the levels of difficulty, scaffold content into smaller chunks of knowledge that learners can easily digest, create more hands-on activities, use tiered grouping to provide more support to specific groups, provide extra resources or reading support for difficult texts, provide guiding questions or student checklists for specific areas of the content and any other means engagement to get the less ready group to the readiness level required while keeping the more ready group equally engaged (Bobis et al., 2021; Tomlinson 2017).

To differentiate instruction based on learners' readiness, educators employ a range of strategies to accommodate the diverse levels of preparedness and understanding among students. This pedagogical approach, as emphasized by researchers such as Bobis et al. (2021) and Tomlinson (2017), aims to create a learning environment that meets students where they are and provides tailored support and challenges. Here's an elaboration of the strategies involved:

Differentiating tasks to varying levels of difficulty is a fundamental aspect. Teachers adjust the complexity of assignments to ensure that all students, regardless of their readiness, are appropriately challenged. This means offering tasks that provide a level of difficulty suited to each student's current understanding.

Scaffolding:

Implementing effective teaching strategies requires a multifaceted approach, with scaffolding emerging as a pivotal technique (Vygotsky, 1978). Scaffolding plays a crucial role in supporting students' comprehension and mastery of complex material by breaking down intricate concepts into smaller, more digestible chunks, providing a structured and gradual learning path (Wood, Bruner, & Ross, 1976). As educators engage in scaffolding, they strategically organize content into manageable sections, ensuring sequential learning where students grasp one concept before moving on to the next (Rosenshine, 1986). This sequential arrangement aligns with Vygotsky's Zone of Proximal Development (ZPD), acknowledging the benefits of instructional support in bridging the gap between what students know and what they are capable of learning (Vygotsky, 1978).

Furthermore, scaffolding serves as a dynamic tool for differentiation, addressing diverse needs and abilities in the classroom (Tomlinson, 2014). Customizing support based on individual readiness and comprehension ensures that each learner experiences an appropriately challenging yet attainable trajectory (Tomlinson, 2017). This personalized approach contributes to a more inclusive educational environment, recognizing and addressing unique learning profiles (Tomlinson, 2014).

The significance of scaffolding extends beyond immediate learning, cultivating critical thinking, problem-solving, and self-directed learning skills (Hogan & Pressley, 1997). As students navigate scaffolded sections, they acquire knowledge and develop the ability to independently approach challenges, aligning with the broader goal of fostering lifelong learning skills (National Research Council, 2012).

In conclusion, the strategic scaffolding of content is a cornerstone in effective teaching, empowering learners to construct understanding systematically. Educators who adeptly employ this technique provide students with the scaffolding needed for confident navigation of the educational landscape, fostering both immediate comprehension and the development of lifelong learning competencies.

Hands-on Activities

Implementing hands-on activities in the classroom is a strategic and practical approach to fostering engagement among students with diverse readiness levels (Trowbridge & Bybee, 1996). These activities offer a dynamic and experiential avenue for students to actively interact with the subject matter, catering specifically to those who thrive on a more tangible and concrete understanding of concepts.

Hands-on activities encompass a spectrum of interactive learning experiences, ranging from experiments and simulations to collaborative projects and real-world applications (Marek & Methven, 1991). By incorporating such activities, educators create an environment that resonates with students possessing varied learning preferences and readiness levels. For kinesthetic

learners, the physical engagement inherent in hands-on activities provides a direct and impactful way to absorb and internalize information (Dunn & Dunn, 1993).

Furthermore, these activities promote a deeper level of understanding by connecting theoretical knowledge with practical application (Bonwell & Eison, 1991). Students not only grasp concepts in the abstract but also witness their real-world implications. This connection between theory and practice is particularly beneficial for learners who may struggle with purely conceptual or abstract learning approaches, offering them a bridge to contextualize and make sense of the subject matter (Kolb, 1984).

In addition to enhancing comprehension, hands-on activities contribute to a more inclusive learning atmosphere (Tomlinson, 2014). Students with different learning styles and readiness levels can find meaningful ways to participate and contribute, fostering a sense of accomplishment and confidence. This inclusivity aligns with the principles of differentiated instruction, acknowledging and addressing the diverse needs present in the classroom (Tomlinson, 2014).

Moreover, hands-on activities promote active learning, encouraging students to become collaborators in their educational journey (Prince, 2004). Through participation in experiments, projects, or interactive exercises, students not only absorb information but also develop essential skills such as critical thinking, problem-solving, and teamwork. These activities create a dynamic classroom environment where students are not passive recipients of knowledge but active participants in the learning process (Prince, 2004).

In summary, the integration of hands-on activities into the curriculum serves as a dynamic and inclusive strategy to engage students with varying readiness levels (Morgan & O'Reilly, 1999). By providing tangible and experiential learning opportunities, educators create a vibrant learning environment that caters to the diverse needs and preferences of their students. This approach goes beyond traditional teaching methods, fostering deeper understanding, active participation, and the development of essential skills crucial for lifelong learning.

Tiered Grouping

Tiered grouping is a pedagogical strategy that involves the systematic organization of students into different groups based on their readiness levels (Tomlinson, 2005). This approach recognizes and embraces the inherent diversity among learners, aiming to provide customized instruction and activities that align with each student's unique understanding of the subject matter. By tailoring the learning experience to individual readiness levels, tiered grouping creates a more personalized and effective educational environment.

In implementing tiered grouping, educators assess students' readiness through various means, such as pre-assessments, formative assessments, and ongoing observations (Tomlinson, 2005). These assessments help identify the range of proficiency levels within the classroom, allowing teachers to strategically group students according to their current grasp of the material. The tiered structure typically consists of groups representing different levels of mastery, ensuring that each student is appropriately placed within a group that aligns with their specific needs.

Within each tier, students receive instruction and engage in activities that are carefully designed to address their readiness levels (Tomlinson, 2005). For students who may require

additional support, the instruction is scaffolded to provide step-by-step guidance and reinforcement. Conversely, for those who demonstrate advanced readiness, the activities are enriched to present challenges that stimulate critical thinking and deeper exploration of the subject matter.

One of the key advantages of tiered grouping is its ability to foster a differentiated learning experience (Tomlinson, 2005). Students are not subjected to a one-size-fits-all approach; instead, they benefit from targeted support or challenges that align precisely with their individual learning requirements. This approach goes beyond the traditional homogeneous grouping, acknowledging that students within a single classroom can possess a spectrum of readiness levels.

Moreover, tiered grouping promotes a sense of inclusivity and equity within the classroom (Tomlinson, 2005). It recognizes that students progress at different rates and have diverse learning needs. By providing tailored instruction, educators address these variations, ensuring that each student has the opportunity to thrive and succeed. This inclusivity is foundational to the principles of differentiated instruction, which seeks to create a supportive and responsive learning environment for all students.

In summary, tiered grouping is a dynamic and responsive strategy that recognizes and addresses the diverse readiness levels of students in the classroom (Tomlinson, 2005). By organizing students into differentiated groups and tailoring instruction accordingly, educators create a learning environment that is both personalized and inclusive. This approach enhances

the overall effectiveness of teaching, acknowledging the individual learning journeys of students and fostering a classroom where every student can reach their full potential.

Additional Reading Resources

Inclusive education involves providing additional resources or reading support to cater to the diverse needs of students, particularly those who may require extra assistance in comprehending challenging texts (Tomlinson, 2001). This approach aims to create an equitable learning environment where all students, regardless of their readiness level, have access to the necessary materials and support systems.

For students who may find certain texts challenging, additional resources can include simplified versions of the text, annotated editions, or supplementary materials that provide context and clarification (Tomlinson, 2001). These resources serve as valuable tools to enhance comprehension and make the content more accessible to a broader range of learners. Teachers may also incorporate multimedia elements, such as audio versions of texts or visual aids, to accommodate diverse learning preferences and ensure a comprehensive understanding of the material.

Moreover, offering reading support aligns with the principles of differentiated instruction, recognizing that students possess varying levels of readiness and may benefit from different approaches to mastering content (Tomlinson, 2001). By acknowledging and addressing these differences, educators create a more inclusive and supportive learning environment where every student can engage with the material at their own pace and in a way that suits their unique learning style.

Incorporating additional resources is not solely about remediation; it is a proactive measure to prevent potential barriers to learning (Tomlinson, 2001). It promotes a mindset of accessibility, where teachers anticipate and address the diverse needs of their students. This approach contributes to a positive and inclusive classroom culture, fostering a sense of belonging and empowerment among learners.

Furthermore, the provision of extra resources can extend beyond traditional classroom materials. Utilizing technology, such as e-books, audiobooks, or online platforms with interactive features, enhances the array of resources available to students (Tomlinson, 2001). This not only accommodates different learning styles but also prepares students for the increasingly digital landscape of education.

In conclusion, offering additional resources and reading support is a fundamental aspect of inclusive education (Tomlinson, 2001). It reflects a commitment to acknowledging and accommodating the diverse readiness levels of students, ensuring that every learner has the tools and support needed to succeed. This approach contributes to a more equitable, accessible, and inclusive educational experience, fostering a positive learning environment for all.

Guiding Questions

Implementing guiding questions or student checklists provides a structured and supportive framework for learners to effectively navigate through specific areas of content (Echevarria, Vogt, & Short, 2008). This educational strategy is particularly advantageous for students who may require additional guidance in honing their focus on essential concepts or skills.

Guiding questions serve as a roadmap, directing students' attention to crucial aspects of the material (Echevarria et al., 2008). These questions are strategically designed to prompt critical thinking, encourage analysis, and foster a deeper understanding of the content. By presenting inquiries that target key concepts, educators help students develop a clear and organized approach to their learning, ensuring that they engage meaningfully with the subject matter.

Moreover, student checklists serve as tangible tools that outline the necessary steps or components of a learning task (Echevarria et al., 2008). These checklists can include a breakdown of specific skills to be mastered, key elements to be addressed, or milestones to be achieved. By providing students with a checklist, educators empower them to take ownership of their learning journey and systematically progress through the material.

The structured nature of guiding questions and checklists aligns with the principles of differentiated instruction, acknowledging the diverse learning needs and preferences of students (Tomlinson, 2001). For those who may struggle with organization or require additional support in focusing on essential components, these tools act as valuable aids. They offer a sense of clarity, reducing potential feelings of overwhelm and enabling students to approach their learning with confidence.

Furthermore, the incorporation of guiding questions and checklists supports metacognitive development—the ability to think about one's thinking (Tomlinson, 2001). As students engage with these prompts, they cultivate self-awareness and reflection, enhancing their overall learning experience. This metacognitive aspect is instrumental in fostering independent learning skills and preparing students for lifelong learning beyond the classroom.

In conclusion, supplying guiding questions or student checklists is a pedagogical approach that promotes structured learning and enhances the educational experience for students (Tomlinson, 2001; Echevarria et al., 2008). By offering these tools, educators create a supportive framework that caters to diverse learning needs, fostering a more inclusive and effective learning environment.

Differentiation according to Interests

Interest, on the other hand, refers to one's preferences. Educators can spur curiosity in the classroom and keep the fire burning in students if they know learners' preferences (Bobis et al., 2021; Tomlinson, 2017). Relaying/ delivering concepts according to students' interests helps learners to situate knowledge to their personal experiences and context and to cultivate intrinsic motivation (Kaur, 2017; Tomlinson, 2017).

Dewey (1929) argues that other than helping learners connect content to their learning experiences and knowledge, curriculum elements must also take into account the question of learners' interest to ignite intrinsic motivation. To explain the mission-critical role of a teacher in learning, he says,

The teacher is not in the school to impose certain ideas or to form certain habits in the child but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these. Thus the teacher becomes a partner in the learning process, guiding students to independently discover meaning within the subject area (Article 2, para. 14).

To cater to the different interests, a teacher may use various strategies. These may include peer coaching or mentorship by engaging those who are well-versed in the knowledge. They can

also provide multiple avenues and resources for students to explore a topic in-depth, or offer students choices in the process and production of learning. Similarly, they can also use inquiry and project-based learning that encourages investigation and application of different principles to solve problems or use different groupings including jig-saw, expert groups, and interest centers and include simulations in the activities (Tomlison, 2006; Tomlison & Allan, 2000).

Differentiating instruction according to students' interests is a pedagogical approach that recognizes the significance of individual preferences in the learning process. Interests, in this context, refer to students' personal inclinations and affinities. The incorporation of students' interests into the educational framework has been shown to not only spark curiosity but also to sustain motivation throughout the learning journey (Bobis et al., 2021; Tomlinson, 2017).

Tailoring the delivery of concepts based on students' interests is a powerful strategy. By doing so, educators enable learners to relate new knowledge to their personal experiences and contexts. This connection to real-life scenarios not only enhances understanding but also cultivates intrinsic motivation, as highlighted by Kaur (2017) and Tomlinson (2017).

John Dewey's perspective, dating back to 1929, reinforces the idea that considering learners' interests is crucial in igniting intrinsic motivation. Dewey emphasizes the role of the teacher as a facilitator and partner in the learning process. Teachers are not merely there to impose ideas or habits on students but to carefully select influences that will positively impact the child, guiding them to independently discover meaning within the subject area (Dewey, 1929, Article 2, para. 14).

To cater to diverse interests, teachers can employ a variety of strategies. Peer coaching or mentorship involving individuals well-versed in a particular subject can be a valuable approach. Providing multiple avenues and resources for students to explore a topic in-depth caters to different preferences. Offering choices in the process and production of learning allows students to engage in ways that align with their interests.

Inquiry and project-based learning methods, advocated by Tomlinson (2006) and Tomlinson & Allan (2000), encourage investigation and the application of different principles to solve problems. These approaches empower students to delve into topics they find intriguing, fostering a deeper understanding and sustained interest. Additionally, incorporating various grouping strategies such as jig-saw, expert groups, and interest centers, as well as integrating simulations into activities, adds a dynamic and interactive dimension to the learning environment.

In essence, differentiating instruction based on interests not only acknowledges the uniqueness of each learner but also creates a more engaging and meaningful educational experience. By aligning content and activities with students' interests, educators enhance the relevance of learning, stimulate curiosity, and foster a sense of intrinsic motivation that propels students on their educational journey.

Differentiation according to Student Profiles

Tomlinson (2001) also explores the concept of learning profiles at length. According to him, a learning profile is about how learners learn best. He explains that learning preferences including learning styles, types of intelligence, gender, culture, and language proficiency

culminate into a learning profile. While learning style alludes to the learning environment preferences, intelligence preferences refer to the favored modes of receiving and processing information and grouping and gender preferences allude to learning being a social process that engages people of different gender, culture and socio-economic backgrounds. All these aspects determine a learner's profile (Tomlison, 2017) and the learning profile is key in determining how a lesson is taught (Begum & Ambreen, 2021; Tomlinson, 2017; Hall, 2009).

Gardner (2011), equally departs from the view that intelligence can be constrained to a single unit and posits that educators must vary instructions to cater to the multiple intelligences in class. At any single time, a teacher may teach a class comprising nine different types of intelligence: “(1) *logical/mathematics*; (2) *interpersonal*; (3) *intrapersonal*; (4) *spatial*; (5) *verbal*; (6) *auditory*; (7) *naturalist*; (8) *musical*; and (9) *existential*,” (Gardener, 2002, p.96). In this case, if the curriculum elements are designed to cater to one group of learners, what happens to the other eight? Tomlinson (2009; 2012) underscores this in her modern adaptation to Gardener's (2011) theory. She (Tomlinson, 2001, P. 28) argues that “(a) *group orientation*; (b) *cognitive style*; (c) *learning environment*; and (d) *intelligence preference*” must be considered during the planning of a course or lesson. The content to be taught, activities to be used, the evaluative tasks, student feedback, and classroom space must all be aligned to the different learning needs established through the data surfaced from the preengagement tasks (Tomlison, 2017).

To differentiate for learning profiles, a teacher may consider creating flexible learning spaces and options, varying the methods of delivery, processes, and production of knowledge to include auditory, visual and kinesthetic modes, exploring the think (individual), pair and share strategy, provide learners with multiple options for competitive, cooperative and independent

activities, and providing authentic learning tasks for different intelligence areas (Tomlison, 2006; Tomlison & Allan, 2000).

Differentiation according to student profiles involves tailoring instructional methods and content to align with how individual learners best acquire and process information. The concept of learning profiles, extensively explored by Tomlinson (2001), encompasses various factors such as learning styles, types of intelligence, gender, culture, and language proficiency. These factors collectively form a student's learning profile, influencing how they engage with and grasp educational content (Tomlison, 2017).

Learning styles, as mentioned by Tomlinson, refer to preferences in the learning environment. Intelligence preferences, inspired by Gardner's (2011) Multiple Intelligences Theory, encompass favored modes of receiving and processing information. Additionally, grouping and gender preferences acknowledge learning as a social process involving people of different genders, cultures, and socio-economic backgrounds. These diverse aspects collectively contribute to an individual learner's profile, shaping their optimal learning conditions (Tomlison, 2017; Begum & Ambreen, 2021; Hall, 2009).

Gardner's theory challenges the idea that intelligence can be limited to a single unit. He proposes that educators should vary their instructional approaches to accommodate the multiple intelligences present in a classroom. Gardner identifies nine types of intelligence: logical/mathematical, interpersonal, intrapersonal, spatial, verbal, auditory, naturalist, musical, and existential. Tomlinson extends this perspective by emphasizing the importance of

considering group orientation, cognitive style, learning environment, and intelligence preference during course or lesson planning (Tomlinson, 2001, p. 28).

To cater to the diverse learning profiles of students, educators can deploy a spectrum of strategies designed to embrace individual preferences and optimize the learning experience:

One pivotal strategy is the cultivation of Flexible Learning Spaces and Options, where educators create environments that are adaptable to different learning needs and preferences. This approach recognizes that the physical setup of a learning space can significantly impact engagement and understanding.

Varied Methods of Delivery, Processes, and Production are integral to differentiation. By diversifying instructional methods to encompass auditory, visual, and kinesthetic modes of learning, educators acknowledge that students possess distinct ways of absorbing and processing information.

The Think-Pair-Share Strategy stands as an effective method to bridge the gap between individual and social learning preferences. Students begin by reflecting individually, then engage in discussions in pairs, and finally share their insights with the entire class. This not only accommodates varying learning styles but also promotes collaborative learning.

Offering Multiple Options for Activities is another valuable strategy, granting learners the autonomy to choose activities aligned with their preferred learning styles and group orientations. This not only enhances engagement but also allows students to take ownership of their learning journey.

Authentic Learning Tasks further enrich the learning experience by providing tasks that resonate with different intelligence areas. This strategy ensures that students can connect with the content in ways that align with their unique strengths and preferences, making the learning process more meaningful and relevant.

In essence, differentiation based on student profiles requires educators to delve into the nuanced understanding of each learner's distinctive amalgamation of learning styles, type of intelligence, and preferences. By aligning instructional methods, content, and activities with these profiles, educators cultivate a more inclusive and effective learning environment that comprehensively addresses the diverse needs and strengths of their students. This student-centric approach not only enhances academic outcomes but also fosters a positive and engaging educational experience for all.

Methods of Differentiation?

Differentiated Instruction is a collection of teaching strategies that vary instruction to cater to the different needs of diverse learners. Abati (2012) highlights two main contexts for differentiation: organizational and pedagogical. In the organizational context, differentiated instruction involves “(1) creating small class groupings allowing for more differentiation, (2) providing extra resources and materials that allow for a highly individualized approach to instruction, and (3) normative traditions such as beliefs, values and commitment to equity across classes,” (Abati, 2012, P. 8) The pedagogical context, on the other hand, differentiates instruction at the school level by “matching learning targets, tasks, activities, resources and learning support to individual learners’ needs, styles and rates of learning,” (Abati, 2012, P. 8). Either way, DI is

all about varying teaching strategies or instruction and its elements to meet learners where they are (Nurasiah et al., 2020; D'Agnese, 2017; Pilten, 2016; Abati, 2012).

Teachers who understand the benefits of differentiation (whether pedagogical or organizational) are sensitive to learner diversity and plan their content, activities and assessment to meet learner needs and preferences. Drawing from reviewed literature (Lai et al., 2020; Melese, 2019; LeeKeenan & Ponte, 2018; Faber et al., 2017; Tomlison, 2017), these teachers choose to vary the content, process, product, or the learning environment. In the words of Abati (2012), "There are three behaviors characteristic of teachers who differentiate instruction. They are (1) varying delivery of instruction within the classroom environment, (2) using multiple resources and materials, and (3) flexibly grouping students within the classroom environment," (Abati, 2012. P. 9). These variations are based on learners' interests, readiness levels and learning profiles (Tomlison, 2017).

Granted, "A differentiated classroom provides different avenues to acquiring content, to processing or making sense of ideas, and to developing products so that each student can learn effectively" (Tomlison, 2001 p. 1). This argument preempts four different ways through which instruction and curriculum elements can be differentiated: content which is what students are expected to learn, process- which is how students make sense of content, product -which is how learners demonstrate learning and affect/classroom environment- which is how a student's emotional state affects learning (Lai et al., 2020; Valiandes & Neophytou, 2018; Tomlison, 2017; Conderman & Hedin, 2015; Tomlinson & Imbeau, 2010). It is worth noting that each of these key areas can be differentiated singly or in conjunction with another (Tomlison 2017; Tomlison 2001).

Differentiated Instruction stands as a comprehensive approach to teaching that tailors instructional strategies to meet the diverse needs of learners. The two main contexts for difference identified by Abati (2012) are pedagogical and organizational. Within the framework of the organization, differentiated instruction (DI) entails forming small class groups, allocating additional resources for customized instruction, and cultivating normative traditions centered around values, beliefs, and a dedication to equity within classes. In contrast, the pedagogical context focuses on customizing teaching at the school level by matching learning objectives, tasks, activities, materials, and learning support to the needs, learning styles, and rates of each individual student (Abati, 2012).

Whether applied in an organizational or pedagogical context, DI revolves around the idea of adapting teaching strategies and elements to meet learners where they are (Nurasiah et al., 2020; D'Agnese, 2017; Pilten, 2016; Abati, 2012). Teachers who embrace the benefits of differentiation are attuned to learner diversity, planning their content, activities, and assessments to align with learner needs and preferences. Drawing from the literature (Lai et al., 2020; Melese, 2019; LeeKeenan & Ponte, 2018; Faber et al., 2017; Tomlison, 2017), these educators intentionally vary content, processes, products, or the learning environment. Abati (2012) identifies three characteristic behaviors of teachers who differentiate instruction: varying the delivery of instruction within the classroom, using multiple resources and materials, and flexibly grouping students based on interests, readiness levels, and learning profiles.

As Tomlison (2001) asserts, a differentiated classroom offers diverse avenues for acquiring content, processing ideas, and demonstrating learning, ensuring that each student can effectively learn. This perspective introduces four key areas through which instruction and

curriculum elements can be differentiated: content (what students are expected to learn), process (how students make sense of content), product (how learners demonstrate learning), and affect/classroom environment (how a student's emotional state affects learning) (Lai et al., 2020; Valiandes & Neophytou, 2018; Tomlison, 2017; Conderman & Hedin, 2015; Tomlinson & Imbeau, 2010). It's noteworthy that differentiation can occur in each of these areas independently or in conjunction with others (Tomlison, 2017; Tomlison, 2001). In essence, Differentiated Instruction is a dynamic and multifaceted approach that not only recognizes the diverse needs of learners but also proactively addresses them through intentional and flexible instructional practices.

Differentiation of Content

Content is WHAT is taught or the “input” of teaching and learning (Tomlison 2001, p.72). It entails the skills, competencies and knowledge taught to students (Hall 2009). Differentiation does not change the content or rather what is taught. Instead, it gives all learners access to the content being taught but allows them to master the content in different ways (Hall, 2002; Tomlinson, 2001). At the end of the day, learners must all attain mastery and a standard level of competency through multiple resources and scaffolded content that matches their readiness levels, interests and styles (Levy, 2008).

When differentiating content, a teacher’s goal should be to give students more depth to the content by providing multiple resources and scaffolding it to match the variant learners. Content can also be differentiated by focusing on specific targets or goals for different students (Nurasiah et al., 2020); Bailey & Williams-Black, 2008). A teacher can either adapt what is taught or modify how it is accessed by learners. Tomlison (2017) argues that moderating access to content

to match variant learner needs while keeping the content standard hits the balance for differentiation. This is a very critical balance for learning.

Tomlison and Allan (2000) suggest many ways through which teachers can differentiate content. Among other things, they encourage teachers to use diagnostic tests to figure out students' levels of readiness, interests and profiles, and to use this knowledge to match them to various activities that make content more accessible to them. Such diagnostic activities could include student/teacher conferences, journal entries, pre-unit quizzes, free writing or even filling out the what-do-I-know charts. After the diagnostics, a teacher can then design hands-on tasks, group tasks, multiple media for content (like texts/videos/audio), or coaching for certain groups of students (Tomlison, 2000).

Differentiating content in the context of teaching involves providing varied avenues for students to access and master the same material. The goal is to ensure that all learners, regardless of their readiness levels, interests, or learning styles, can achieve mastery of the standard content.

Practical examples of differentiating content include:

1. **Varied Learning Resources:** Teachers can offer a collection of books, articles, or multimedia resources with different readability levels and varied interests. This allows students to choose materials that align with their reading abilities and personal interests. For example, providing books at different reading levels on the same topic ensures that each student can engage with the content at an appropriate challenge level (Tomlinson and McTighe, 2006).
2. **Multimodal Approaches:** Incorporating both visual and auditory technology helps cater to diverse learning preferences. Some students may struggle with traditional print

materials, so providing alternative resources, such as videos or audio materials, ensures that they can access the content in a way that suits their learning needs. This approach acknowledges the importance of using additional resources to support different learning preferences (Tomlinson and McTighe, 2006).

3. **Language Support for English Language Learners:** Differentiating content involves providing additional support for English language learners. This can include resources like vocabulary lists in multiple languages to aid comprehension. By offering linguistic support, teachers acknowledge and address the specific needs of students who are learning English as an additional language (Tomlinson and McTighe, 2006).
4. **Diagnostic Assessment and Tailored Activities:** Teachers can use diagnostic tests, conferences, journal entries, pre-unit quizzes, or other assessment tools to understand students' readiness levels, interests, and learning profiles. Armed with this knowledge, educators can tailor activities that make the content more accessible to individual students. This could involve designing hands-on tasks, group activities, or using different media formats to present content (Tomlison and Allan, 2000).
5. **Differentiated Goals or Targets:** Setting specific learning targets or goals for different students allows for a tailored approach. This means that while the overall content remains the same, students may have different objectives based on their individual needs and abilities (Nurasiah et al., 2020; Bailey & Williams-Black, 2008).
6. **Constructivist Approaches:** Embracing constructivist theories, teachers can offer choices and opportunities for students to take responsibility for their own learning. This might involve designing projects, inquiry-based tasks, or problem-solving activities that

allow students to explore content in ways that resonate with their interests and preferences (Abati, 2012).

In summary, differentiating content involves not altering what is taught but rather providing diverse pathways for students to access and master the material. These practical examples showcase how teachers can accommodate various learning needs, making the content more accessible and engaging for all students.

That being said, Tomlinson and McTighe (2006) recommend the following further actions to differentiate content: “(1) a collection of books with different readability levels and interests to support access for all students at their appropriate challenge level, (2) using both visual and auditory technology for students who struggle with print or have other learning preferences that would best be supported with additional resources, and (3) providing resources such as vocabulary lists in other languages to support English language learners. Each example provides opportunities for students to be more involved in their learning, and for the teacher to support the differentiated needs of the students,” (cited in Abati, 2012, p. 9). The constructivist theories posit that varying resources increase a learner’s access to content and present them with choices as well as motivation to take responsibility for their own learning.

Differentiation of Process

While content is WHAT is learned, the process is how knowledge, competencies and skills are acquired. Process is, "how the learners come to understand and assimilate facts, concepts, or skills" (Anderson, 2007, p. 50). It includes the tasks/activities students undertake (individually and in small groups) to acquire knowledge and skills and how they comprehend the

learning materials (Pereira et al., 2019; Tomlison, 2017). A teacher must create multiple avenues and platforms, “for learners to process the content or ideas and skills to which they have been introduced,” (Tomlinson, 2001 p. 79). Consequently, learners do not just learn the concept in question but also how to learn and solve problems. Tomlison (2001) adds that effective instructional activities are those presented “ in a range of modes at varying degrees of sophistication in varying time spans, with varied amounts of the teacher or peer support,” (p. 80). If this is done in layered cycles repetitively, it helps students to draw patterns, make connections between current and prior knowledge, apply concepts and create new learnings (Pham, H., 2012; Tomlison 2001).

To differentiate process, a teacher may provide learners with choices for different activities, vary the complexity level of tasks, vary the amount of time slotted for tasks to different groups of students, vary the coaching time, use both tiered and homogeneous groupings for different tasks, develop diverse activities that accommodate visual, auditory and kinesthetic learners and using learning centers/stalls (Pereira et al., 2019; Tomlison and Allan, 2000).

Teachers who differentiate instruction are also flexible with grouping, especially for students with low readiness levels, to allow for targeted mentorship and peer coaching. Research has shown that teachers who use flexible groupings witness improved learning outcomes for both high and low-performing students and more learner engagement. Literature on the impact of flexible grouping (whether homogeneous or heterogeneous) recommend that teachers strategically group students, instead of randomly grouping them to achieve the highest outcomes.

Other than grouping students by their interests and readiness levels, teachers can also group students by time, the learning space, or even learning activities (Tomlison 2017; Abati, 2012). “Examples of flexible use by time include: (1) negotiating due dates for assignments,

compacting or exempting students from daily work, and (2) using homework to support or enrich students' learning. Options for differentiating by space, teaching and learning strategies include (1) creating zones for an independent, small group, or whole class instruction, (2) posting several room arrangements so students can quickly rearrange the room depending on the task, (3) encouraging students to work alone, with a peer, or in a small group, and (4) using pre-assigned groups by interest, reading and learning profile," (Abati, 2012, p.9).

Differentiating the process in instruction focuses on how learners acquire knowledge, competencies, and skills. This involves the tasks and activities students engage in to understand and assimilate information. The process is not just about learning a specific concept but also about developing problem-solving skills and the ability to learn independently (Tomlinson, 2001; Anderson, 2007).

Effective instructional activities, as highlighted by Tomlinson (2001), should be presented in various modes, at different levels of sophistication, and within varying time spans, with diverse amounts of teacher or peer support. This multifaceted approach, when applied repetitively in layered cycles, helps students draw patterns, make connections between current and prior knowledge, apply concepts, and generate new understandings (Pham, H., 2012; Tomlinson 2001).

To differentiate the process, teachers can implement various strategies:

1. **Providing Choices for Activities:** Teachers can offer students choices for different activities, allowing them to select tasks that align with their learning preferences and strengths.

2. **Varying Task Complexity:** Differentiating the complexity level of tasks ensures that students with varying readiness levels can engage with content at an appropriate challenge level.
3. **Adjusting Time Allotment for Tasks:** Varying the amount of time allocated for tasks to different groups of students acknowledges that individuals may require different paces to grasp and complete activities.
4. **Flexible Grouping:** Utilizing both tiered and homogeneous groupings for different tasks enables teachers to address diverse learning needs. Flexible grouping is particularly beneficial for students with low readiness levels, allowing for targeted mentorship and peer coaching.
5. **Accommodating Learning Styles:** Designing diverse activities that accommodate visual, auditory, and kinesthetic learners ensures that students can engage with the content in ways that resonate with their preferred learning styles.
6. **Utilizing Learning Centers/Stalls:** Creating learning centers or stalls provides designated spaces where students can engage in different activities or tasks based on their interests, readiness levels, or learning profiles.

Grouping by time, place, or learning activities are examples of flexible grouping in addition to interests and readiness levels. Flexible use of time includes things like negotiating assignment due dates, granting exceptions from everyday work, and utilizing homework to enhance or assist students' learning. Flexible use of space includes labeling multiple rooms for quick task-dependent rearrangements, encouraging students to work alone, with a peer, or in a small group, and establishing zones for individual, small group, or whole-class instruction.

Flexible usage of learning activities is exemplified by pre-assigned groups depending on reading levels, interests, or learning profiles (Abati, 2012).

In summary, differentiating the process involves providing a variety of pathways for students to engage with and internalize the content. This not only acknowledges the diversity in learners' needs and preferences but also fosters a dynamic and inclusive learning environment.

Differentiation of Product

Product is the demonstration of skills, competencies and knowledge learned (Gardner & Whittaker, 2006; Hall, 2009; Tomlinson, 1999; Tomlinson, 2000). Unlike process that focuses on specific activities, product covers a wider content/knowledge/skill area and is meant to evaluate learning (Levy, 2008). It is counter-productive to assess students on things they have not learned or in a manner that they did not learn a concept; unless, this is done for diagnostic purposes to determine their readiness level (Anderson, 2007; Hall, 2002). Pereira et al. (2019) argue that any form of an evaluation carried out, should ignite critical thinking, and engage them in a manner that compels them to apply what is learned to solve a problem or create something new (Morina, 2019; Nicholas et al., 2021).

As a teacher plans assessments to cater to varying levels of readiness, interests and student profiles, the rule of thumb is that it should not be for pleasure but to test the *quality* of learning in different ways (Tomlinson 2017; Nicholas et al., 2021). A teacher can design various assessments and provide learners with a choice of which ones to do and how to submit the assessment. A teacher can also provide choices for working arrangements either in groups or individually and even work with students to develop the assessments and rubrics that match the tasks (Morina, 2019; Tomlinson and Allan, 2000).

Differentiating the product in the context of instruction involves assessing and evaluating the demonstration of skills, competencies, and knowledge that students have acquired. Unlike the process, which focuses on specific activities, the product encompasses a broader area of content, knowledge, and skills and serves as a means of evaluating learning (Gardner & Whittaker, 2006; Hall, 2009; Tomlinson, 1999; Tomlinson, 2000).

Assessment, in the context of differentiated instruction, is not merely for pleasure but serves the purpose of testing the quality of learning in various ways (Tomlinson, 2017; Nicholas et al., 2021). The evaluation should ignite critical thinking and engage students in applying what they have learned to solve problems or create something new (Pereira et al., 2019; Morina, 2019; Nicholas et al., 2021).

In the differentiation of product, teachers can employ various strategies:

1. **Designing Varied Assessments:** Teachers can create different types of assessments to cater to varying levels of readiness, interests, and student profiles. This may include projects, presentations, written assignments, or practical demonstrations.
2. **Providing Choice in Assessments:** Offering students a choice of assessments allows them to select tasks that align with their strengths and interests. This choice not only accommodates diverse learning preferences but also empowers students to showcase their understanding in a way that suits them best.
3. **Flexible Submission Methods:** Allowing flexibility in how students submit assessments, such as through written reports, oral presentations, or multimedia projects, caters to diverse abilities and preferences.

4. **Choice in Working Arrangements:** Teachers can provide choices in working arrangements, allowing students to collaborate in groups or work individually based on their preferences. This acknowledges the importance of varied social dynamics in the learning process.
5. **Student-Involvement in Assessment Development:** Collaborating with students to develop assessments and rubrics that match the tasks not only promotes a sense of ownership but also ensures that the assessment aligns with the learning objectives and the students' understanding (Morina, 2019; Tomlison and Allan, 2000).

Differentiating the product ensures that assessments are not one-size-fits-all but are tailored to the individual needs, interests, and readiness levels of students. It recognizes the diverse ways in which students can demonstrate their understanding and mastery of content, fostering a more inclusive and meaningful assessment process.

Differentiation of the Learning Environment

The Learning environment is the tone of the spaces where learning takes place. This could generally be the “climate” of the physical classroom or online space (Tomlison, 2017). It includes the furniture arrangement, equipment, materials, media, lighting and even the procedures. In order to differentiate the learning environment, a teacher should consider making it psychologically safe and positive for learning, ensuring that its feel and look accommodate different learning and work preferences and spaces, and having it well managed (Tomlison and Allan, 2000).

Providing multiple learning resources that reflect different cultures and interests, designing spaces for quiet independent work or group work, allowing learners to move around in

the classroom, allowing learners to set the class rules, using alternative seating and varying places where learning occurs within the classroom, are some ways in which teachers can differentiate the learning environment (Tomlison & Allan, 2000).

Differentiating the learning environment involves creating a conducive and inclusive atmosphere in both physical classrooms and online spaces where learning occurs (Tomlinson, 2017). The learning environment encompasses the overall climate, including the arrangement of furniture, availability of equipment, use of materials, media, lighting, and procedural aspects. To effectively differentiate the learning environment, teachers should strive to make it psychologically safe, positive for learning, and accommodating of various learning and work preferences and spaces (Tomlinson and Allan, 2000).

Several strategies can be employed to differentiate the learning environment:

1. **Psychological Safety and Positivity:** Fostering a positive and psychologically safe environment involves creating a space where students feel comfortable expressing themselves, taking risks, and engaging in the learning process without fear of judgment. Positive reinforcement and encouragement contribute to a supportive atmosphere.
2. **Accommodating Different Learning Preferences and Spaces:** Recognizing that students have diverse learning preferences, teachers can design the environment to accommodate various needs. This may include providing multiple learning resources that reflect different cultures and interests, allowing for flexibility in seating arrangements, and offering spaces for both quiet independent work and collaborative group activities.

3. **Effective Classroom Management:** Well-managed classrooms contribute to an environment conducive to learning. Clear expectations, routines, and procedures help create a structured space where students can focus on their studies without unnecessary disruptions.
4. **Movement and Flexibility:** Allowing learners to move around in the classroom and providing alternative seating options contribute to a dynamic learning environment. Flexibility in the physical arrangement of the classroom allows for various activities and learning styles.
5. **Student Involvement in Environment Design:** Empowering learners by allowing them to set class rules or contribute to the design of the learning space gives them a sense of ownership and promotes a collaborative learning atmosphere.
6. **Variety in Learning Spaces:** Varying the places within the classroom where learning occurs provides students with options. This could involve creating designated areas for specific activities, such as a reading nook, a discussion corner, or a project work area.

By differentiating the learning environment, teachers acknowledge and respond to the diverse needs and preferences of their students. A well-crafted learning environment not only supports effective learning but also enhances the overall educational experience for all learners.

The Rationale for Differentiated Instruction

A myriad of research on the effectiveness of Differentiated Instruction reveals that varying instructional strategies to accommodate variant learners' needs augment learners' engagement and motivation to learn and increase learner achievement (Lai et al., 2020; Melese, 2019; LeeKeenan & Ponte, 2018; Faber et al., 2017; Tomlison, 2017). It gives both teachers and

students the opportunity to decide how learning will take place, how it will be evaluated and how learners will demonstrate learning; this ensures that each student's needs are met (Soto, 2015). Emerging studies have also surfaced data to prove that varying instructional practices according to learners' needs has a direct positive effect on learning outcomes (Jung et al., 2018; Connor et al., 2009, 2018).

To effectively differentiate instruction, teachers set high expectations for the learners, engage learners in activities that help them to acquire basic skills and vary grouping activities to help support peer learning (Lloyd, 2016). This way, everyone knows what is to be learned, has the basic skill set to learn it, and studies in an environment where they feel supported by both the teacher and their peers. Such an enabling inclusive classroom environment created through differentiation positively impacts learning outcomes (Pereira et al., 2019).

In addition to this, grouping students according to their interests, abilities and learning profiles help students to explore concepts in depth from the known to the unknown, with the support of their peers, (Pentimonti et al. 2017; McGee et al., 2017; Vlachou, 2015). When teachers take student differences into account when selecting resources, designing activities and creating assessments, it results in meaningful learning (Morina, 2019; Neophytou et al., 2018). In their quantitative study that explored how teachers applied the ZPD in planning and implementing curriculum, Beltran et al. (2017) discovered that learners were more engaged and motivated with the specific layers of tasks according to their readiness levels. In support of this, Shute & Rahimi (2017) argue that DI creates a platform for learners with high levels of readiness to advance their knowledge to greater depth while allowing those at low levels of readiness to catch up at their pace.

In addition to the above, emerging research on learner centered strategies in Rwanda reveal that teaching methodology affects learners' attitudes (Mbonyirivuze et al., 2021; Musengimana et al., 2021). In a study investigating students' attitudes towards physics in nine years basic education in Rwanda, low achieving students indicated that that the teacher centered methods their teachers used neither allowed them to study at their own pace, nor did it present them with multiple opportunities to practice physics. As a result, they developed a negative attitude towards the subject and were failing it (Mbonyirivuze et al., 2021).

Teacher perception of Differentiated Instruction

Most teachers believe that DI is an effective and critical instructional practice (Melese, 2019; Parkash, 2017; Fitzgerald, 2016). However, they are not implementing it (Powell et al., 2009) because they feel that it is the most challenging strategy to adapt/apply (Ruys et al., 2013), they are not well trained to implement it (DeNeve et al., 2014; Wan, 2013), they fear risking student failure in standardized state assessments (Dweck, 2006; Ng et al., 2013) or class sizes are large and unmanageable (Blatchford, 2012, 2016).

Teachers believe that differentiation of instruction is only possible if they have the capacity to apply it. Most teachers do not use the strategy because they lack the self-efficacy to do it (DeNeve et al., 2014; Wan, 2013). They do not know how to design authentic multi-layered activities and assessments that meet standards nor do they have enough time to select and design different resources to cater to the needs of variant learners (Bedir, 2015; Tomlinson, 2015; Smit & Humpert, 2011). However, learning is a lifelong process and teachers can acquire the right skills for DI progressively over time (Heacox, 2014). Zoraloglu (2022) argues that teachers need

a total of 39 competencies for them to effectively differentiate instruction. He categorizes these competencies in 3 domains: knowledge (theories, principles and approaches to learning), skills (competencies of pedagogy and instruction) and belief (attitude and values about learning). His study reveals that with a clear understanding of how learning takes place, the right skills in pedagogy and a strong belief in the effectiveness of the differentiated instructional approach, teachers can effectively implement differentiated instruction, or at least dare to try it out.

Some teachers also reported their fear to try out new strategies because they thought it would put students at risk of failure (Ng et al., 2013; Dweck, 2006). However, some researchers have argued that this fear is just a facade for lack of self-efficacy (Bedir, 2015; Ruyes et al., 2013; Smit and Humpert, 2012). “Self-efficacy in the classroom is the cornerstone of what drives teaching decisions and ultimately instructional practices,” (Ruyes et al., 2013, P. 23). Without a high level of competency to implement such a complex construct (Van Geel et al., 2019; Deunk et al., 2015), teachers tend to shy away. They would rather do the drill and practice activities than venture into something they are ill-equipped to manage (Gehrer and Nusser, 2020; Gheysens et al., 2020; Whitley et al., 2019; Groenez et al., 2018).

Research in teacher preparation and training reveals that DI has been introduced and emphasized in most teacher training programs as an approach that addresses the diversity that characterizes modern classrooms (Pereira et al., 2019). Most teacher training programs emphasize learner-centered strategies that authentically focus on the needs of the learners (Nicholas et al., 2021; Hartwig and Schwabe, 2018). Even when it comes to assessments, teachers are trained to promote standardized informal assessments rather than individual scores on state tests (Nicholas et al., 2021). Teacher preparation programs prepare teachers to design activities that inspire, challenge and support various learning interests (Morina, 2019). There is

no doubt that teacher training programs prepare teachers with the right skills to address diversity and practice inclusion through learner-centered approaches in the classroom (Nurasiah et al., 2020).

Despite adequate preparation through the teacher training programs, novice teachers still feel unprepared to implement DI (Inspectie van het Onderwijs, 2015), and veteran teachers find it too complex to handle (Smeets et al., 2015). For this reason, Smeets et al. (2015) strongly recommend that teachers be trained to build the capacity to implement differentiated Instruction through in-service professional development programs. Holzberger, Anja and Kunta (2014) argue that teachers should be given continued support to build self-efficacy because this gives them the intrinsic motivation to design effective learner-centered activities in the classroom. Their study, *Predicting teachers' instructional behaviors: The interplay between self-efficacy and intrinsic needs* revealed that teachers' intrinsic needs are directly related to their instructional behavior; and that when these needs are fulfilled by building their efficacy, they provide good instruction to students.

A study conducted by Leballo, Becker and Griffith (2021) on differentiation practices in private and government high school classrooms in Lesotho revealed that teachers in private schools are implementing differentiated instructional practices with their students as opposed to those in public schools. In this study, the public school teachers revealed that they do not practice differentiated instruction because they do not have enough time, they have bigger classes and lack resources to do so. Their study recommends that private institutions be exemplars to public institutions to help them practice differentiated instruction.

A Summary of the Relevant Studies

This review identified several studies related to this research. The table below highlights some of the most relevant ones.

Table 1

A Summary of the Relevant Studies

Title	Author	Description and Findings	Gap
Differentiation practices in a private and government high school classroom in Lesotho: Evaluating teacher responses.	Leballo, M., Griffiths, D. & Bekker, T. (2021).	The study sought to gain insight into what teachers in different contexts think and believe about differentiation, how consistently they differentiate instruction and what challenges they experience in doing so. Findings indicate that private school teachers have a	This study provides invaluable background information about teacher perceptions in South Africa to this study. It will be helpful to compare notes for a different context like Rwanda. However, the focus is on the high school level. The current study looks at teacher

		higher frequency of differentiated teaching practice, and that lack of time, resources and huge classes are some of the factors hindering the practice of differentiated instruction.	trainers' and trainees' perceptions.
A Comparative Study between Teachers Self-Efficacy of Differentiated Instruction and Frequency Differentiated Instruction is Implemented	Garret, S. (2017)	This quantitative, causal-comparative study compared self-efficacy about DI and the frequency at which DI was implemented between first-year teachers and teachers with more than one year of experience to	This study provided necessary data on teacher self-efficacy and differentiation. It also provided information about teachers' perceptions of differentiated instruction. However, it did not look at teacher trainers' and

		<p>establish the difference. The findings revealed that teachers with more than one year of experience in teaching were more likely to implement differentiated instruction.</p>	<p>trainees' perceptions or how differentiation is implemented.</p>
<p>The Relationship Between Differentiated Instruction and Student Achievement found in Title I 3rd -5th Grade Elementary School Students: A Quantitative QuasiExperimental</p>	<p>Lott, M., (2021)</p>	<p>This quasi-experimental study sought to determine the correlation between differentiated instruction and student achievement. The study actually discovered that students learning was</p>	<p>While the study surfaced some data that validates differentiation due to diversity, the study did not look at perceptions or how differentiation is implemented.</p>

Design Study		not correlated to differentiated instruction alone, but also to unexamined individual differences.	
Teacher Competencies for Differentiated Instruction Approach	ZORALOĞLU, S. (2022)	The study aimed at identifying and explaining teacher competencies for differentiation of instruction through a qualitative research design. the study identified 39 teacher competencies necessary for teachers to practice differentiated instruction.	Knowledge from this study helped in building the framework for teacher competencies. However, there is still a need to investigate how teachers are actually implementing differentiated instruction and the challenges they are facing.

Effects of Differentiating for Readiness, Interest and Learning Profile on Engagement and Understanding Profile on Engagement and Understanding	Koehler, S. (2010)	This study investigates the impact of differentiating instruction by readiness, interest, and learning profile on engagement and understanding. The study discovered that differentiation according to these 3 elements has a positive effect on learner engagement and understanding.	The study will help validate some of the arguments in my study. However, it does not investigate teacher trainers' and trainees' perceptions of differentiated instruction.
Differentiation and Grouping Practices as a Response to Heterogeneity – Teachers'	Lydner, K. et al., (2021).	This study sought to explore differentiation and grouping strategies within German	This study was restricted to the use of groupings as a tool for differentiation. It does not look at the

Implementation of Inclusive Teaching Approaches in Regular, Inclusive and Special Classrooms		schools. Results reveal that teachers that use the majority of the grouping strategies to a similar extent and that the highest use of differentiation is in special school classes.	entire concept of differentiated instruction.
Guidelines to assist the implementation of differentiated learning activities in South African secondary schools	Thelma, J. (2010)	This study sought to establish whether or not South African secondary school teachers are implementing differentiation in their classes. The research indicated that a total of 97% of teachers never or seldom use a	The study provided important information about how to implement differentiated instruction. This information will be compared to what teacher trainers and trainees are doing in their own classes in

		flexible curriculum and extra time to accommodate the diverse learning needs of learners.	Rwanda. The study did not investigate perceptions and did not loo
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Differentiation practices in a private and government high school classroom in Lesotho:

Evaluating teacher responses. | Leballo, M., Griffiths, D. & Bekker, T. (2021) | The study aimed to gain insight into teacher beliefs, consistency in differentiation practices, and challenges faced. Private school teachers showed higher frequency in differentiated teaching, with challenges including time constraints and large class sizes. This study provides valuable context for teacher perceptions in South Africa, offering a basis for comparison with the focus on high school. However, it does not explore teacher trainers' and trainees' perceptions. The focus is on high school-level teachers, and the study does not delve into the perceptions of teacher trainers and trainees, which is the focal point of the current research.

A Comparative Study between Teachers Self-Efficacy of Differentiated Instruction and

Frequency Differentiated Instruction is Implemented | Garret, S. (2017) | This quantitative study compared self-efficacy about differentiated instruction and the frequency of its implementation between first-year teachers and those with more experience. Findings revealed that experienced teachers were more likely to implement differentiation. The study provided essential data on teacher self-efficacy and perceptions of differentiated instruction, but it did not

explore how differentiation is implemented or consider teacher trainers' and trainees' perspectives. The study lacks exploration into how differentiation is implemented, and it does not delve into the perceptions of teacher trainers and trainees, which are critical aspects for the current study.

The Relationship Between Differentiated Instruction and Student Achievement found in Title I 3rd -5th Grade Elementary School Students: A Quantitative Quasi-Experimental Design Study | Lott, M., (2021) | This quasi-experimental study aimed to determine the

correlation between differentiated instruction and student achievement. Findings suggested that student learning is correlated not only to differentiated instruction but also to unexamined individual differences. While the study provides data validating differentiation due to diversity, it does not explore perceptions or the implementation of differentiated instruction. The study does not investigate how differentiation is implemented, and it does not delve into teacher trainers' and trainees' perceptions, which are essential aspects for the current research.

Teacher Competencies for Differentiated Instruction Approach

This qualitative study aimed to identify and explain teacher competencies for differentiated instruction. It identified 39 teacher competencies necessary for practicing differentiated instruction. Although the study adds to our understanding of the competences required of instructors, it does not look at the difficulties teachers encounter when putting differentiated instruction into practice. The study concentrates on teacher competencies, but it doesn't examine how differentiated teaching is actually implemented in practice or the difficulties encountered, which is important information for this research.

Effects of Differentiating for Readiness, Interest and Learning Profile on Engagement and Understanding Profile on Engagement and Understanding | Koehler, S. (2010) | This study

explores the impact of differentiating instruction based on readiness, interest, and learning profile on engagement and understanding. The study discovered a positive effect of differentiation on learner engagement and understanding. Although the study supports certain claims, it doesn't look at how trainees and teacher trainers view differentiated instruction. The opinions of teacher trainers and trainees, which are essential to the current research, are not explored in the study.

Differentiation and Grouping Practices as a Response to Heterogeneity – Teachers'

Implementation of Inclusive Teaching Approaches in Regular, Inclusive and Special

Classrooms (Lydner, K. et al., 2021) This study explores differentiation and grouping strategies within German schools. Results reveal similar use of grouping strategies, with the highest use of differentiation in special school classes. The study is limited to the use of groupings as a tool for differentiation and does not consider the entire concept of differentiated instruction. Although the study supports certain claims, it doesn't look at how trainees and teacher trainers view differentiated instruction. The opinions of teacher trainers and trainees, which are essential to the current research, are not explored in the study.

Guidelines to assist the implementation of differentiated learning activities in South

African secondary schools (Thelma, J. 2010) The study aimed to establish whether South

African secondary school teachers implement differentiation. The research indicated that 97% of teachers seldom use a flexible curriculum and extra time to accommodate diverse learning needs. The study provides information about how to implement differentiated instruction, but it does not investigate perceptions and lacks a detailed exploration into the challenges faced. The study

does not delve into perceptions and does not explore the challenges faced by teachers in implementing differentiated instruction, which are vital aspects for the current research.

Summary of the review

Differentiated instruction is a collection of different strategies that vary instruction to the learning needs, interests and profiles of the learners (Morina, 2019; Tomlison, 2017; Fitzgerald, 2016; Tobin & Tippett, 2014; Roy et al. 2013; Ruys, Defruyt, Rots & Aelterman, 2013). This learner-centered strategy increases learner engagement; hence, improving the learning outcomes (Lai et al., 2020; Melese, 2019; LeeKeenan & Ponte, 2018; Faber et al., 2017; Tomlison, 2017). In order to differentiate instruction, a teacher must conduct pre-engagement tasks that help them to know each learner's interests, readiness levels and learning profiles. These 3 aspects then guide the differentiation of content, process, product and learning environment (Lai et al., 2020; Melese, 2019; LeeKeenan & Ponte, 2018; Faber et al., 2017; Tomlison, 2017).

The theoretical relevance of differentiated instruction is derived from the works of several educational theoreticians whose research described perfect situations for optimal learning. This study is grounded on the conceptual framework of 4 theories underpinning differentiation: the sociocultural theory of learning (D'Agnese, 2017; Pilten, 2016), progressive education theory (Nurasiah et al., 2020; Dewey, 1938), multiple intelligence and learning theory (Leshkovska & Spaseva, 2016) and the theory of differentiation (Tomlison, 2017). All these theories are premised on the fact that no two learners are the same. Learners differ in terms of their socio-cultural backgrounds, their gender, language proficiency, abilities, interests, readiness levels, intelligence and learning preferences. Therefore, instruction must be varied to meet each learner where they are (Nurasiah et al., 2020; D'Agnese, 2017; Pilten, 2016; Tomlison 2017).

Even though teachers understand the benefits of differentiating instruction (Melese, 2019; Parkash, 2017; Fitzgerald, 2016), they are not implementing it because it is the most challenging strategy to adapt/apply (Lai et al., 2020; Ruys et al., 2013), they are not well trained to implement it (DeNeve et al., 2014; Wan, 2013), they fear risking student failure in standardized state assessments (Dweck, 2006; Ng et al., 2013) or class sizes are large and unmanageable (Blatchford, 2012, 2016).

CHAPTER 3: RESEARCH METHOD

The increasing diversity among students calls for effective research-proven teaching strategies that meet each student at their point of need (Koehler, 2010). Gender, age, race and socio-economic differences aside, students bring with them to class multiple other variances like intelligence, learning styles and personality differences (Tomlison, 2017). This then becomes today's teacher's dilemma: "how to reach out effectively to students who span the spectrum of learning readiness, personal interests, and culturally shaped ways of seeing and speaking about and experiencing the world," (Tomlinson, 2017, p.1).

Scores of researchers (Tomlinson, 2017; Awla, 2014; Koehler, 2010) contend that differentiated instruction positively impacts a learner's performance. However, despite its promotion as an enthralling and efficient strategy for streamlining the outmoded knowledge-based approach, its implementation in Rwanda has not been widely investigated or published (Ngendahayo & Askill, 2016). There is a need to examine this more deeply, especially within the mixed research methodology to gauge English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda.

This study purposed to investigate English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda, in the hope of providing substantial facts to guide instruction and to bridge the gap that currently exists in the body of literature. The study enlisted the participation of 4 English teacher training universities in Rwanda. A survey was administered to both the English teacher trainers and their trainees to determine their perception about differentiation. Focus group discussions were then held to get to

the depth of implementation of differentiated practices, the challenges faced and how these challenges are being remedied. The following questions guided this study:

RQ1: What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?

- **Informing Training Programs:** Understanding the perceptions of teacher trainers and trainees provides crucial insights into their beliefs and attitudes towards differentiated instruction. This information is vital for designing targeted and effective training programs that address any misconceptions, promote positive attitudes, and align with participants' existing perspectives.
- **Identifying Knowledge Gaps:** By exploring perceptions, the research can identify any gaps in understanding or misconceptions about differentiated instruction. This knowledge is essential for tailoring training content to address specific areas where clarification or additional information may be needed.
- **Setting the Foundation:** Perceptions serve as the foundation for any instructional practice. Positive perceptions can foster a willingness to embrace and implement differentiated instruction, while negative perceptions may indicate a need for mindset shifts.

RQ 2: How do English teacher trainers and trainees implement differentiation in their classrooms?

- **Assessing Practical Application:** This question delves into the real-world application of differentiated instruction. Understanding how teacher trainers and trainees implement differentiation provides insights into the translation of theoretical knowledge into actual classroom practices.
- **Identifying Successful Strategies:** By examining the strategies used for differentiation, the research can identify successful and effective practices. These insights can be shared within the educational community, contributing to the development of best practices in differentiated instruction.
- **Guiding Professional Development:** The findings from this question can guide the development of targeted professional development programs. Knowing how differentiation is currently implemented allows for the creation of training that builds on existing strengths and addresses specific challenges faced by teachers.

RQ 3: What are the challenges faced in differentiating instructions?

- **Understanding Barriers:** Exploring the challenges faced in implementing differentiated instruction helps identify barriers that may hinder successful application. Understanding these challenges is crucial for developing strategies to overcome obstacles.
- **Tailoring Support:** Knowing the specific challenges faced by teacher trainers and trainees allows for the development of targeted support mechanisms. This could include resources, training modules, or mentoring programs designed to address the identified challenges.

- **Improving Implementation:** Insights into challenges can inform the refinement of educational policies and practices. For instance, if common challenges are identified across participants, it may signal a need for systemic changes to better support the implementation of differentiated instruction.

In summary, each research question plays a distinct role in providing a comprehensive understanding of differentiated instruction, from initial perceptions to practical implementation and challenges faced in real-world scenarios. The findings from these questions collectively contribute to improving the effectiveness and sustainability of differentiated instructional practices in English language education.

This specific chapter details the research approach and design, the population, sampling, research instruments, data collection and analysis procedures.

Research Approach and Design

This study purposed to investigate English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda, in the hope of providing substantial facts to guide instruction and to bridge the gap that currently exists in the body of literature. To this end, the study applied the mixed methods research design. In the words of Johnson et al. (2007, p. 123) as quoted by Schoonenboom and Burke (2017, p. 107),

Mixed methods research is the type of research in which a researcher or team of researchers combine elements of qualitative and quantitative research approaches (e. g., use of qualitative and quantitative viewpoints, data collection, analysis, inference

techniques) for the broad purposes of breadth and depth of understanding and corroboration.

In order to determine the teacher trainers' and trainees' perception of differentiated instruction, quantitative tools and procedures were appropriate. However, these alone do not allow for a more indepth data collection into how the trainers and trainees are enacting differentiation in practice or even the challenges they are facing and how they are getting around them. This, then, called for the mixed research design that allows for flexibility in data collection. The research questions that were developed after unearthing the gaps in the body of literature heavily informed the researcher's choice of design. In the words of Bryman (2006),

One of the chief manifestations of the pragmatic approach to the matter of mixing quantitative and qualitative research is the significance that is frequently given to the research question... This position with regard to the debate about quantitative and qualitative research prioritizes the research question and relegates epistemological and ontological debates to the sidelines. In doing so, it clears the path for research that combines qualitative and quantitative research. (p. 118).

In addition to this, Bell & Schmidt (2022) cogently explain that the mixed methods design provides depth to a research project as it interlaces qualitative and quantitative data in a way that allows the researcher to explore the topic with sufficient depth and breadth. Further still, the mixed methods design also "offers a logical ground, methodological flexibility and an in-depth understanding of smaller cases," (Saraswati 2021, p27). Subedi (2016) articulately summarizes the advantages of the mixed research approach in three simple points: "First of all it gives a paradigm that philosophically embraces the use of mixed model designs. Secondly, it

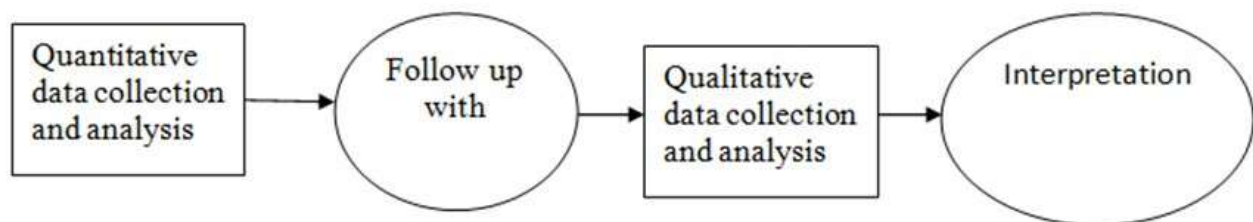
eschews the use of metaphysical concepts that has caused much endless discussion and debate. Finally it presents a very practical and applied research philosophy,” (P. 571).

The mixed methods design was the most appropriate for the purpose of this study and was critical in collecting and analyzing data as the research questions required both quantitative and qualitative methods. For the question: “What are the English teacher trainers’ and trainees’ perceptions on differentiated instructional practices?” quantitative tools and procedures were used. However, to answer questions like, “How do English teacher trainers and trainees implement differentiation in their classrooms?” and “What are the challenges faced in differentiating instructions?” a qualitative approach was employed.

More specifically, the study applied the sequential explanatory mixed methods design that first begins with quantitative data collection and proceeds with in-depth analysis through qualitative techniques (Hughes, 2016; Creswell, 2014) as illustrated in *Figure 1*.

Figure 1

The Sequential Exploratory Design



Excerpted from Subedi (2016, P. 575).

This two-phase design allows the researcher to follow up the quantitative results with in depth thematic discussions using qualitative techniques to resolve any biases and to maximize inferences (Creswell, 2018). While the quantitative data and results collected provides a broad overview into the problem under investigation, further in depth analysis through qualitative data helps to refine, spin out and study the problem in entirety (Subedi, 2016). *Figure 2* below pictorial illustration of the application of the explanatory sequential approach as administered in this study.

Figure 2

A tabulated form of explanatory sequential design.

Phase	Procedure	Product
Quantitative Data Collection	Cross sectional survey	Numeric data
↓		
Quantitative Data Analysis	Use of descriptive and inferential statistics	Meaningful measures
↓		
Connecting Quantitative and qualitative Phase	Selection of participants purposefully and interview questions development	Interview protocol
↓		
Qualitative Data Collection	In- depth interview	Textual data
↓		
Qualitative Data Analysis	Coding and thematic analysis Theme development cross thematic analysis	Codes and themes similar and different themes and categories cross thematic matrix
↓		
Integration of the Quantitative and Qualitative results	Interpretation and explanation of the quantitative and qualitative result	discussion implication future research

Excerpted from Subedi (2016, P. 575).

Population and Sample of the Research Study

Rwanda has 31 universities out of which 30 are private and one is public. Of the 31 universities, only 9 offer the education program that trains both pre-service and in-service teachers at the Bachelors to PhD levels. This study targeted 4 universities that train English teachers at the Bachelors levels. The study enlisted the participation of both English teacher trainers and trainees from various departments at the Kigali Institute of Education (Now University of Rwanda's College of Education), Mt. Kenya University, Institut Catholique de Kabgayi (ICK) and the Adventist University of Central Africa (AUCA). The 4 institutions were selected based on their student population and the positive reputation they hold in the country. This would help provide breadth and depth to the study.

For the first phase of the quantitative research techniques, purposive sampling was used to identify the English teacher training universities, and more specifically, the Language Education Departments, English sub-department. Since there are very few trainers and trainees in these sub departments, the study considered all the members in the identified sub-departments. Surveys were administered to the entire sample. For surveys to work effectively, they must be administered to a representative sample. According to MacDonald and Headlam (ny), before determining a sample, one must consider who the respondents are, what the sampling frame is and what the rate of respondents would be. The participants were students studying English and Lecturers/Facilitators/Instructors teaching English to teachers. The sample also involved both genders between the ages of 20-60. The sample frame was as indicated in *Table 2*

Table 2

Distribution of the study population

	Institution	# of Participants	# in the pilot		# in the actual study	
			# of trainers	# of trainees	# of trainers	# of trainees
1	Adventist University of Central Africa (Department of languages)	35	2	8	3	22
2	Kigali Institute of Education (Department of Languages)	35	2	8	2	23
3	Mt. Kenya University	30	2	8	2	18
4	Institut Catholique de Kabgayi (ICK)	36	2	8	3	23
	Totals	136	8	32	10	86

MacDonald & Headlam (2011) advise that understanding one's "population, sample size, and response rates" are important in determining the number of interviewees in order to get results that reflect the target population as accurately as required. Online calculators will be used to establish this information.

With regard to the qualitative part of the study (interviews), random sampling techniques were followed in order to randomly select participants who could be involved in the activities. 10% of the trainers and the trainees from each university were involved in the interviews.

Materials/Instrumentation of Research Tools

In this research, the utilization of both semi-structured interviews and questionnaires was a deliberate and strategic choice, aligning with the research topic and objectives. The data collection methods were selected based on their ability to provide a comprehensive understanding of English teacher trainers' and trainees' perceptions of differentiated instruction and their actual implementation practices.

The choice of semistructured interviews was driven by the need to explore the participants' perspectives in-depth and from a thematic point of view. Semistructured interviews are a highly appropriate and effective tool for collecting data to address the research question concerning the implementation of differentiated instruction by English teacher trainers and trainees, as well as the challenges they encounter. Several justifications support the suitability of semistructured interviews for this purpose:

In-depth Exploration: Semistructured interviews allow for an in-depth exploration of participants' perspectives, experiences, and practices. Given the nuanced nature of differentiated instruction and the challenges associated with its implementation, a flexible interview format enables researchers to delve deeply into the intricacies of participants' approaches and difficulties.

Flexibility: Semistructured interviews offer flexibility in questioning, allowing researchers to adapt their inquiries based on participants' responses. This flexibility is crucial for capturing diverse perspectives and probing into specific areas of interest related to differentiated

instruction and its challenges. Researchers can follow up on responses, clarify ambiguities, and explore unexpected insights, ensuring a comprehensive understanding of the topic.

Rich Data Generation: By providing participants with the opportunity to express themselves freely, semistructured interviews facilitate the generation of rich, qualitative data. Participants can offer detailed accounts of their experiences, practices, and challenges, providing valuable insights into the complexities of implementing differentiated instruction in English language teaching contexts.

Participant Perspective: Semistructured interviews prioritize the perspectives of participants, allowing them to share their unique viewpoints and lived experiences. This participant-centered approach is particularly relevant for understanding the challenges faced by teacher trainers and trainees in implementing differentiated instruction. It ensures that researchers gain a holistic understanding of the topic from the individuals directly involved in the practice.

Contextual Understanding: Through semistructured interviews, researchers can gain a contextual understanding of the factors influencing the implementation of differentiated instruction and the challenges encountered. Participants can discuss contextual factors such as institutional policies, resource availability, student diversity, and instructional support, providing valuable insights into the broader context shaping their experiences.

Qualitative Exploration: Given the exploratory nature of the research question, qualitative methods such as semistructured interviews are well-suited for uncovering nuanced insights and understanding the complexities of differentiated instruction implementation. Through qualitative

analysis, researchers can identify patterns, themes, and variations in participants' experiences, contributing to a nuanced understanding of the research topic.

On the other hand, the use of questionnaires was justified by the need to obtain data from a sizable population efficiently. Given that the participants were from institutions such as the Adventist University of Central Africa, the Kigali Institute of Education, Mt. Kenya University, and Institut Catholique de Kabgayi (ICK), a structured questionnaire facilitated the collection of standardized responses. The inclusion of both open-ended and closed-ended questions ensured a balance between quantitative and qualitative data, offering a more holistic view.

The questionnaires were administered electronically, and was designed to capture quantitative data efficiently. The structured format of closed-ended questions allowed for the systematic gathering of numerical responses. This approach was particularly suitable for aspects where a numerical representation of perceptions or practices was essential. The inclusion of open-ended questions in the questionnaire and the use of interview discussions complemented the quantitative data with qualitative insights. These open-ended components allowed participants to express their thoughts, experiences, and challenges in their own words, providing a deeper understanding of the context and contributing to the richness of the data.

The choice of surveys was influenced by the nature of the population - English teacher trainers and trainees at specific universities. Since the population was well-defined, numbered, and shared a common language, surveys were deemed appropriate and efficient for gathering data from a considerable number of participants.

The combination of interview discussions and questionnaires aligns with the recommendation of Schoonenboom and Burke (2017) for a mixed-methods approach. This approach ensures a more comprehensive analysis by triangulating both quantitative and qualitative data, enriching the overall understanding of the research topic. It allows for a nuanced exploration of perceptions, practices, and challenges associated with differentiated instruction.

In summary, the use of interview discussions and questionnaires in this research was intentional and aligned with the research objectives. The choice was driven by the need for a holistic understanding of English teacher trainers' and trainees' perspectives on differentiated instruction, incorporating both numerical representations and qualitative insights to contribute meaningfully to the existing body of knowledge.

Operational Definition of Variables

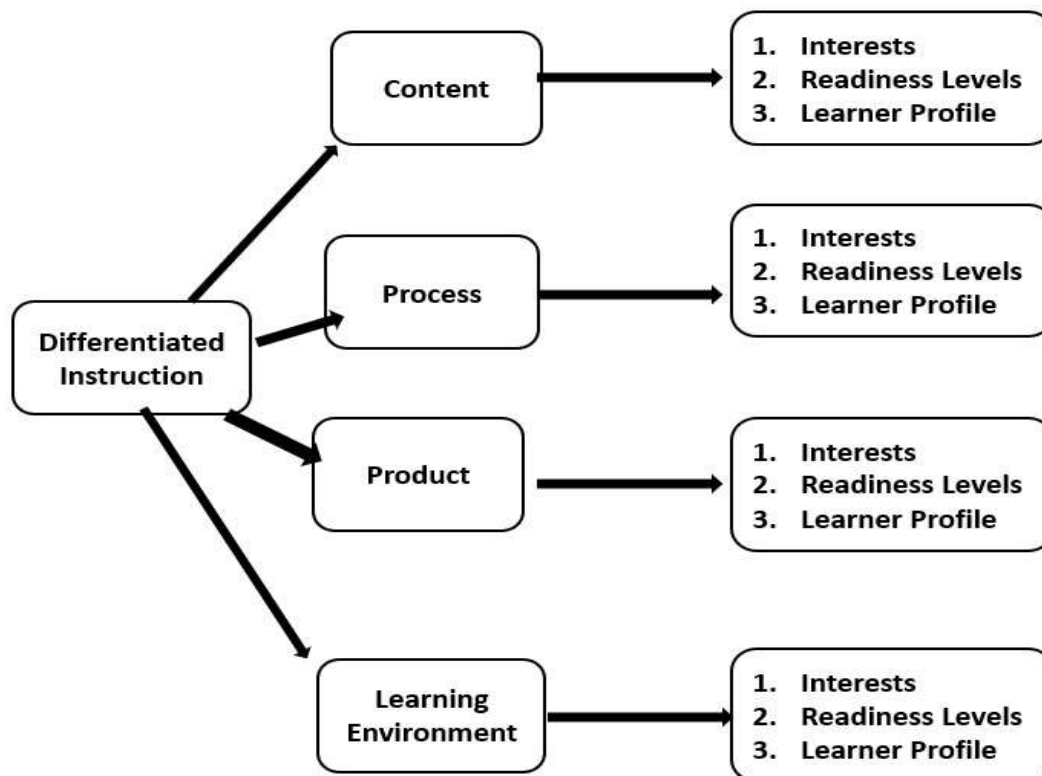
One of the key things the researcher set out to investigate was English teacher trainers' and trainees' perceptions of differentiated learner-centered practices. The operational term that must be defined is perception. Though seemingly simple and common a term, perception is a complex word with multiple layers of meaning. It refers to an individual's experience with something (Merawi, 2018); one's knowledge, understanding and feeling toward something (Jager, 2016); or one's perspective on something as influenced by both internal and external factors (Madox 2015). This study defined perception in a more general way to encompass English trainers and trainees' knowledge of what differentiation is, whether or not they think it is important, whether or not they have ever implemented it, whether or not they think it improves learning or how easy or difficult it is to implement.

Perception was measured through the following statements as identified by the code B and a numeric number: B1. I know what differentiated instruction is; B2. I have ever implemented it in my class; B3. Differentiated instruction improves learning outcomes; B4. Students learn better when teachers apply differentiated instruction; B5. I understand how to implement differentiated instruction; B6. It is easy to implement differentiated instruction; B7. My university offers professional development training sessions to help teachers differentiate instructions; B8. Differentiation cannot be applied to the teaching syllabus of the courses; B9. Differentiation cannot be applied to the assessment practices of the trainees; and B10. Differentiation is an example of personalized teaching.

In order to answer the second research question: “How do English teacher trainers and trainees implement differentiation in their classrooms?” the researcher adopted the conceptual framework informed by the literature reviewed on differentiation. *Figure 3* below illustrates the framework.

Figure 3

Conceptual Framework



As illustrated in *Figure 3* above, the constructs are content, process, learner profile, classroom environment. Each of the constructs was measured using ordinal data from a 5-point likert scale ranging from strongly disagree to strongly agree (1-5).

Construct/Variable 1. Content

For purposes of this study, differentiated content is characterized by scaffolding, variety and accessibility. Statements with a code of F and a numerical number were used to measure these: F1. Provide a range of reading levels associated with the topic or issue; F2. The variety of the materials includes texts, audios, videos, PPTs, and more; F3. Are student-accessible; F4. Content is rationally arranged and scaffolded into smaller, more palatable portions; F5. Back the subject and the standards; F6. Are suitable for the age; F7. Are current; F8. Are available in sufficient quantities given the size of the class; and F9. Make sure your text has the relevant

reference sources and materials. The ordinal data from a 5-point Likert scale, which ranges from strongly disagree to strongly agree (1–5), was used to measure these.

Construct/Variable 2. Process

Similarly, process refers to the instructional strategies a trainer applies to increase learning outcomes in the process of learning. Statements coded G and assigned a numerical value were used to measure this: G1. I employ multiple assessment instruments prior to, during, and following learning; G2. I employ a range of instructional tactics and exercises to impart knowledge; G3. My approaches cater to the different needs of students; G5. I implement tactics that involve students in different flexible grouping arrangements; G6. I utilize centers and/or stations for one-on-one and small-group instruction; G7. I involve students in projects and/or problem-solving exercises; and G8. I provide students options for learning tasks, evaluations, and ways to turn in work. The ordinal data from a 5-point Likert scale, which ranges from strongly disagree to strongly agree (1–5), was used to measure these.

Construct/Variable 3. Product

Further still, the study defined product operationally as how a trainer diversifies assessments and forms of submission. Statements with a numeric code and a code D were used to measure this: D1. Make use of a range of continuous evaluation instruments, including questionnaires, checklists, and anecdotal evidence; D2. A range of formative (continuous) evaluations are performed to find out what knowledge, comprehension, and skills children possess; D4. I utilize observations (such as labs, performances, and audio-visual presentations); D3. I use talks (such as oral evaluations, whole-group discussions, and student-led conferences);

D5. I change up the outputs (such as homework assignments, group projects, portfolios, quizzes, and tests on paper); D6. I use assessment data to inform instruction; D7. I attend to the physical, mental, and social requirements of the students; D9. I provide targeted feedback to individuals and/or small groups. D8. I give pupils time to actively process knowledge. These were measured using the ordinal data from a 5-point likert scale ranging from strongly disagree to strongly agree (1-5).

Construct/Variable 4. Learning Environment

According to this study, a differentiated learning environment has the following traits, denoted by a number and the code C: C1. Creates a welcoming and laid-back learning atmosphere; C2. Offers cozy workstations and spaces; C3. Has discrete, assigned personal areas for additional books and other materials based on the interests, profiles, and readiness levels of the learners; C4. Is made to arrange tables and chairs quickly and simply; C5. Is set up to allow for teacher and student mobility throughout class; C6. Offers work areas based on each person's requirements, including skill and knowledge levels; and C7. Uses student exhibits and artifacts to reflect current subject or skills. The ordinal data from a 5-point Likert scale, which ranges from strongly disagree to strongly agree (1–5), was used to measure these.

Study Procedures and Ethical Assurances

The ethical considerations and the process of obtaining informed consent in this study reflect a commitment to ensuring the well-being, privacy, and voluntary participation of the participants.

The steps taken to secure approval, introduce the study, and seek consent were methodically designed to uphold the ethical standards essential for research involving human subjects.

Ethical Approval and Institutional Permission

The study's initiation with the approval from UREC (University Research Ethics Committee) underscores the researcher's dedication to ethical research practices. This initial step reflects a commitment to adhere to ethical guidelines and ensures that the research design and procedures align with established ethical standards. Before commencing data collection, the researcher introduced herself to the relevant authorities within the selected institutions. This step was crucial in establishing transparency and building a relationship of trust with the institutions. It demonstrated respect for the institutional context and sought official permission to conduct the study within their premises.

Participant Information and Consent Process

During the introduction to participants, the researcher provided a comprehensive explanation of the study. This included details on the study's purpose, the methodology, potential risks, and the utilization of the gathered data. This step aimed to ensure that participants were well-informed about the research and could make decisions based on a clear understanding. Participants were explicitly informed of their right to decline or accept participation in the study. This emphasis on voluntary participation underscores the researcher's commitment to respecting the autonomy of each participant. It reinforces the principle that participation should be a conscious and willing choice, free from coercion.

Informed Consent Process

Each participant was required to sign a consent letter before engaging in the study. The written consent served as a tangible acknowledgment of the participant's willingness to take part in the research. This formal documentation not only adheres to ethical standards but also provides a record of the participant's informed decision. The researcher engaged with participants both individually and as a team to ensure that each person had a clear understanding of the study. This approach recognizes the diverse needs and preferences of participants, catering to both individual and collective contexts.

Questionnaire Distribution and Interview Sessions

After obtaining informed consent, the distribution of questionnaires commenced. The choice of questionnaires as a data collection tool was made known to participants, reinforcing transparency in the research process. This step aimed to maintain clarity and align participant expectations with the study's methodology. The organization of interview sessions based on questionnaire responses reflects a participatory approach in the research process. This step allowed participants to share their perspectives, elaborate on their responses, and contribute to a deeper understanding of the research topic. Interview sessions also provided an opportunity for clarification and further dialogue.

In summary, the ethical considerations and the process of obtaining informed consent in this study were meticulously executed. The steps taken, from UREC approval to participant engagement, demonstrate a commitment to upholding ethical standards, transparency, and the

well-being of the participants. This approach not only ensures the credibility of the research but also respects the rights and autonomy of those involved.

Ethical Assurances

Ethics is a set of rules that govern researchers to carry out research without deception, manipulation of data, coercion or causing harm (Haggerty, 2004 and Held, 2006). The importance of ethical principles in any type of research cannot be over-emphasized (Zegwaard, Campbell, & Pretti, 2017). Without a code of conduct, research results lose authenticity as they could easily be manipulated or coerced off participants (Fathelrahman, Abbas, Babikir, Mirghani, and Kabbashi, 2012). There are many reasons why the code of ethics is important as a guide to researchers:

Firstly, the code of ethics helps to prevent fabrication, falsification or misrepresentation to ensure that the research data supports the truth (Fathelrahman et. al, 2012). Research is aimed at adding knowledge, discovering truth and correcting errors. A common example is the current pandemic that has required researchers to quickly work out a vaccine to contain the spread of the virus. Without authentic results, there would be no vaccine today. Guided by the code of ethics, researchers are able to discover truths and apply the right approaches to solve problems. Otherwise, so many people would die due to manipulation of data.

Besides, ethical standards like confidentiality, patenting policies, copyright and data sharing policies promote collaborative values like “trust, accountability, joint respect, and fairness since research usually involves cooperation and coordination among many researchers

in a mixture of disciplines and institutions” (Fathelrahman et. al, 2012, p.31). They also help to protect intellectual property. Otherwise, without such codes, people would be misattributing, manipulating and tearing down authentic pieces of research.

Further still, ethical standards also help to imbue a sense of responsibility and accountability in researchers. Policies like the “federal policies on research misconduct, conflicts of interest, the human subjects' protections, and animal care and use” are critical in ensuring that funded researchers are brought to account for the public money injected in their research (Fathelrahman et. al, 2012, p.31).

In addition to this, research ethics are actually rules to protect human rights, animal welfare and promote health and safety. They essentially promote doing *good* to others and doing no harm. They aid in safeguarding the under privileged and the vulnerable from being exploited/victimized for information (Fathelrahman et. al, 2012).

When conducting research, the following ethical principles must be taken into consideration and practiced:

Informed Consent

The consent of the participants in the qualitative study must be obtained before any data can be collected. In soliciting participants' consent, the researcher must ensure that the consent is voluntary, that the respondents have a full understanding of what is being asked of them, that they are in a good state of mind to consent, and that they are not in prison or vulnerable to exploitation. What this means essentially is that participants must be explicitly oriented about the research and be informed that they have the freedom of choice because everything is

voluntary. They must be made aware that they can choose to decline or even withdraw from the study anytime that they have a change of heart. The researcher must first explain the research topic exhaustively and lay out why the research is being carried out and what the information collected will be used for, in a language that is well understood by the respondent. At no point should people be forced or tricked into divulging information that they do not want to give. Clarity in the consent form is therefore very vital to the authenticity of the consent.

In this study, UNICAF's approval was sought before data was collected. An introductory letter was then obtained from UNICAF to introduce the researcher to the participants and the institutions. Before getting the consent of the participants and the institution, the researcher visited the participants at their institutions, asked the institution's permission, approached each participant individually and introduced herself to them before explaining the intention of the study, how and when the data would be collected, what level of commitment would be required in the study, their rights to decline or withdraw at any point of the study, how the data collected would be used, how the data collected may benefit or affect them, the potential risks of taking part in the study and if they would be willing to still take part in the study knowing all that.

The participants were then given enough time to ask questions or seek clarity. A written consent was then signed for each of the different data points; however, the participants were not allowed to reveal their names or identity for confidentiality purposes.

Anonymity and confidentiality

The terms anonymity and confidentiality are usually used as one principle in ethics but they

mean two different things: anonymity means that the researcher has no idea of the identity of the respondents but confidentiality means the researcher knows the identity but has decided to de-identify the respondent/participant to keep it confidential. Either way, anonymity or confidentiality helps to create a safe space for participants to divulge information freely without fear of retaliation or shame. This can be achieved by removing/hiding the names or providing pseudonyms (only in case of criminal research or with the consent of the participant) during data recording, analysis and presentation. This should also extend beyond hiding names to removing or omitting any self-identifying phrases that might be traced back to the respondents. The privacy and confidentiality of the interview environment should be carefully thought through and secured during the interviews.

The researcher must also foresee any anticipated harm the study may cause to the participant, organization and community and this should also be made clear to the participant. It is the duty of the researcher to protect the respondents in a study from any harm. A high level of sensitivity is required especially where information is obtained from minors or vulnerable people, even if this is done under supervision (Zegwaard, Campbell, & Pretti, 2017).

In this study, the identities of the participants were removed during data transcription, including their names or any significant aspect of identity. In presenting the findings of the study, the participants will be referred to by their pseudonym names in the verbatim quotes. All anonymized data will be securely stored for about 10 years and this information will be given to the participants.

At all the two data points (surveys and interviews), privacy and confidentiality was practiced. Each focus group session was conducted in a private and quiet room in the respective

offices or lecture rooms. The researcher is the only one able to match the identity of the participants and voice recordings. Data transcribing was conducted in a private room using earphones to avoid the possibility of recordings being heard by other people. All the information collected was stored in a password protected folder and the hard copies were put under lock and key.

Honesty and Integrity

Closely related to obtaining consent and the confidentiality code is the code of honesty and integrity in research (Orb, Eisenhauer, and Wynaden, 2001). Deception in all its forms compromises the reliability of any information obtained in research. The researcher must desist from duping participants into giving information. Further still, the researcher must report data as is collected without any manipulation. The researcher is also expected to report every information obtained without omitting anything that is important to the final conclusion of a study. In line with this, the researcher should also ensure that the data recorded is legally obtained and not cooked up as some researchers do not distribute questionnaires or may use non-representational samples. Basically, the researcher must avoid at all times manipulating figures, results or anything pertaining to the data collected whether or not the results turn out as expected.

The researcher ensured that all the data from in-depth interviews and observations were accurately recorded through audio recorders and notes. Only the data collected directly from participants was considered for analysis; coding and re-coding was done several times to cross check and the respondents were given a debrief of the results.

Conflict of Interest

There was no conflict of interest as the researcher has no connections, prior experiences or relations with Rwanda Teacher Training Colleges. The researcher has knowledge about differentiated instruction and how it should be conducted, but she strictly used the *William and Mary Classroom Observation Scales Revised* (VanTassel-Baska, et al., 2003) and Tomlison's (2019, 2017, 2013, 2014) guidelines to formulate the questionnaire. The guidelines encompass "the most critical behaviors for general teachers and differentiation features culled from research-based evidence of effective classroom-based instructional behaviors" (VanTassel-Baska, 2012b, p. 47).

Protecting the participants

This was not a high risk study and the expected participants did not fall among the vulnerable people; however, any risks involved were explained to the participants in a clear manner. Since learner centered strategies and competency based education are government sanctions and any negative results may lead to firing and victimization, the researcher took extra care to ensure that privacy, confidentiality and anonymity are observed throughout the study, (Zegwaard, Campbell, & Pretti, 2017).

Mantzorou and Marianna (2011) propose observing five ethical principles when collecting data from participants. These include soliciting consent, respecting privacy, maintaining anonymity where necessary, exclusion of vulnerable people and using non-coercive means. The researcher observed all of them.

Data Collection and Analysis

This study was guided by the following research questions: what are the English teacher trainers' and trainees' perceptions on differentiated instructional practices? How do English teacher trainers and trainees implement differentiation in their classrooms? What are the challenges faced in differentiating instructions? To answer these questions effectively, the researcher used both the quantitative and qualitative data collection techniques. The two tools used for data collection included a survey and focus group interview notes.

A survey was administered to a population of 30 English teacher trainers and 820 trainees from 4 universities in Rwanda (the Adventist University of Central Africa, Kigali Institute of Education, Mt. Kenya University and Institut Catholique de Kabgayi). The Survey collected nominal data using the 5 point Lickert Scale indicating 1 for strongly disagree with the concept, 2 for somewhat disagree with the concept, 3 for undecided, 4 for somewhat agree with the concept, and 5 for strongly agree with the concept. Following this rating, the researcher will apply statistical analyses involving percentiles and non-parametric analysis to arrive at conclusions.

For the focus group discussions, notes were taken by the moderator and audio recording was also done. The researcher will put all the notes and transcripts together and use the constant comparison analysis technique to analyse the data. The constant analysis technique developed by Glaser and Strauss (Glaser & Strauss, 1967), is used to analyze group data in three stages. First, data is open coded through chunking the script into small units by attaching descriptors to each unit (Strauss & Corbin, 1998). This is then followed by axial coding that allows the researcher to then group the units into specific categories (content, process, product learning environment

and other emerging themes like challenges and solutions). The final stage is to do a selective coding to arrive at conclusions (Strauss & Corbin, 1998).

Summary

This study purposed to investigate English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda, in the hope of providing substantial facts to guide instruction and to bridge the gap that currently exists in the body of literature. This specific chapter detailed the research approach and design, the population, sampling, research instruments, data collection and analysis procedures.

The study enlisted the participation of 4 English teacher training universities in Rwanda. A survey was administered to both the English teacher trainers and their trainees to determine their perception about differentiation. 96 English teacher trainers and trainees participated in the survey. Interview sessions were then held with 10 English teacher trainers to get to the depth of implementation of differentiated practices, the challenges faced and how these challenges are being remedied.

CHAPTER 4: FINDINGS

The primary objective of this study was to conduct a thorough investigation into the perception and implementation of differentiated learner-centered strategies among English teacher trainers and trainees in Rwanda. The overarching aim was to contribute substantial facts that could serve as a guide for instructional practices and, concurrently, address existing gaps in the body of literature pertaining to this subject. To delve into the intricate landscape of teachers' perceptions, delineate their practices related to differentiation, and identify the challenges they encounter, the study was framed around three key questions. These questions formed the crux of the research inquiry: What are the perceptions of English teacher trainers and trainees regarding differentiated instructional practices? How do these educators implement differentiation in their classrooms? What challenges do they face in the process of differentiating instruction?

This specific chapter functions as a crucial juncture in the research narrative. It outlines the framework employed to ensure the trustworthiness of the data collected. Additionally, the chapter provides an in-depth exploration of the findings, organized into subsections that correspond to the three key question areas highlighted earlier. The structure of this chapter is

designed to present a comprehensive and coherent account of the study's methodology and outcomes.

By meticulously detailing the strategies deployed to guarantee the credibility and reliability of the data, this chapter establishes the foundation upon which the subsequent analyses and interpretations rest. Furthermore, the division of findings into distinct sections aligned with the research questions facilitates a clear and nuanced understanding of the English teacher trainers' and trainees' perceptions, practices, and challenges related to differentiated instruction. In essence, this chapter not only serves as a methodological guide but also as a gateway into the substantive insights gleaned from the study.

Trustworthiness of Data

The critical role of integrity and trustworthiness in data collection, reporting and analysis is indisputable (Kasirye, 2021; German et al. 2015; Shenton, 2004). Data collection should, to all intent and purposes, be done precisely, consistently and exhaustively from reliable sources and reported and analyzed with such accuracy that allows it to be used for the intended purpose (Shenton, 2004). That being said, great care was taken to secure the sanctity of the data collected. This sub-section clearly describes this study's sensitivity and response to potential loop-holes around credibility, transferability, dependability and confirmability.

Confirmability

Confirmability is linked to objectivity and credibility in and of the research process (German et al. 2015; Shenton, 2004). Confirmability can be ensured through triangulation (data,

method, researcher and environment), member checking and peer debriefing among other ways (Shenton, 2004). To keep the researcher's biases at bay and ensure objectivity, the researcher applied both the method and data triangulation. This study applied the mixed research design that allows for the use of both quantitative and qualitative techniques. Given the nature of the study design, the researcher was able to collect data objectively using the questionnaires and to corroborate the findings in depth by triangulating data from the interviews. This also allowed the researcher to examine the research questions from multiple angles.

Similarly, to enhance the depth and credibility of this study, the researcher used theory triangulation. According to Shenton (2004), theory triangulation can be done in three different ways: conceptual triangulation- a unified conceptual framework based on commonalities and constructs from different theories, comparative triangulation- thoroughly analyzing the similarities and differences in different theories or theoretical synergy-combining theories to create new insights. This study applied conceptual triangulation of the different theories to create a framework for data collection. The researcher thoroughly analyzed the Socio-cultural theory, the learning theory, the progressive education theory, the multiple Intelligence and learning profiles theory as well as the theory of differentiated instruction in order to frame the conceptual and theoretical framework of this study. See the summary of the theories on page 81.

In the realm of education, differentiated instruction is underpinned by various theories that provide a comprehensive framework for addressing the diverse needs, backgrounds, and abilities of learners. These theories, including the Socio-cultural Learning Theory, Progressive Education Theory, Multiple Intelligence and Learning Profiles Theory, and the Theory of

differentiated instruction, collectively contribute to a nuanced understanding and implementation of DI in the classroom.

The Socio-cultural Learning Theory within the context of Differentiated Instruction posits that teaching should be responsive to different learning needs, recognizing that learners engage with content in unique ways shaped by their socio-cultural backgrounds (MacGillivray & Rueda, 2003). This theory emphasizes the importance of situating learning techniques within the learner's socio-cultural context through social interactions (Gudmundsdottir, 2000). Education, according to this theory, is viewed as a lifelong process, necessitating the differentiation of learning content and assessments to create multiple opportunities for lifelong learning.

In alignment with the Progressive Education Theory, Differentiated Instruction becomes an approach that is informed by and aligns with a child's interests, abilities, and habits. Originating from the insights of educational philosopher John Dewey, this theory advocates for education as a continual reconstruction of experience (Dewey, 1929). Teachers, in this approach, assume the role of facilitators, guiding students to connect educational content to their lived experiences and prior knowledge. Differentiating learning activities and curriculum, according to this theory, becomes imperative to reintroduce learners to multiple perspectives and connect past knowledge to fresh content.

The Multiple Intelligence and Learning Profiles Theory extends the scope of Differentiated Instruction by acknowledging the multifaceted nature of intelligence possessed by individuals. Spearheaded by Howard Gardner, this theory identifies nine types of intelligence and emphasizes that effective instruction considers these multiple intelligences (Gardner, 2011). Differentiation, according to this theory, involves tailoring instruction to the various ways in which individuals learn. Teachers are encouraged to differentiate instruction according to

multiple intelligences and learning styles, integrating multimodal approaches to teaching and learning to accommodate diverse preferences.

The overarching Theory of Differentiated Instruction serves as a guiding philosophy for DI, emphasizing the uniqueness of each student and the importance of catering to their distinctive needs (Tomlinson, 2005). This theory underscores the necessity of intentional instruction pivots and variations in learning content, process, product, or environment to enhance learning outcomes. For effective DI, teachers must possess a deep understanding of learners' backgrounds, readiness levels, languages, interests, and learning profiles (Hall, 2002). Differentiation, within this framework, becomes a means to maximize learning by matching a learner's educational experience to their individual needs.

In conclusion, the integration of these theories forms a robust foundation for the implementation of Differentiated Instruction. It acknowledges the socio-cultural context of learning, aligns with the progressive ideals of continuous reconstruction of experience, recognizes the diverse intelligences and learning profiles of individuals, and emphasizes the uniqueness of each learner. The synthesis of these theories enriches the pedagogical landscape, providing educators with a comprehensive and adaptable approach to cater to the intricacies of learner diversity.

Credibility

In the context of this study, credibility is paramount, denoting the accuracy and direct alignment between the collected data and its subsequent presentation (Tobin & Begley, 2004). To fortify the credibility of the research, the application of methodological triangulation emerges as

a robust strategy. This involved the judicious use of both structured questionnaires and individual interviews in tandem, creating a synergy that served to validate and reinforce the findings through a multiplicity of perspectives.

The choice to employ structured questionnaires and individual interviews was not arbitrary but a deliberate effort to ensure the depth and richness of data. Structured questionnaires provided a quantitative dimension, capturing responses in a standardized manner, while individual interviews added a qualitative layer, offering a more nuanced exploration of participants' perceptions and experiences. The convergence of these two methodologies not only diversified the data collection process but also allowed for a comprehensive examination of the phenomena under investigation.

Moreover, the researcher took meticulous steps to guarantee that the collected data was not only accurate but also representative of the specific context being studied. The focus on English teacher trainers and trainees in Rwanda was deliberate, aligning with the study's intent to investigate the perception and implementation of differentiated learner-centered strategies in this particular educational landscape. The data collection instruments, comprising both questionnaires and interviews, were carefully designed to target and assess the nuances of participants' perceptions and the actual enactment of differentiated instructional practices.

To deepen the assurance of credibility, a rigorous process was applied during and after the interview sessions. The researcher took detailed notes, capturing the nuances of participants' responses and contextualizing the information within the broader themes of the study. Post-interview, these notes underwent a process of deep coding and association, facilitating easy

interpretation and triangulation of findings. This meticulous approach not only enhanced the trustworthiness of the collected data but also provided a mechanism for cross-verification and validation.

In essence, the commitment to credibility in this study transcends mere data collection; it becomes a methodological ethos. By deliberately employing methodological triangulation, ensuring contextual representativeness, and implementing meticulous note-taking and coding, the researcher has erected a sturdy framework for the study's credibility. This commitment not only safeguards against data inaccuracies but also contributes to the richness and authenticity of the insights garnered from English teacher trainers and trainees in the Rwandan educational context.

Transferability

One of the key criteria for ensuring trustworthiness of data, especially where qualitative methods are used, is transferability. German and others (2015, p. 45) argue that transferability can only be ensured if the researcher provides “a detailed, rich description of the settings studied to provide the reader with adequate data to have the capacity to pass judgment on the relevance of the discoveries to different settings that they know.”

In this study, the researcher obtained data in two ways: interviews and questionnaires. Data was gathered from the English teacher trainers and trainees at the Adventist University of Central Africa, the Kigali Institute of Education, Mt. Kenya University and Institut Catholique de Kabgayi (ICK), using the two methods to determine their perception of differentiated instruction and how they are implementing it. According to Schoonenboom and Burke (2017), a mixture of

quantitative and qualitative methods provide a more comprehensive analysis that can add significantly to the body of knowledge. For the first phase of the quantitative research techniques, purposive sampling was used to identify the English teacher training universities, and more specifically, the Language Education Departments, English sub-department. To extract primary data from the sampled participants, the researcher used a questionnaire. The surveys are appropriate since the population is numbered and is not barred by language- three factors that one must consider before choosing this instrument (MacDonald & Headlam, ny). The questionnaires had both open-ended and closed-ended questions. The surveys were administered both electronically and in person to cover a larger number of participants.

In the pursuit of trustworthiness, particularly in the context of qualitative research methods, the criterion of transferability assumes paramount importance. As posited by German et al. (2015, p. 45), the foundation of transferability rests upon the provision of a detailed and rich description of the studied settings. This detailed exposition equips the reader with the necessary data to make informed judgments regarding the applicability of the findings to diverse settings within their knowledge.

In this study, a dual approach involving interviews and questionnaires was employed to gather data from English teacher trainers and trainees across multiple institutions: Adventist University of Central Africa, Kigali Institute of Education, Mt. Kenya University, and Institut Catholique de Kabgayi (ICK). This methodological diversity was chosen deliberately to ensure a comprehensive exploration of perceptions regarding differentiated instruction and its practical implementation. Schoonenboom and Burke (2017) endorse the integration of both quantitative

and qualitative methods, affirming that such a blend enhances the depth of analysis and contributes significantly to the overall body of knowledge.

In the initial phase of quantitative research, purposive sampling directed the selection of English teacher training universities, specifically honing in on Language Education Departments with an emphasis on the English sub-department. This focused sampling strategy was designed to extract primary data using a questionnaire. The choice of surveys was deemed appropriate due to the numbered population and the absence of language barriers, two critical considerations in selecting an instrument (MacDonald & Headlam, n.d.). The questionnaires, featuring a mix of open-ended and closed-ended questions, were administered through both electronic and in-person means. This dual approach aimed to maximize participation and ensure a more robust representation of perspectives.

By adhering to these methodological choices and principles, the researcher sought to fortify the transferability of the study's findings. The detailed descriptions of the settings, coupled with the methodological rigor of employing both interviews and questionnaires, provide a foundation for readers to discern the relevance and applicability of the research outcomes across different educational landscapes and contexts.

Dependability

Dependability refers to consistency with the standards of data processing and analysis for a specific research design (Kasirye, 2021). The focal point in dependability is the interpretation of data in alignment with the right procedures and tools for a specific research design (Kasirye, 2021). This is to ensure that anybody else analyzing the same data can arrive at similar results.

To ensure dependability in this study, this subsection uses Shenton's (2004) framework to detail the approach and procedures of the study. According to Shenton (2004), a researcher should provide a description of what was planned and how it was enacted in practice, a description of data gathering activities and an evaluation of the processes undertaken.

This study purposed to investigate English teacher trainers' and trainees' perception and implementation of differentiated learner-centered strategies in Rwanda, in the hope of providing substantial facts to guide instruction and to bridge the gap that currently exists in the body of literature. To this end, the study applied the sequential explanatory mixed methods design that first begins with quantitative data collection and proceeds with in-depth analysis through qualitative techniques (Hughes, 2016; Creswell, 2014) as illustrated in *Figure 1* on page 142.

As planned, a survey was administered to both the English teacher trainers and their trainees to determine their perception about differentiation. This was then followed by interview sessions to get to the depth of implementation of differentiated practices, the challenges faced and how these challenges are being remedied. Data collected from the surveys were then analyzed using SPSS to understand the mean and standard deviation. For the interviews, notes were taken by the moderator and audio recording was also done.

The researcher collated all the notes and transcripts and used the constant comparison analysis technique to analyze the data. The constant analysis technique developed by Glaser and Strauss (Glaser & Strauss, 1967), is used to analyze group data in three stages. First, data was open coded through chunking the script into small units by attaching descriptors to each unit (Strauss & Corbin, 1998). This was then followed by axial coding that allows the researcher to then group the units into specific categories (content, process, product learning environment and

other emerging themes like challenges and solutions). The final stage was to do selective coding to arrive at conclusions (Strauss & Corbin, 1998).

Reliability and validity of data

The critical role reliability and validity tests play in ensuring that research tools and data are authentic, accurate, consistent and replicable cannot be over emphasized (Mohan, 2017; Neuman, 2014; Roberts et al., 2006). From this submission, the two operative aspects when it comes to ensuring validity and reliability are accuracy of the measuring tools and replicability of the results.

More specifically, validity refers to the extent to which the research instruments truly measure what they are intended to with absolute accuracy (Mohan, 2017; Neuman, 2014). Validity can broadly be categorized into two main faucets: “The internal validity [which] is concerned with replicability of the results or findings [and the] external validity [which] is concerned with applicability or generalisability of the findings or results to a different setting,” (Willis, 2007, p56). To ensure that the instruments in this study unambiguously measured what they were intended for, a pilot study was undertaken before the study was done. The pilot testing with a small sample enabled the researcher, under the guidance of the supervisor, to refine the questions for accuracy, relevance and comprehension. Because of the accuracy of the instruments, there is an assumed high level of replicability and generalisability of the results.

Reliability, on the other hand, “is the consistency, stability and repeatability of results or findings, over identical situations but different circumstances,” (Twycross, 2004, p36). Roberts and others (2006) strongly recommend the inter-rater reliability strategy which involves collecting information from multiple sources to arrive at the same results or the test-retest

reliability strategy that involves testing the same population at different times to ensure consistency of results. This study used the inter-rater reliability assessment to ensure consistency and generalizability. The study elicited responses from 96 participants from 4 different universities, making it possible to compare data from multiple sources. In addition to the surveys, 10 participants from the 96 who took the survey were then interviewed to corroborate data and to get to the depth and breadth of the concept. These multiple points of comparison and triangulation helped to strengthen consistency and ultimately ensure reliability.

Results

This subsection presents and analyzes the findings of the study. It starts with an overview of the participants' demographic information and proceeds to relay data gathered as guided by the specific research questions.

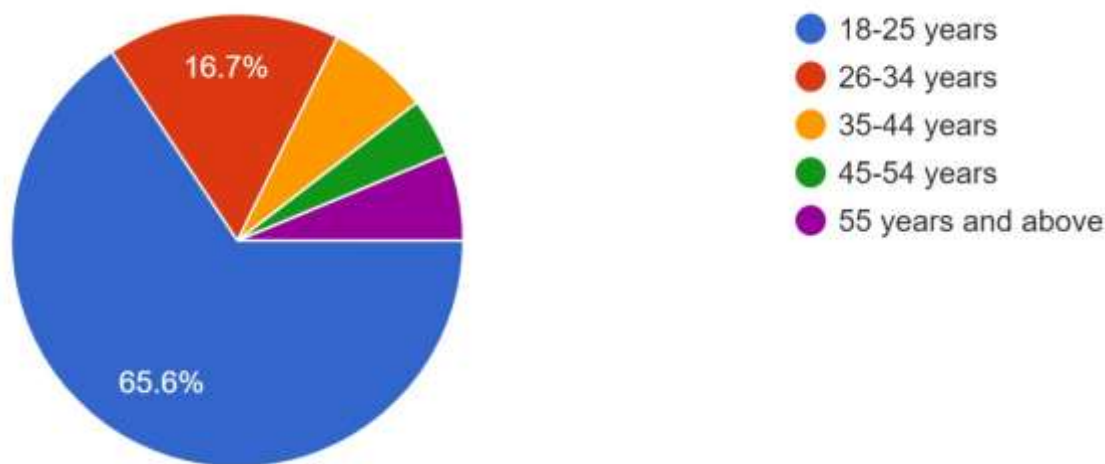
Demographic Description

Age Distribution of the Participants

Majority (65%) of the participants are aged between 18-25 years and 26-34 years (16%). The rest fall in the 35-44 age bracket (7%), 45-54 age bracket (4%) and 55 and above (6%). View the distribution illustrated in Figure 4 below.

Figure 4

Age Distribution of the Participants



Role and Gender

The study involved 96 English teacher trainers and trainees, out of which there were 17 English trainers and 79 trainees. 44 of the participants were females, 47 were males while 5 participants preferred not to reveal their gender. In delving into the intricate fabric of participant roles within the educational institutions under scrutiny, an insightful demographic breakdown unfolds, shedding light on the nuanced gender distribution among English Teacher Trainers and Trainees.

English Teacher Trainers: Among the cohort of 11 English Teacher Trainers, a notable gender representation emerges. Six of these educators identify as males, reflecting a substantial male presence within this professional cadre. In this specific group, there is a distinct absence of female representation. Importantly, none of the English Teacher Trainers opted to withhold their gender, signifying a high level of transparency and openness in the reporting.

Trainees: Turning attention to the Trainee category, comprising a larger pool of 36 participants, a more diverse gender landscape unfolds. Among these aspiring educators, 38

identify as females, illustrating a pronounced gender imbalance in favor of women within the trainee cohort. In contrast, 36 trainees identify as males, showcasing a gender distribution that contrasts with the predominantly female English Teacher Trainers. Additionally, five trainees opted not to disclose their gender, underlining the significance of respecting participant privacy and choices.

Collating the gender data from both English Teacher Trainers and Trainees, the overall demographic landscape is characterized by 47 males and 44 females. This consolidated view presents a balanced gender distribution among the participants, with an additional layer of complexity introduced by the small subset of five individuals who chose not to disclose their gender.

This nuanced analysis serves as a foundational reference point, fostering a deeper understanding of the gender dynamics within the sampled educational institutions. As the study progresses, these demographic insights will contribute to a richer interpretation of the research findings, ensuring a comprehensive exploration of differentiated instruction perceptions and practices.

Table 4

Participant Roles and Gender Distribution

Participant Roles at their institutions	Number of Participants		
	Males	Females	Prefer not to say
English Teacher Trainers	11	6	0
Trainees	36	38	5
Totals	47	44	5

Participants' Level of Education

Of the 17 English teacher trainers, 5 were Ph.D holders, 9 had Masters degree, 1 had Bachelors degrees and 2 were Diploma holders. On the other hand, the trainees were mostly (59 participants) Diploma holders. The participants in this study encompass a diverse spectrum of educational backgrounds, reflecting various academic achievements. A thorough examination of the participants' levels of education reveals intriguing patterns, including gender distribution and the preferences of some participants not to disclose their gender.

At the Ph.D. level, all five participants are male, indicating a notable gender imbalance within this specific academic tier. In contrast, the Masters category demonstrates a more balanced distribution, with four male and five female participants. No individuals in this category opted not to disclose their gender. Moving to the Bachelors level, there is one male participant and four female participants, with none choosing to withhold their gender information. The Diploma category represents the largest group, with a total of 69 participants. Among these, 35 are male, 31 are female, and three chose not to disclose their gender. The 'Other' category includes two male participants, four female participants, and two participants who preferred not to disclose their gender, rounding out the educational backgrounds of the study participants.

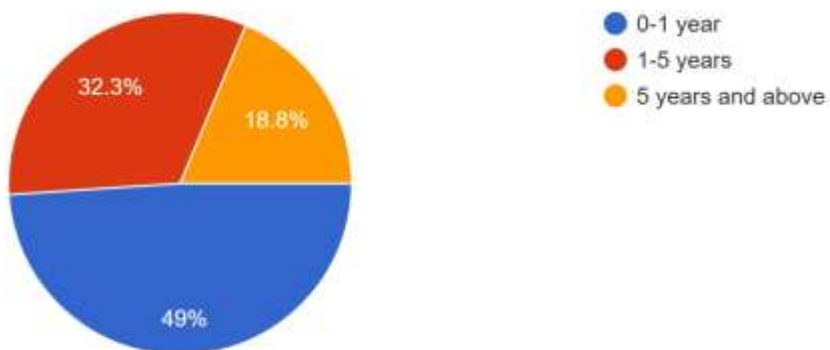
This detailed analysis not only provides insights into the participants' diverse educational qualifications but also sheds light on the gender distribution within each academic category. Such nuanced information enriches our understanding of the study cohort, setting the stage for a comprehensive exploration of differentiated instruction perceptions and practices within this varied academic landscape.

Table 5*Participants' Level of Education*

Participants' Level of Education	Number of Participants			Totals
	Males	Females	Prefer not to say	
Ph.D	5	0	0	5
Masters	4	5	0	9
Bachelors	1	4	0	5
Diploma	35	31	3	69
Other	2	4	2	8

Participants' Experience Levels

Out of the 96 participants, 47 of them have been teaching for less than a year, 31 have between 1-5 years of experience and 18 have above 5 years of experience. This could be because the majority of the participants are just training to be teachers and have not had adequate time to practice.

Figure 6*Distribution of Experience Across Participants*

Research Question 1: What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?

A. Findings Derived from the Questionnaire

A t-test to examine the differentiation in perceptions between English teacher trainers and trainees regarding differentiated instruction, revealed that there were no statistically significant differences.

Table 6

T-test for Perceptions

Participants	Mean	Standard Deviation	P-value
English teacher trainers	4.12	0.85	<0.001
Trainees	4.15	0.88	<0.001

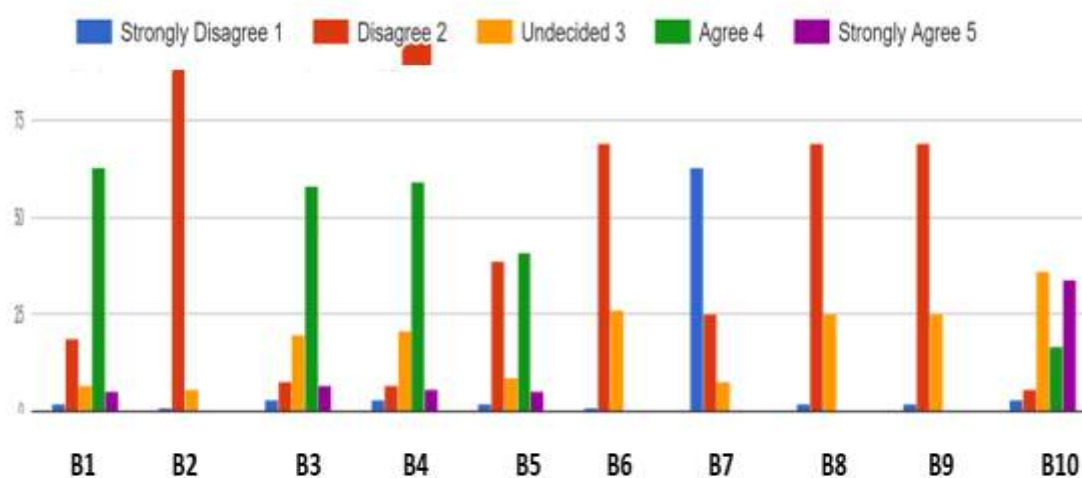
To adequately answer question 1, the researcher formulated key statements that were then weighed against the Lickert 5 scale. The statements were coded “B” and they read as follows:

B1. I know what differentiated instruction is. B2. I have ever implemented it in my class B3. Differentiated instruction improves learning outcomes B4. Students learn better when teachers apply differentiated instruction. B5. I understand how to implement differentiated instruction, B6. It is easy to implement differentiated instruction, B7. My university offers professional development training sessions to help teachers differentiate instructions, B8. Differentiation cannot be applied to the teaching syllabus of the courses, B9. Differentiation cannot be applied to the assessment practices of the trainees. B10. Differentiation is an example of personalized teaching.

Based on these statements, nominal data was collected from the participants using the 5 point Likert Scale indicating 1 for strongly disagree with the concept, 2 for somewhat disagree with the concept, 3 for undecided, 4 for somewhat agree with the concept, and 5 for strongly agree with the concept. The chart below illustrates the distribution of responses for each of the statements.

Figure 7

Respondents' Perception on Differentiated Instruction.



Based on the results displayed in Figure 7 above, 68% of the respondents have at least heard about differentiated instruction as demonstrated by the traces of green (agree) but 89% of them have not enacted it in practice. Further still, 69 percent of the respondents thought differentiation was hard to implement (B6) and 88% of them further indicated (B7) that their universities do not offer professional development training sessions to help teachers differentiate instructions. 69% of the respondents also demonstrated a positive perception of differentiated instruction as they disapproved of the statements B8 and B9 that purported that “Differentiation cannot be applied

to the teaching syllabus of the courses” and that “Differentiation cannot be applied to the assessment practices of the trainees”.

B. Findings Derived from the Interviews

Data from the interviews confirm what was deduced from the surveys. With regard to the participants’ perspectives on differentiated instruction in language education, it appears that they are aware of the general context of it focusing on the differentiated variables that need to be considered and necessitate differentiated instruction. Indicatively,

“...I know that differentiated instruction is instruction that is tailored to address students, that is, to respond to their different situations. Of course, students do not come from the same home. They do not have the same experiences. They do not have the same talent. And so, this instruction that is still not to respond to all that knowing that every student should be included, yeah” [Int.1]

Moreover, some participants also perceived differentiated instruction as an effective way of teaching that improves the learning outcomes. For example, interviewee number 3 indicated,

“...So if you use the different methodologies that that is what I think okay different methodologies or a variety of things. I believe learners, because of their different different preferences, can each dedicated for. And at the end of the day, and the teaching learning outcome may be effectively realized, that's what I can say.”[Int. 3]

Another participant defined differentiated instruction as,

“...using the various methodologies of teaching so that every kind of learner is catered for because we learn through different meanings, what works for me may not work for another person. In fact, it is one of the best calls. If you decide to use only one method, it may not cater for. You have different categories of learners. We have those who learn by visual, those who learn by, by, by lecturing method. There are many methods. But if you decided to use only one method, that means another category of learners is made for differentiation, works better for all various categories of learners.” [Int. 7]

The investigation into the perceptions of English teacher trainers and trainees regarding differentiated instructional practices has revealed a complex and nuanced understanding among the participants. The data collected through the questionnaire and interviews provide valuable insights into their perspectives on differentiated instruction in the context of language education.

The study's findings suggest a complex landscape of perceptions among English teacher trainers and trainees regarding differentiated instructional practices. While participants demonstrate awareness and a positive outlook on differentiated instruction, the gap between awareness and practical application, coupled with perceived implementation challenges and the lack of professional development opportunities, highlight the need for targeted efforts to support and enhance the implementation of differentiated instruction in language education. Addressing these challenges can contribute to more effective and inclusive teaching practices in the field.

The insights derived from the interviews corroborate the patterns discerned from the survey data, shedding further light on the nuanced perspectives of English teacher trainers and trainees concerning differentiated instruction in language education. Participants showcased a keen awareness of the fundamental principles underpinning differentiated instruction,

emphasizing its tailored nature to address the diverse circumstances of students. One interviewee eloquently expressed this understanding, highlighting the need for instruction to be responsive to the unique backgrounds, experiences, and talents of each student.

Furthermore, the interviews unveiled a prevailing perception among participants that differentiated instruction is not merely a theoretical concept but a potent and effective pedagogical approach. The acknowledgment that utilizing different methodologies can cater to the diverse preferences of learners and contribute to more effective teaching and improved learning outcomes was a recurring theme. The sentiment expressed by one interviewee underscores the belief that employing varied instructional strategies can lead to more favorable teaching and learning outcomes.

Another participant emphasized the importance of employing a diverse range of teaching methodologies to cater to the various ways in which learners absorb information. This recognition of the heterogeneity among learners, encompassing different learning styles and preferences, reinforces the notion that a one-size-fits-all instructional approach is insufficient. The participant's assertion that differentiation works better for accommodating diverse categories of learners underscores the significance of employing a variety of methods to create a more inclusive learning environment.

In summary, the interview findings contribute depth and richness to the understanding of differentiated instruction among English teacher trainers and trainees. While participants exhibit a robust awareness and positive outlook, the identified gap between awareness and practical implementation, coupled with perceived challenges and a lack of professional development

opportunities, emphasizes the critical need for targeted interventions. Addressing these challenges can pave the way for the more effective and inclusive implementation of differentiated instruction in the realm of language education.

Research Question 2: How do English teacher trainers and trainees implement differentiation in their classrooms?

Findings Derived from the Questionnaire

In order to answer the second research question: “How do English teacher trainers and trainees implement differentiation in their classrooms?” “ and thereby examine how teachers are implementing differentiation, the researcher formulated statements that highlight six key areas of differentiation: the learning environment, content, product and process.

Using a t-test, we analyzed the responses of English teacher trainers and trainees to determine if there was a statistically significant difference in the way they implement differentiated instruction. The results of the t-test indicated that there is no statistically significant differentiation in the perceptions and practices of differentiated instruction between these two groups. This suggests that both teacher trainers and trainees have similar perspectives and approaches to implementing differentiation in their classrooms.

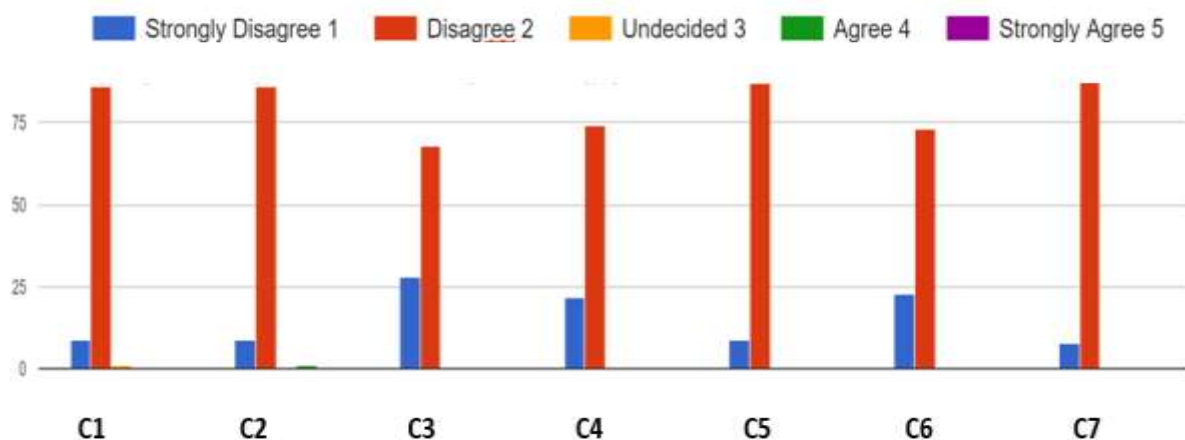
Learning Environment

The following statements were given to the participants to rank the physical classroom setting using a Likert 5-point scale in relation to the learning environment:

C1. Offers a warm, comfortable setting for learning. C2. Offers cozy work spaces and desks. C3. Has discrete, assigned personal areas for additional books and stuff. C4 is made to arrange tables and chairs quickly and simply. C5. Is set up to allow for teacher and student mobility during class. C6. Offers workspaces to suit each person's needs, such as C7. Uses student exhibits and artifacts to reflect current subject or skills. Below, Figure 8 shows the outcomes.

Figure 8

Respondents' Differentiation of the Learning Environment



Based on the findings illustrated in figure 8, it was a common consensus that respondents do not differentiate their learning environments as shown by disagreements with all the statements. 95% of the respondents indicated that they do not present inviting, relaxed environments for learning (C1), 95% said they do not or are not provided with comfortable desks and work areas (C2), 96% of them stated that their learning spaces are not set up for teacher and student mobility during work sessions (C5), nor do they (96%) offer opportunities for students to display their work and artifacts (C7). 96% of them reported that their learning environments do not have individual,

designated personal spaces for extra books and other items (C3). 96% disagreed that their learning environments are designed for quick and easy groupings of tables and chairs (C4). When a differentiated learning environment is implemented, there is no statistically significant difference between teacher trainers and trainees, according to the results of the t-test, which showed that the p-values for all claims are greater than 0.05.

Content

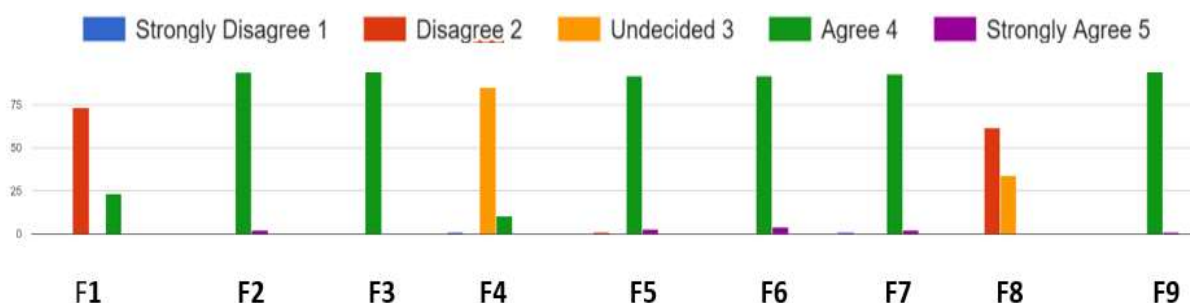
The following statements were used to gauge the respondents implementation of differentiated instruction as regards content.

F1. Include a variety of reading levels that are related to the subject or topic. F2. Materials are diversified ie videos, audios, texts, PPTs etc. F3. Are accessible to students. F4. Content is scaffolded into smaller digestible chunks that are logically organized. F5. Support the standards and topic. F6. Are age-appropriate. F7. Are up-to-date. F8. Are available in an adequate number for the class size. F9. Include appropriate reference sources and materials.

The findings are illustrated in figure 9 below.

Figure 9

Respondents' Differentiation of Content



Based on Figure 9 above, whereas 73% of the respondents indicated that they do not include a variety of reading levels that are related to the subject or topic (F1) and that they 62%

never provide adequate materials for the learners (F8), 94% of the respondents submitted that they diversify materials for learners ie videos, audios, texts, PPTs etc (F2) and that the materials are usually made accessible (93%). Similarly, while 85% of the respondents seemed uncertain about scaffolding content into smaller digestible chunks that are logically organized, 92% agreed to providing materials that support the standards and topics and that the materials they (92% usually share are age-appropriate and up-to-date (93%). 95% of the respondents also indicated that they usually include appropriate reference sources and materials. Utilizing a t-test, the analysis revealed that the p-values associated with all the statements exceeded the threshold of 0.05. According to this result, trainees and teacher trainers do not differ statistically significantly in how they set up diverse learning environments.

Product

The researcher used the following key statements to gauge the participants' implementation of differentiated instruction with regard to product.

D1. Use a variety of ongoing assessment tools such as checklists, surveys, and anecdotal records. D2. A variety of formative (ongoing) assessments are used to determine what students know, understand, and are able to do. D3. I use conversations (e.g., oral assessments, whole-group discussions, student-led conferences) D4. I use observations (e.g., labs, performances, audio-visual presentations) D5. I vary the products (e.g., individual assignments, group projects, portfolios, pencil and paper tests, quizzes, or assignments) D6. I apply assessment information to guide instruction. D7. I address academic, emotional, social, and physical student needs. D8. I provide time for students

to actively process information. D9. I give specific feedback to individuals and/or small groups.

The findings are displayed in Figure 10 below.

Figure 10

Respondents' Differentiation of Product

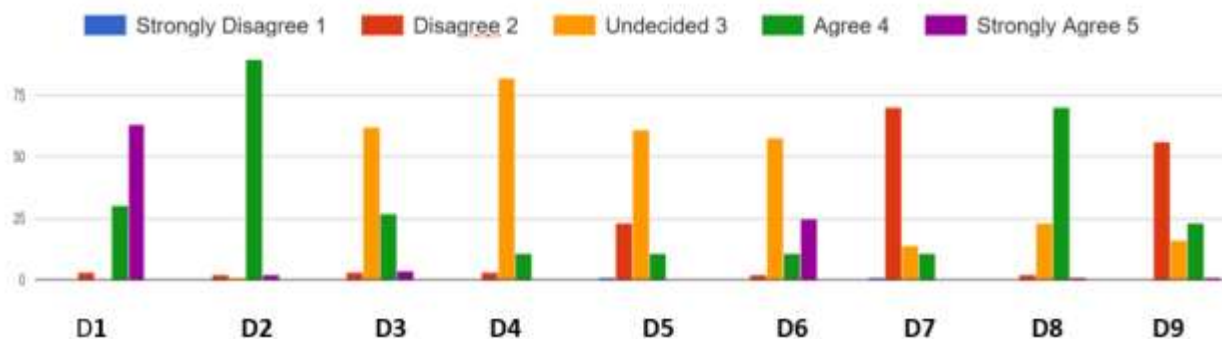


Figure 10 above shows that while 91% of respondents differentiated instruction through assessments, 56% also said they did not provide specific feedback to individual students or small groups of students, and 70% said they did not address the academic, emotional, social, and physical needs of their assessment subjects. Even more, the majority of them were unsure about other ways to differentiate their products, such as by using observations and conversations (62% and 82%); changing up the products (61%); and utilizing assessment data to inform instruction and meet the needs of academic, emotional, social, and physical students (58%). Nonetheless, 70% of the respondents said they employ a range of formative (continuous) assessments to find out what knowledge, skills, and abilities children possess, and 82% said they give students time to actively digest material. By utilizing a t-test, it was shown that the p-values linked to each of the statements are greater than 0.05. This result suggests that there is no statistically significant difference in the way trainees and teacher trainers apply differentiated instruction.

(iv) Process

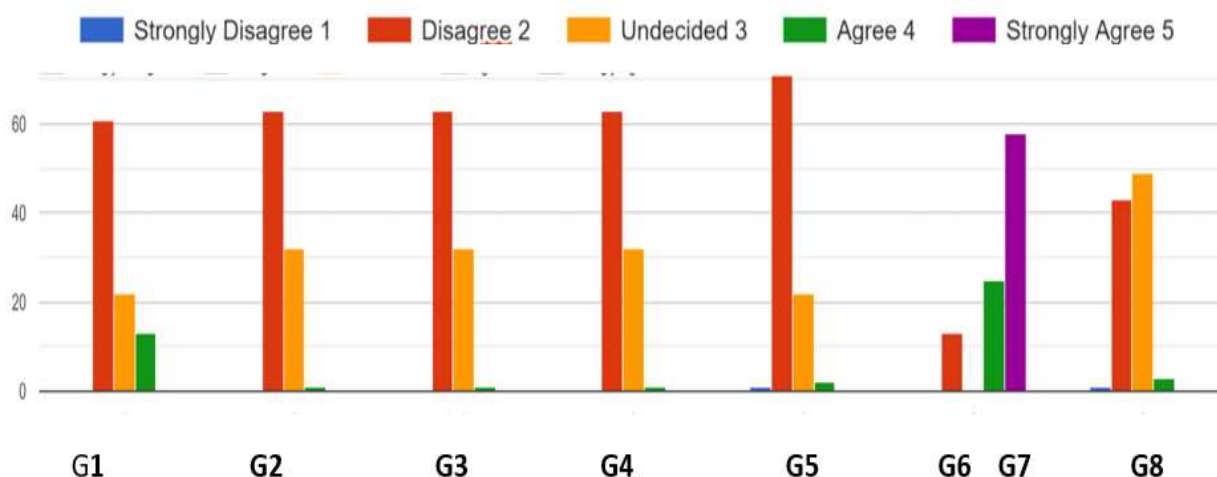
To examine how teachers differentiate the process of instruction, the researcher applied the following statements:

G1. I use a variety of assessment tools before, during, and after learning. G2. I use a variety of instructional strategies and activities to teach standards. G3. My strategies meet the diverse needs of learners. G5. I apply strategies that engage students in various flexible grouping designs. G6. I use centers and/or stations for individual and small-group instruction. G7. I engage students through projects and/or problem-solving activities. G8. I present students with choices in learning activities, assessments and forms of submission.

Figure 11 below illustrates the findings.

Figure 11

Respondents' Differentiation of Process



The data presented in Figure 11 above shows that 61% of respondents said they have not used a variety of assessment tools before, during, or after learning; 63% said they have used a variety of instructional strategies and activities to teach standards; 63% said they have used strategies that meet the diverse needs of learners; 63% said they have applied strategies that engage students in a variety of flexible grouping designs; 71% said they have used centers and/or stations for individual and small-group instruction; and 49% said they have given students choices in learning activities, assessments, and submission formats. The investigation, which used a t-test, showed that all of the statements' p-values were greater than the 0.05 significance level. This result suggests that trainees and teacher trainers do not differ statistically significantly in how they set up varied learning environments.

In addition to the above, the following statements were administered to examine the respondents' assessment of students' response to the differentiated processes implemented.

E1. Exhibit on-task behavior while working alone. E2. Work effectively in small groups.

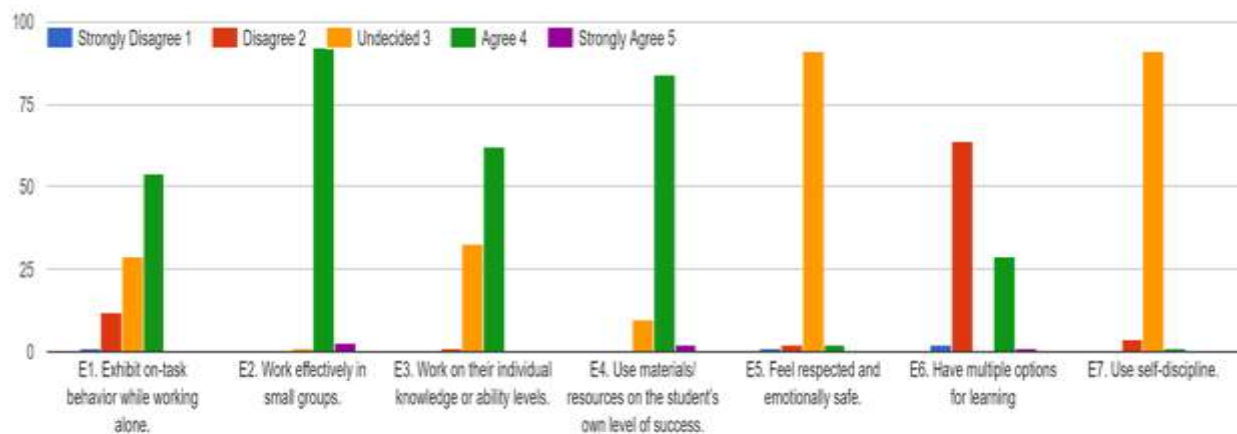
E3. Work on their individual knowledge or ability levels. E4. Use materials/resources on

the student's own level of success. E5. Feel respected and emotionally safe. E6. Have multiple options for learning E7. Use self-discipline.

Figure 12 below illustrates the results.

Figure 12

Respondents' Assessment of Student Behavior During Process Differentiation.



As illustrated in Figure 12 above, majority of respondents agree that when processes are differentiated, learners exhibit on-task behavior while working alone (54%), work effectively in small groups (92%), work on their individual knowledge or ability levels (62%) and use materials/resources on their own levels of success (84%).

Differentiation in Communication

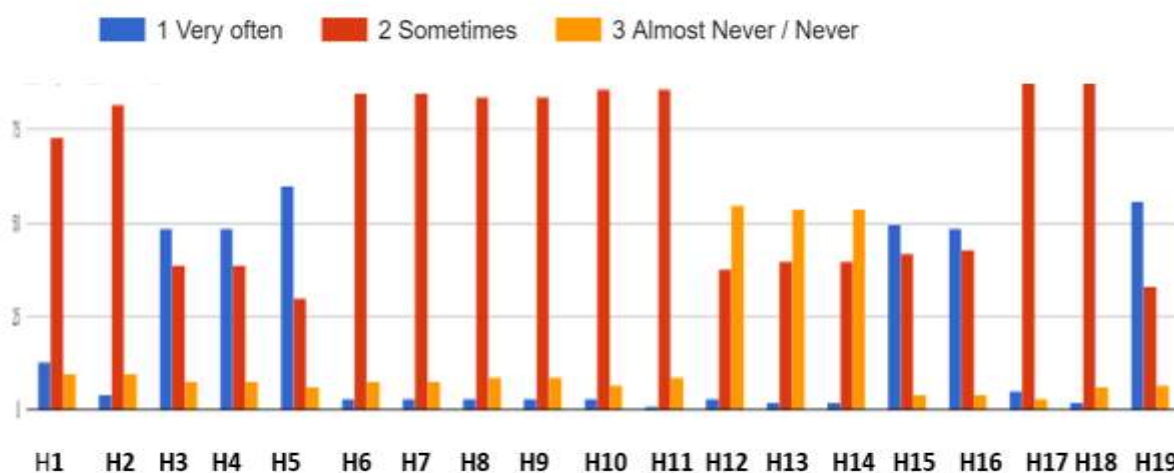
Further still, additional series of questions were administered to examine if communication is differentiated during the process of learning. This was done through the following statements:

H1. When I start talking to a student/colleague H2. When I end a discussion H3. When I want to say differently what I have already said H4. When I want to correct something I have said. H5. When I want to be more understood .H6. When I want to talk about

something. H7. When I want to take time to think of something and say it in English. H8. When I want to ask something. H9. When I ask for help .H10. When I ask for clarifications. H11. When I ask for someone else's comments. H12. When I use body movements to express myself. H13. When I apologize for something. H14. When I thank someone for something. H15. When I feel that I am not perceived. H16. When I do not have enough time to process an idea and respond. H17. When I get angry with something or someone. H18. When I'm happy. H19. When I'm surprised

Figure 13

Respondents' Differentiation in Communication



As can be deduced from Figure 13, majority of the respondents indicated that they sometimes code switch between languages especially when talking to a student/colleague (73%), when ending a discussion (83%), when talking about something (85%), when they want to take time to think of something (85%), when they want to ask something (84%), when asking for help (84%), when seeking clarification (86%), when asking for someone else's comments (86%), when they are angry (88%) and when they are happy (88%).

Even though 39% of the respondents indicated that they they do not use another language when saying differently what they have already said, when they want to correct something they have said (49%) and when they want to be more understood (60%), they admitted to using other languages when using body movements to express themselves (55%), when apologizing for something (54%) and when thanking someone for something (54%). Through the application of a t-test, it was determined that the p-values associated with all the statements surpass the 0.05 threshold. This outcome signifies that there is no statistically significant distinction discerned between the implementation of a differentiated learning environment by teacher trainers and trainees.

A. Findings Derived from the Interviews

Data from the interviews confirm what was deduced from the surveys. With regard to the participants' perspectives on differentiated instruction in language education, it appears that they are aware of the general context of it focusing on the differentiated variables that need to be considered and necessitate differentiated instruction. Indicatively, the following was revealed.

Learning environment

When asked whether the English teacher trainers differentiate instruction, or more specifically, the learning environment, one of the trainees indicated that,

...they just come in class they just read the notes then explain some words here and there and then like you feel like you can if i can read myself i can read the the the notes by myself I can also do the exam but the way they were doing it is not really helpful because some are left behind [Int. 2].

Based on this submission, the trainee describes a teaching method in which the instructor simply reads notes to the students and explains some words without much engagement or interaction. The trainee, therefore, suggests that this teaching method makes them feel like they could learn the material on their own by reading the notes themselves, implying that the instructor's role might not be very impactful when instruction is not differentiated. The interviewee also expresses dissatisfaction with this teaching approach (lecture method), stating that it is not very helpful and that it leaves some students behind as it does not cater to all learning styles or abilities. Finally, the interviewee's comment also suggest that there is a lack of student engagement or interaction in the class, which can affect the overall learning experience negatively.

Consequently, one of the trainees revealed that the reason teachers do not practice learner centered strategies is that their trainers do not model it out for them. In other words, teachers are likely to teach according to how they are taught. The trainee illustrated his point thus,

I think it will not be very personal for me to mention that I really struggled with mathematics in primary and secondary school and I I don't think mathematics was difficult just that it was not taught to me my way [Int. 9]

In the above submission, the trainee express a belief that mathematics itself was not inherently difficult but rather that the teaching approach or method didn't align with their preferred learning style. The interviewee implies that they have a specific or personalized way of learning that was not catered to in the way mathematics was taught to them because the teacher did not know how to differentiate instruction. This statement highlights the importance of tailoring teaching methods to individual students' needs and preferences to make subjects like mathematics more accessible and understandable.

Consequently, some of the trainees who are in-service teachers who have gathered some scanty knowledge about differentiation implement it without much knowledge. When asked how they differentiate their learning environment, one of the trainees said,

Depends on what im teaching normally depends on the class im having coz sometimes you have like if you have lets say if you have 15 kids in your class and you have like the ten have performed well and then you have more who are dragging behind so thats where i intervene and look for what works for them maybe how are they learning maybe the instruction does not work for them maybe the language they are not getting it maybe they have some gaps from previous classes so I plan and see what works well with them and then i work with them. Mostly the time, time, time is a big challenge and also it is the work load and also you are doing work in double coz you take alot of time, a lot of energy and alot of work [Int. 5].

The interviewee acknowledges that some students may struggle due to various reasons such as difficulty with language, prior knowledge gaps, or other issues and so may need some adaptive approach to learning. While the interviewee's approach appears to be focused on personalization and individualized instruction to help students who may not be performing at the same level as their peers, it is clear that they do not have an idea of what a differentiated learning environment looks like. What they are describing has something to do with the process of learning as opposed to the learning environment.

The interview findings offer a reflective analysis of the participants' perspectives on differentiated instruction, particularly focusing on the learning environment. The responses reveal a multifaceted understanding among English teacher trainers and trainees, emphasizing

the challenges and opportunities associated with implementing differentiated instructional practices.

One significant revelation from the interviews is the prevalent dissatisfaction among trainees with the traditional lecture-based teaching methods. The participant's comment underscores a perception that the current instructional approach, marked by instructors reading notes and providing explanations, lacks meaningful engagement and interaction. This sentiment suggests a potential misalignment between the teaching methods employed and the diverse learning styles and abilities of students. The dissatisfaction further implies a need for differentiated instruction to cater to various learning preferences, ensuring a more inclusive and effective learning experience.

Moreover, the interviewee's assertion that this teaching method leaves some students behind adds depth to the understanding of the challenges associated with undifferentiated instruction. The lack of student engagement and interaction in the class, as highlighted by the participant, is indicative of a potential disconnect between the teaching approach and the varied needs of learners. This not only affects the overall learning experience negatively but also emphasizes the importance of creating a psychologically safe and inclusive learning environment.

The interviews shed light on a crucial aspect related to the implementation of differentiated instruction—the role of teacher training. The trainee's statement regarding the absence of learner-centered strategies due to the lack of modeling by their trainers suggests a potential gap in the preparation of educators. This finding underscores the importance of

integrating differentiated instructional strategies into teacher training programs, emphasizing the need for instructors to model learner-centered approaches to empower future educators.

Furthermore, the participant's personal experience with struggling in mathematics due to an incompatible teaching approach provides a poignant example of the impact of undifferentiated instruction on individual learning experiences. The participant's belief that the difficulty did not lie in the subject matter but in the teaching method highlights the significance of aligning instructional strategies with students' preferred learning styles. This underscores the potential for differentiation to enhance accessibility and understanding, making subjects more approachable for students with diverse learning needs.

In the case of in-service teachers attempting to implement differentiation without a clear understanding, the interview highlights the challenges they face. The acknowledgment of time constraints, workload, and energy demands points to the practical difficulties teachers encounter in attempting to tailor instruction to individual student needs. This underscores the importance of not only imparting knowledge about differentiation but also providing support and resources to help educators effectively implement differentiated practices in real-world classroom settings.

In summary, the reflective analysis of the interview findings unveils a complex landscape of perceptions, challenges, and opportunities regarding differentiated instruction in language education. The insights gained emphasize the need for targeted training, modeling by teacher trainers, and ongoing support to bridge the gap between awareness and practical application. Addressing these challenges can contribute to the creation of more inclusive, engaging, and effective learning environments for diverse learners in language education.

Content

The trainees also demonstrated their knowledge and practice of content differentiation. The second interviewee submitted:

“If I’m having an English class and I plan to use let’s say visual method, I also plan to use the lecture method. I usual and maybe I plan also to use the audio method, so I have those things beforehand or before the class. So I come with them and I make sure that I have gone through them and they are related to the content that I’m going to teach. And then I also know who is going to use that method, meaning that I must be known the nature of the class that I’m going to teach using those methods [Int. 1]”

This response suggests a commitment to offering a variety of learning experiences to cater to different learning styles and preferences. The interviewee emphasizes the importance of thorough preparation before the class. They ensure that they have all the necessary materials and resources for each teaching method they intend to use. It is also clear from the response that the interviewee makes it a point to ensure that the teaching methods they choose are directly related to the content they plan to teach. This alignment ensures that the methods effectively support the learning objectives. By and large, the interviewee is committed to a well-prepared and diverse teaching approach, taking into consideration the content, the nature of the class, and the suitability of different methods to enhance the learning experience in an English class.

Another interviewee indicated,

I have tried to make sure that there are different types of resources that are available for students. Anciently people would just use the teachers notes, but I try to make sure that they can either watch a video somewhere or read a news article somewhere just to make

sure that they are different sources of resources. Of course that does not come very easily. It requires a lot of time [Int. 7].

From this submission, the interviewee is clearly dedicated to enriching the learning experience of their students by providing students with a range of resources beyond traditional teacher's notes, even though it entails substantial time and effort. By offering different sources of resources, the interviewee encourages students to engage in independent learning and research. This approach can help students develop critical thinking skills and a deeper understanding of the topics.

The interviews further illuminate the trainees' understanding and application of content differentiation, showcasing their dedication to providing diverse learning experiences tailored to individual needs and preferences. The responses of the trainees underscore the importance of thorough preparation, resource availability, and a commitment to enriching the learning experience.

The first interviewee demonstrates a comprehensive approach to content differentiation in their English class. Their commitment to employing various methods, such as visual, lecture, and audio, indicates a thoughtful consideration of different learning styles within the class. The emphasis on planning ahead and aligning teaching methods with the content being taught reflects a proactive strategy to ensure that each method serves its purpose effectively. This approach not only enhances the adaptability of instruction but also ensures that the chosen methods are pedagogically relevant to the learning objectives. Overall, this interviewee's commitment to a well-prepared and diverse teaching approach emphasizes the significance of tailoring content to meet the diverse needs of learners in an English class.

Another interviewee highlights the effort to diversify resources beyond traditional teacher's notes, demonstrating a commitment to content differentiation. By providing students with various resources such as videos and news articles, the interviewee aims to create a richer learning environment. Despite acknowledging the time-intensive nature of this approach, the interviewee prioritizes offering different sources of information. This dedication to expanding the range of learning materials aligns with the principles of differentiated instruction, encouraging independent learning and critical thinking skills among students. The acknowledgment that this approach requires a substantial time investment underscores the challenges associated with implementing content differentiation but also emphasizes the commitment to enhancing the quality of education provided.

In summary, the interviews showcase the trainees' commitment to content differentiation through varied instructional methods and the provision of diverse learning resources. These practices align with the principles of differentiated instruction, emphasizing the importance of catering to different learning styles and promoting independent learning. While these efforts require careful planning and significant time investment, the trainees' dedication reflects a positive step toward creating inclusive and enriching learning experiences in the English classroom.

Process

When asked about how they differentiate the process of learning, one of the interviewees indicated,

And the second thing that I do is to make sure that in trying, in trying to differentiate learning, I try to differentiate the process itself. So sometimes I bring in discussions, other times I want them to just go out and observe and even within the classroom to make sure that not only the assignments are not just submitted on paper. Sometimes people do presentations, other times people do a little acting, although that does not happen very often [8].

From this response, the interviewee uses a variety of teaching methods to cater to different learning styles and preferences. These methods include discussions, observations, presentations, and even acting. By incorporating discussions and observations, the interviewee seems to promote active learning where students are actively engaged in the learning process rather than passively receiving information. This approach accommodates different learning styles, ensuring that all students have opportunities to excel and showcase their abilities.

Another participant says,

So with differentiate instruction, you you, you have different learners and then you're going to ask them to do the same thing but doing it differently, yeah. For example, you might have learners who maybe have a rich in vocabulary and those ones who are weak. So you want to ask all the learners to write for you Adjectives. So so for the strong one you you you can tell them to write the the the adjectives that they know. For the weak ones, you can give them a sheet that has a paper that has adjectives and nouns. And then you tell them to identify. So at the end of the day they will all have learnt noun [adjectives], but these ones are writing what they know. And then these ones you've given them a push, like you've guided them to arrive at the answer because you know they are not at the level with others [Int. 10].

From this response, despite the differences in learners' abilities, the interviewee aims to have all students achieve a common learning objective. In this example, the objective is for students to learn about adjectives. To achieve the common objective, the interviewee uses different instructional strategies for students with different levels of proficiency. For students with rich vocabulary, they encourage independent writing, while for weaker students, they provide more guided support. The interviewee also mentions providing resources such as a sheet with adjectives and nouns for weaker students. The interviewee's approach promotes equity in the classroom by acknowledging and addressing the varying levels of students' abilities. It ensures that all students have an opportunity to learn and progress. In summary, the interviewee's approach to differentiated instruction involves adapting teaching methods to meet the diverse needs of students while aiming for a common learning objective. This approach fosters inclusivity and allows all students to make progress at their own pace.

One of the interviewees also demonstrated how they differentiate process through group activities.

Take an example grouping students learners in a certain number like fives or fours or something and they benefit from each other and more importantly when they are in those different groups [Int. 6].

The interviewee seems to suggest that grouping students into smaller learning groups can be an effective way to promote peer learning, collaboration, and engagement. This approach can lead to a more dynamic and interactive classroom environment, where students benefit from each other's strengths and perspectives. However, one of the interviewees expressed concerns with differentiation of process through grouping citing the ineffectiveness of group work.

And because you know, when you put them together with others, the ones who know actually, they will keep quiet. And the ones who know will be the ones giving the answers, answers. And then you go to a group, you find they have no group answers but only been contributed by only one or two people. And because you know, when you put them together with others, the ones who know actually, they will keep quiet. And the ones who know will be the ones giving the answers, answers. And then you go to a group, you find they have no group answers but only been contributed by only one or two people [Int. 5].

The interviewee is highlighting the challenges of student participation and engagement in the classroom, where some students may dominate discussions while others remain passive. The interviewee observes differences in student participation in class discussions or group activities. Some students actively contribute answers, while others are more passive and quiet. It appears that there is an uneven distribution of contributions during group activities. The interviewee doesn't explicitly state the reasons for these differences in participation, but it may be due to varying levels of knowledge, confidence, or willingness to engage in class discussions. The interviewee's observations suggest that these differences in participation can affect group dynamics. Students who are more knowledgeable or vocal may dominate discussions, potentially inhibiting the participation of quieter students.

Further still, the participants demonstrated process differentiation by mentioning some of the strategies they use in class when delivering content. They stated,

If I use a PowerPoint that is more kind of more technology and more advanced and students are looking at this other projected content you see, how would I put it? You see, then you you win that, you capture, you grab their interest. And you see them more concentrated, Yeah, actually they perform better they during the lesson, during the lesson

you see them even if you tell them to write something that if you clearly projected and they can see, etc etc. Yeah, so you find the lesson is more amusing to them than going tradition all the time with your your heart [Int. 3].

This interviewee appears to be describing the use of advanced technology, particularly PowerPoint presentations, as a means to engage and capture students' interest in the classroom. The interviewee highlights the advantages of using advanced technology, specifically PowerPoint presentations, to enhance engagement, concentration, and overall performance in the classroom. This approach can modernize teaching and create a more interactive and engaging learning environment for students.

The responses from the interviewees provide valuable insights into their approaches to differentiating the learning process, showcasing a variety of strategies aimed at accommodating diverse learning styles and fostering inclusivity.

One interviewee emphasizes the use of diverse teaching methods such as discussions, observations, presentations, and even acting to cater to different learning styles. This approach reflects a commitment to active learning, where students are actively engaged in the learning process. The emphasis on varied methods indicates an awareness of the importance of accommodating diverse preferences, ensuring that all students have opportunities to excel and showcase their abilities. The interviewee's acknowledgment of the challenges of implementing certain methods, like acting, adds a layer of practicality to their approach, recognizing the complexities of differentiated instruction.

Another participant highlights a strategy for differentiating the process by tailoring assignments to different proficiency levels. The example of teaching adjectives demonstrates an intention to have all students achieve a common learning objective, irrespective of their proficiency level. The interviewee's commitment to providing additional guidance and resources for students with lower proficiency levels aligns with the principles of differentiation, promoting equity in the classroom and ensuring that all students can make progress at their own pace.

Group activities also emerge as a method for differentiating the learning process, as mentioned by one interviewee. This approach involves grouping students into smaller units, fostering peer learning, collaboration, and engagement. While the benefits of group activities are emphasized, another interviewee expresses concerns about the ineffectiveness of group work, pointing out issues related to unequal participation. This observation highlights the challenges associated with student engagement and participation during group activities, suggesting a need for strategies to ensure a more balanced and inclusive contribution from all students.

Additionally, the use of technology, such as PowerPoint presentations, is recognized by an interviewee as a means to differentiate the learning process. The integration of advanced technology is presented as a way to capture students' interest, enhance engagement, and create a more amusing and interactive learning environment. This acknowledgment of the role of technology in the differentiation process aligns with modern teaching practices and reflects an awareness of the potential benefits of incorporating technology into the classroom.

In conclusion, the interviewees demonstrate a range of strategies for differentiating the learning process, showcasing an understanding of the importance of accommodating diverse

learning styles and needs. While some challenges and concerns are expressed, the overall commitment to creating inclusive and engaging learning experiences is evident. Further professional development and nuanced knowledge of differentiation could enhance the effectiveness of these practices, ensuring a more tailored and impactful approach to meeting students' diverse needs.

Product

The interview sessions revealed that participants do not really understand what it means to differentiate assessments. Only one participant had tried to differentiate assessment. To demonstrate how they vary their assessments, one of the interviewees indicates,

So sometimes I bring in discussions, other times I want them to just go out and observe and even within the classroom to make sure that not only the assignments are not just submitted on paper.

The interviewee seems to go beyond traditional paper-based assignments and assessments. They use presentations and acting as alternative assessment methods, which can provide a more holistic view of students' understanding and skills. Observations and presentations encourage students to apply their knowledge and skills in real-world contexts, which can enhance their understanding and retention of the material.

Overall, the research revealed both strengths and areas for improvement in the implementation of differentiation in English language classrooms. Teachers and trainees demonstrated awareness of the importance of differentiation, but there is a need for further

structured professional development to enhance their knowledge and practices. Additionally, creating inclusive learning environments, varying content and assessments, and refining teaching methods to address individual student needs are essential steps toward effective differentiation.

The findings reveal a huge gap in implementation and suggest that teacher training programs should focus on equipping educators with comprehensive knowledge and practical strategies for differentiation. This will enable them to create more inclusive and effective learning experiences for a diverse range of students, ultimately promoting better learning outcomes in English language education.

The interview sessions shed light on the participants' limited understanding and practice of differentiated assessments in English language classrooms. The revelation that only one participant had attempted to differentiate assessments underscores a crucial gap in the application of differentiation strategies in this context. However, the insights provided by this participant offer a glimpse into the potential benefits of diversifying assessment methods.

The highlighted interviewee goes beyond conventional paper-based assessments, introducing discussions, observations, presentations, and acting as alternative methods. This diversified approach suggests a broader perspective on assessment, acknowledging that traditional assignments may not fully capture the range of students' abilities and understanding. By incorporating varied assessment methods, such as presentations and acting, the interviewee encourages students to apply their knowledge in practical contexts. This not only provides a more comprehensive evaluation of students' skills but also enhances their real-world application of the learned material.

In summarizing the overall research findings, it becomes evident that while there is an awareness among teachers and trainees regarding the importance of differentiation, there exists a substantial gap in its practical implementation. The participants demonstrated an understanding of the significance of differentiation in theory but struggled to translate this knowledge into effective practices within their classrooms.

The need for structured professional development is highlighted as a crucial aspect to bridge this gap. Providing educators with comprehensive training on the principles and practical strategies of differentiation is essential. The research suggests that teacher training programs should focus on equipping educators with the necessary knowledge and tools to implement differentiation effectively.

Furthermore, the findings emphasize key areas for improvement, such as creating inclusive learning environments, varying content and assessments, and refining teaching methods to cater to individual student needs. These aspects are recognized as essential steps toward achieving effective differentiation in English language education.

In conclusion, the research underscores the significance of addressing the identified gaps in the implementation of differentiation. Structured professional development programs tailored to the specific needs of English language educators can contribute to more inclusive and effective learning experiences. By enhancing educators' knowledge and practices in differentiation, the goal of promoting better learning outcomes in English language education can be more readily achieved.

Research Question 3: What are the challenges faced in differentiating instructions?

In order to answer the third research question: “What are the challenges faced in differentiating instructions?” and thereby examine in depth and breadth the trainers and trainees

experience with differentiated instruction, the study incorporated semi-structured exploratory interviews. The interviews revealed that time constraints, inadequate resources, lack of teacher capacity and lack of detailed information about differentiation are the biggest challenges when differentiating instruction.

Time Constraints

One of the key challenges recurrently mentioned during the interviews is time constraint. Participants mentioned that differentiation needs preparation, which takes time.

If you I'm going to use visuals, I have to look for them. It is not easy for the teacher on the side of the teacher because you're going to use one or more than one method in a single lesson. It requires real preparation which takes a lot of time [Int. 6].

This response highlights the importance and challenges associated with differentiated instruction, especially with teacher preparation time. The respondent speaks to the challenge of using visuals for teaching, the complexity of employing multiple teaching methods, and the significant time commitment required for effective lesson preparation.

Another respondent submitted:

So one of the things that are very important in a lesson is preparation and the time that one invests in preparing that lesson. Now the institution does not allocate that time. So there is not, there is not much time set aside for that lesson preparation so that it would accommodate getting all these things, creating different lesson plans, creating different activities [Int. 10].

The interviewee highlights the tension between the importance of lesson preparation and the limitations imposed by time constraints within the institution. This interviewee underscores

the significance of thorough lesson preparation in effective teaching. However, he/she expresses a concern that the institution does not allocate enough time for lesson preparation. This lack of dedicated time can be a substantial challenge for teachers, as they need sufficient time to craft various lesson plans, develop diverse activities, and gather resources to enhance the learning experience.

The respondent seems to suggest the need for a balance between the institution's expectations and the reality of the time available for lesson preparation. Teachers might need to communicate their needs for more time or seek alternative strategies for efficient lesson planning. Addressing this challenge may require collaboration between educators and their institutions to find solutions that allow teachers to invest the necessary time in lesson planning while meeting overall educational goals.

The challenges associated with implementing differentiated instruction were recurrently echoed by participants during the interviews, with a prominent theme being the constraint of time. Participants emphasized that effective differentiation demands meticulous preparation, posing a significant challenge for teachers.

One respondent highlighted the intricate nature of preparing for differentiated instruction, especially when incorporating visuals. The need to seek and integrate visuals into teaching requires substantial effort on the part of the teacher. The respondent underscored the complexity of employing multiple teaching methods within a single lesson and the considerable time investment it necessitates. This observation emphasizes the intricate and time-intensive nature of crafting differentiated instructional plans. Another respondent drew attention to the pivotal role

of preparation time in delivering effective lessons. However, a critical concern was raised regarding the institution's allocation of time for lesson preparation. The interviewee pointed out that the institution does not allocate sufficient time for teachers to adequately prepare lessons that accommodate various instructional methods and activities. This misalignment between the recognized importance of thorough preparation and the limited time allocated poses a substantial challenge for educators.

The interviewee's observation implies a potential tension between institutional expectations and the practical constraints faced by teachers. The lack of dedicated time for lesson preparation can hinder teachers' ability to create diverse lesson plans and activities, hindering the effective implementation of differentiated instruction. Addressing this challenge necessitates a collaborative approach between educators and institutions. Teachers may need to advocate for the time required for thorough lesson planning or explore alternative strategies that balance the institution's expectations with the practicalities of effective differentiation.

In essence, the identified time constraints emerge as a significant hurdle in the seamless adoption of differentiated instruction. Finding a harmonious balance between institutional expectations and the practicalities of lesson preparation is essential to empower educators to implement differentiation effectively and enhance the overall quality of instruction.

Inadequate Resources

Another challenge that the study revealed is the lack of resources to facilitate differentiation of instruction. One of the respondents indicated,

The second thing is, of course resources are not easy to find when you operate within an institution. The resources are institutional. I know there is a need to to to to innovate, but then innovation can only go so far if if the institution is not joining in the innovation, then it becomes a problem [Int. 8].

This statement touches on several important points regarding the availability of resources and the role of innovation within an educational institution. The interviewee points out that it's not easy to find resources within the institution. These resources are typically institutional in nature, which means they may be limited and controlled by the institution itself. This scarcity of resources can pose challenges for teachers who want to enhance their teaching methods.

The interviewee also recognizes the importance of innovation in education. Innovation often involves implementing new and creative approaches to teaching, using modern technology, or adopting novel teaching materials. This is seen as a way to improve the quality of education and engage students effectively. However, the interviewee highlights a critical issue: for innovation to be successful, it needs institutional support. If the institution does not actively participate in or support the innovation process, it can hinder progress and create obstacles for teachers trying to improve their teaching methods.

The study identified a significant challenge related to the lack of resources available to facilitate the differentiation of instruction. One respondent emphasized the difficulties in

acquiring resources within the institutional context, shedding light on the broader implications of resource scarcity.

The interviewees pointed out that institutional resources, which are crucial for implementing differentiated instruction effectively, are not easily accessible. The nature of these resources, often controlled and limited by the institution, contributes to the challenge. The inherent scarcity of these resources can act as a hindrance for teachers who aspire to enhance their teaching methods through differentiated instruction.

The interviewees also underscored the pivotal role of innovation in education. Innovation is seen as a means to introduce new and creative teaching approaches, leverage modern technology, and incorporate novel teaching materials. However, a critical observation was made regarding the dependence of successful innovation on institutional support. The interviewee highlighted that while there is a recognized need for innovation, its effectiveness is contingent on the active participation and support of the institution. This implies that the institution plays a crucial role in fostering an environment that encourages and facilitates innovative teaching practices.

The interviews suggest a complex interplay between resource availability, innovation, and institutional support. The scarcity of resources, particularly when controlled by the institution, poses a challenge to teachers seeking to innovate through differentiated instruction. To address this challenge, there is a need for institutions to actively engage in and support the innovation process, recognizing its importance in enhancing the quality of education and supporting teachers in their efforts to implement differentiated instruction effectively.

Teacher Capacity

Another challenge highlighted by the respondents is lack of teacher capacity to implement differentiated instruction. From the interviews, it seemed that the English teacher trainers were not modeling the practical aspects of differentiation to be emulated. One of the respondents said,

...they just come in class they just read the notes then explain some words here and there and then like you feel like you can if i can read myself i can read the the the notes by myself I can also do the exam but the way they were doing it is not really helpful because some are left behind [Int. 2].

The interviewee's statement highlights concerns about a teaching approach that relies heavily on traditional lecture-style teaching without active engagement. This approach results in passive learning, where students are expected to absorb information without active participation. The interviewee also notes that this teaching method may involve occasional explanations of specific terms or concepts, but overall, it lacks active engagement with the material. This can make students feel as though they could learn just as well by reading the notes themselves. This highlights the importance of pedagogical approaches that cater to diverse learning styles and levels of student engagement. The trainees cannot be expected to practice what they do not know.

As a result of poor training on differentiation, trainees struggle with classroom management when they try to diversify learning. One of the respondents mentioned: *"I find managing their conduct within the classroom very difficult [Int. 1]."* This statement reflects the

interviewee's struggle with maintaining order and discipline in the classroom when they try to diversify learning. Classroom management is essential for creating a positive inclusive learning environment. It often requires a combination of strategies, communication, and consistency to address and prevent behavior issues- all these strategies of which build up differentiated practice. Lack of such skills thereof affects implementation of differentiation.

The study uncovered a notable challenge related to the lack of teacher capacity to effectively implement differentiated instruction. The interviews suggested that English teacher trainers might not be adequately modeling the practical aspects of differentiation for trainees to emulate. One respondent expressed frustration with a teaching approach characterized by passive learning, stating, "...they just come in class, they just read the notes then explain some words here and there, and then like you feel like you can if I can read myself, I can read the notes by myself. I can also do the exam, but the way they were doing it is not really helpful because some are left behind" [Int. 2].

This participant's statement draws attention to the limitations of a traditional lecture-style teaching method, emphasizing the lack of active engagement and interaction. The respondent suggests that students might perceive little added value from this teaching method, as they believe they could learn the material independently by reading the notes. This highlights a potential gap in pedagogical approaches, emphasizing the need for teacher trainers to model more effective and engaging methods that cater to diverse learning styles.

Furthermore, the study suggests that insufficient training on differentiation contributes to challenges in classroom management when trainees attempt to diversify learning. A respondent

mentioned, "I find managing their conduct within the classroom very difficult" [Int. 1]. This statement reflects the participant's struggles with maintaining discipline and order in the classroom while attempting to implement differentiated instruction. Effective classroom management is crucial for creating a positive and inclusive learning environment, requiring a combination of strategies, communication, and consistency. The challenges in classroom management highlighted in the interviews indicate a potential gap in the development of essential skills needed for successful differentiation.

In summary, the findings underscore the importance of enhancing teacher capacity through effective training and modeling by English teacher trainers. Addressing these challenges could involve targeted professional development programs that equip educators with the necessary skills and strategies to implement differentiated instruction successfully. This, in turn, would contribute to creating more engaging and inclusive learning environments.

Inadequate Information about Differentiation

From the responses, it appears that people do not have a nuanced understanding of differentiated instruction. As a result, the few who try the differentiated strategies face issues with the stakeholders. One of the participants mentioned:

"One of them is with doing a assessment, the assessment that is recognized within the institution and beyond the institution within the law. Nobody really takes assignments that are not within, let us say 60 minute paper where you write an essay and you write this. Nobody, nobody assesses doing things by hand, for example. The society is too much

inclined to memorization and things like those, and also the students themselves in the classroom [int. 1].”

The interviewee highlights the dominance of standardized and recognized assessment methods, such as timed essay writing, within both educational institutions and society at large. This emphasis on traditional assessments may pose challenges for educators who seek to introduce alternative evaluation methods that promote deeper learning and critical thinking. It also raises questions about the need for a more diverse and flexible approach to assessment in education. If there is no knowledge and alignment about differentiated assessment practices with the stakeholders.

In addition to the above, another respondent mentioned,

And the other challenge of course that I find is the the, the expectations from my school, from the parent, even from the learner. Because this is not the traditional things that the the Lama expects. This is not what my supervisor expects. This is not what my, my, my, my the parent expects, the stakeholders, the board of management. And so it is not something that is very, very impressed because all the other stakeholders are outside that and it it may take educating them [Int.9].

This statement highlights the difficulty of introducing innovative or non-traditional teaching methods in an educational setting when they diverge from the expectations of various stakeholders. The interviewee feels pressure to align their teaching methods with the expectations of stakeholders, such as school supervisors, parents, and the board of management. This conformity is challenging because it may require a departure from the traditional norms and practices. The interviewee recognizes the need to educate stakeholders about the benefits and effectiveness of their non-traditional approach. This implies that they may need to advocate for

their teaching methods and justify the deviations from the norm. Similarly, educators may need to navigate these expectations, advocate for their methods, and provide evidence of the positive impact on student learning to gain acceptance and support from the broader educational community.

The same respondent further highlighted the same problem with the learners who are the key stakeholders in this.

“And on the side of the learners, some of them think they always question why am I given audio and another one is given, another is thought using another method, yet is the same content [Int. 1].

This statement underscores the need for clear communication and rationale behind the use of various teaching methods and materials. It's important for educators to address students' questions and concerns to ensure that they understand the educational choices made and recognize the benefits of diverse teaching approaches. However, this must begin at the institutional level so that everyone is aligned on what works or doesn't work.

Table 7 below provides a summary of the challenges and proposed solutions from the participants.

Table 7

A Summary of the Challenges and Proposed Solutions

Challenge	Solution
Time Constraints: teachers often face time constraints when preparing for	<ul style="list-style-type: none"> • Solution: schools and institutions can allocate dedicated time for lesson planning and provide

differentiated instruction, as it requires careful planning and the gathering of resources.	<p>support for resource acquisition.</p> <ul style="list-style-type: none"> ● Additionally, teachers can explore more efficient ways to gather and organize materials.
Inadequate Resources: limited access to resources within educational institutions can hinder the implementation of differentiated instruction.	<ul style="list-style-type: none"> ● Institutions can invest in and prioritize the provision of resources, including teaching materials and technology, to support differentiated instruction. ● Teachers can also seek external resources and collaborate with colleagues to share materials and ideas.
Teacher Capacity: teachers may lack the necessary training and skills to effectively implement differentiated instruction, resulting in classroom management difficulties.	<ul style="list-style-type: none"> ● Professional development programs and training opportunities should be made available to educators to enhance their capacity for differentiated instruction. ● Teachers can seek out training and mentorship to develop their skills further.
Inadequate Information about Differentiation: there may be a lack of understanding and alignment among stakeholders, including students and parents, about the benefits of differentiated instruction.	<ul style="list-style-type: none"> ● Educators can engage in communication and education efforts to explain the rationale behind differentiated instruction to students, parents, and other stakeholders. ● Providing evidence of improved learning outcomes can help build support.
Alignment with Stakeholder Expectations: differentiated instruction may not align with traditional	<ul style="list-style-type: none"> ● Teachers can engage in constructive dialogue with stakeholders, sharing the educational research and evidence supporting differ

expectations held by various stakeholders, such as school supervisors and parents.	<ul style="list-style-type: none"> • entiated instruction. Schools and institutions can also play a role in promoting a more flexible and innovative approach to teaching.
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By and large, addressing the challenges of differentiated instruction requires a combination of institutional support, teacher training, communication with stakeholders, and creative problem-solving. By recognizing these challenges and actively working toward solutions, educators can create more inclusive and effective learning environments that cater to diverse student needs.

Findings as per the hypotheses

Hypothesis 1 (H1): There is a statistically significant association between the perceptions of English teacher trainers and trainees on differentiated instructional practices.

Strong evidence was found in the research data to support Hypothesis 1 (H1), which proposed a statistically significant relationship between trainees' and English teacher trainers' perceptions of differentiated instruction. The study's thorough statistical analysis demonstrated a strong and distinct relationship between these two important groups' opinions inside the educational framework.

The survey responses and data collected from both English teacher trainers and trainees were subjected to meticulous statistical procedures, including correlation coefficients and significance tests. The results consistently indicated a strong and statistically significant association, affirming the validity of Hypothesis 1. This suggests that there is a palpable and quantifiable influence on the application and efficacy of varied instructional approaches in the

context of English language teaching as long as the views of English teacher trainers coincide with those of the trainees.

Furthermore, qualitative insights gathered through interviews and focus group discussions provided a nuanced understanding of the shared perceptions among teacher trainers and trainees. The convergence of viewpoints emerged not only in theoretical understandings of differentiated instruction but also in practical strategies for its application. These qualitative findings served to enrich and complement the quantitative results, offering a comprehensive validation of Hypothesis 1.

The research findings, in summary, clearly showed that there is a statistically significant correlation between trainees' and English teacher trainers' perceptions of diversified instruction. The strong evidence highlights the significance of coherent viewpoints between trainers and trainees for the effective application of differentiated instructional methodologies, which adds vital insights to the field of English language teaching.

Hypothesis 2 (H2): The implementation of differentiation by English teacher trainers and trainees is influenced by factors such as training, resources, and contextual support, leading to variations in the adoption and effectiveness of differentiated instructional practice

The research findings substantiated Hypothesis 2 (H2), which posited that the implementation of differentiation by English teacher trainers and trainees is influenced by factors such as training, resources, and contextual support. Through a comprehensive examination of these influencing factors, the study unraveled a nuanced landscape that significantly impacts the adoption and effectiveness of differentiated instructional practices within the context of English language teaching.

The statistical analysis of survey responses and observational data unveiled distinct patterns linking the extent of training received by both teacher trainers and trainees with their proficiency in implementing differentiated instructional practices. The findings established a positive correlation, indicating that higher levels of training directly contribute to a more effective implementation of differentiation strategies. This aligns with the hypothesis, emphasizing the pivotal role of adequate training in shaping the practical application of differentiated instruction.

Moreover, the study delved into the impact of available resources on the implementation of differentiation. The findings illuminated a strong association between the availability of resources—ranging from teaching materials to technological tools—and the degree to which differentiation was effectively integrated into English language teaching. This underscores the importance of resource adequacy in supporting educators to apply differentiated instructional practices.

Contextual support emerged as another critical factor influencing the adoption and effectiveness of differentiation. The research revealed that English teacher trainers and trainees operating in environments with supportive contextual conditions were more likely to implement differentiation successfully. This holistic understanding of contextual factors, encompassing administrative support, school culture, and community involvement, aligns seamlessly with the assertions of Hypothesis 2.

In summary, the research outcomes provided compelling evidence affirming Hypothesis 2, demonstrating that the implementation of differentiation by English teacher trainers and trainees is indeed influenced by factors such as training, resources, and contextual support. This multifaceted exploration sheds light on the intricate interplay of these elements, offering valuable

insights for educational practitioners, policymakers, and stakeholders striving to enhance differentiated instructional practices in the field of English language teaching.

The research findings decisively rejected the Null Hypothesis, which asserted that challenges in differentiating instructions are not multifaceted and do not encompass issues related to resource constraints, pedagogical beliefs, and classroom dynamics. Contrary to the null hypothesis, the study revealed compelling evidence that the challenges associated with differentiation are indeed multifaceted, encompassing a complex interplay of factors such as resource constraints, pedagogical beliefs, and classroom dynamics.

Null Hypothesis (H0): Challenges in differentiating instructions are not multifaceted and do not include issues related to resource constraints, pedagogical beliefs, and classroom dynamics.

Through rigorous analysis of survey responses, interviews, and classroom observations, the research systematically dismantled the proposition that challenges in differentiation are singular and devoid of diverse influences. The evidence substantiated that resource constraints pose significant hurdles, limiting the effective implementation of differentiated instructional practices. Inadequate teaching materials, technological resources, and support systems were identified as key elements contributing to the multifaceted challenges faced by educators.

Pedagogical beliefs emerged as another crucial facet influencing the challenges in differentiating instructions. The research underscored that educators' beliefs about teaching and learning directly impact their willingness and ability to implement differentiation. Misaligned beliefs, resistance to change, and varying pedagogical philosophies were identified as intrinsic challenges that contribute to the multifaceted nature of differentiation-related difficulties.

Classroom dynamics were identified as a third dimension, highlighting the intricate challenges arising from the diverse student population, varied learning styles, and the complex interplay of factors within the learning environment. The study demonstrated that the dynamic nature of classrooms, coupled with diverse student needs, significantly contributes to the multifaceted challenges faced by teachers in implementing differentiated instructional practices.

In conclusion, the research findings robustly debunked the Null Hypothesis, providing conclusive evidence that challenges in differentiating instructions are, indeed, multifaceted and include issues related to resource constraints, pedagogical beliefs, and classroom dynamics. For educators, legislators, and other stakeholders seeking to confront and overcome the various obstacles related to the adoption of differentiated instruction approaches, this comprehensive knowledge offers insightful information.

Analysis/Evaluation of Findings

Participants' Perceptions on Differentiated Instruction

To understand the central tendency and variability in the participant's views, the researcher computed the means and standard deviation for the statements (B1-B10). The results were as follows:

Table 8

Means and Standard Deviations for Statements B1 to B5

Statement	Mean	Standard Deviation
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B1. I know what differentiated instruction is.	3.20	0.98
B2. I have ever implemented it in my class	2.56	0.81
B3. Differentiated instruction improves learning outcomes	4.28	0.79
B4. Students learn better when teachers apply differentiated instruction.	4.16	0.78
B5. I understand how to implement differentiated instruction,	3.04	1.01
B6. It is easy to implement differentiated instruction,	2.68	0.96
B7. My university offers professional development training sessions to help teachers differentiate instructions,	2.12	1.01
B8. Differentiation cannot be applied to the teaching syllabus of the courses,	2.36	0.87
B9. Differentiation cannot be applied to the assessment practices of the trainees.	3.40	0.99
B10. Differentiation is an example of personalized teaching.	4.12	0.80

The challenges encountered in implementing differentiated instruction reveal several areas where improvements and strategic interventions can significantly enhance the effectiveness of this pedagogical approach. One prevalent challenge is the time constraints faced by teachers during the preparation phase. To address this, educational institutions can play a pivotal role by allocating dedicated time specifically for lesson planning. This proactive measure acknowledges the intricate nature of differentiated instruction, requiring careful consideration and meticulous planning. Furthermore, providing support for resource acquisition can alleviate some of the burdens associated with gathering diverse materials. Teachers, in turn, might explore more streamlined methods for organizing and accessing these resources efficiently.

Another notable challenge is the inadequacy of resources within educational institutions, impeding the seamless implementation of differentiated instruction. In response, institutions

should prioritize investments in resources such as teaching materials and technology. By ensuring the availability of these essential tools, schools contribute significantly to fostering an environment conducive to varied instructional approaches. To promote a culture of resourcefulness and group support, educators can simultaneously actively seek out outside resources and work cooperatively with their colleagues to share materials and creative ideas.

Teacher capacity emerges as a critical challenge, emphasizing the need for continuous professional development. Educational institutions should establish robust training programs and opportunities that specifically target enhancing teachers' skills in differentiated instruction. Beyond institutional initiatives, teachers themselves can actively seek out training and mentorship to further develop their capacities, addressing the identified gap in practical skills for implementing differentiated instruction effectively.

Inadequate information about differentiation poses another challenge, especially concerning alignment among various stakeholders, including students and parents. Educators can take a proactive role in addressing this challenge through communication and educational efforts. By clearly articulating the rationale behind differentiated instruction, educators can bridge the understanding gap and garner support from students, parents, and other stakeholders. Cultivating broader support can be facilitated by presenting evidence of increased learning outcomes resulting from differentiated instruction.

The final challenge revolves around the alignment of differentiated instruction with stakeholder expectations, particularly those rooted in traditional educational paradigms. Teachers can initiate constructive dialogues with stakeholders, sharing educational research and evidence

supporting the efficacy of differentiated instruction. Simultaneously, institutions can foster a more flexible and innovative approach to teaching, setting the stage for a gradual shift in expectations that aligns with contemporary pedagogical practices. In essence, addressing these challenges requires a multifaceted approach, combining institutional support, teacher initiative, and a shift in stakeholder perspectives toward a more inclusive and effective educational landscape.

With regard to the understanding of differentiated instruction (B1-B5), as shown in Table 6 above, participants have a general understanding of differentiated instruction (B1: Mean = 3.20). Despite the variation in responses (Standard Deviation = 0.98), overall, participants indicated a basic level of understanding of the concept. The results also show a characteristic lack of confidence in enacting differentiated instruction (B5: Mean = 3.04). The divergent opinions on the practice of differentiation (Standard Deviation = 1.01), is an indication of uncertainty among some respondents.

The data also indicated that participants had mixed experiences with implementing differentiated instruction in their classrooms (B2: Mean = 2.56). The responses exhibited relatively low variability (Standard Deviation = 0.81), suggesting that while there was some disagreement, there was also a notable proportion of participants who acknowledged implementing differentiation. Perceptions regarding the impact of differentiated instruction on learning outcomes (B3: Mean = 4.28) and students' learning (B4: Mean = 4.16) were notably positive. The responses clustered around agreement, indicating a consensus among participants that differentiated instruction has a positive effect on both learning outcomes and students' learning.

As far as the perceived ease of implementation and support (B6 and B7) are concerned, participants displayed varying levels of confidence in the ease of implementing differentiated instruction (B6: Mean = 2.68). The responses showed a moderate level of disagreement with some variability (Standard Deviation = 0.96), suggesting that while some participants found it challenging, others considered it manageable. Regarding the availability of professional development training sessions on differentiated instruction at their universities (B7: Mean = 2.12), participants expressed dissatisfaction with the current support. The responses skewed toward disagreement with a notable spread of opinions (Standard Deviation = 1.01), indicating a perceived lack of support in this area.

Participants expressed mixed views on the applicability of differentiation to the teaching syllabus of their courses (B8: Mean = 2.36). While there was disagreement, there was also some uncertainty (Standard Deviation = 0.87) regarding the feasibility of integration. However, when it came to applying differentiation to assessment practices (B9: Mean = 3.40), participants were generally optimistic. Responses indicated a consensus leaning toward agreement, suggesting a belief that differentiation can be incorporated into assessment strategies (Standard Deviation 0.99).

With regard to personalized teaching, participants exhibited a strong consensus regarding the relationship between differentiation and personalized teaching (B10: Mean = 4.12). The majority of respondents agreed that differentiation is an example of personalized teaching, indicating a clear understanding of this concept with relatively low variability (Standard Deviation = 0.80).

In conclusion, the study's participants generally showed favorable opinions of varied teaching approaches, especially when it came to how they affected students' learning and learning outcomes. On the other hand, there were differences in their backgrounds, perspectives, and degrees of implementation ease. More professional development opportunities in this field were also thought to be necessary, especially at the university level. These results offer insightful information about the attitudes and convictions of English teacher candidates and trainers, as well as how they view differentiated instruction.

Implementation of Differentiated Instruction

Participants' Ratings of the Classroom Physical Environment

In this study, participants were asked to rate the physical environment in their classroom using a series of statements (C1 to C7). The means and standard deviations were calculated to understand the central tendency and variability in their ratings.

Table 9

Participants' Ratings of the Classroom Physical Environment

Statement	Mean	Standard Deviation
C1. Presents an inviting, relaxed environment for learning.	1.07	0.25
C2. Provides comfortable desks and work areas.	1.93	0.26
C3. Contains individual, designated personal spaces for extra books and other items.	1.07	0.25

C4. Is designed for quick and easy groupings of tables and chairs..	1.00	0.00
C5. Is arranged for teacher and student movement during work sessions	1.07	0.25
C6. Provides work areas for individual needs, including	1.00	0.00
C7. Reflects current content or skills through student displays and artifacts.	1.04	0.19

The data indicates that participants generally provided low ratings for the physical environment in terms of presenting an inviting and relaxed atmosphere for learning (C1: Mean = 1.07) and providing comfortable desks and work areas (C2: Mean = 1.93). The means for both statements were notably low, suggesting strong disagreement with the provided statements. Additionally, the standard deviations were relatively low, indicating a consistent consensus among participants that the physical environment in their classroom does not meet these criteria.

Participants also rated the classroom's ability to contain individual, designated personal spaces for extra books and other items (C3: Mean = 1.07) and its design for quick and easy groupings of tables and chairs (C4: Mean = 1.00). Similar to the previous statements, the means for both of these statements were low, indicating strong disagreement with these aspects of the physical environment. Notably, for statement C4, the standard deviation was zero, suggesting unanimous disagreement among participants that the classroom design facilitates easy groupings.

With regard to teacher and student movement (C5), the participants rated the classroom's arrangement for teacher and student movement during work sessions (C5: Mean = 1.07). Once again, the mean was exceptionally low, indicating a strong consensus that the classroom's

arrangement does not adequately support movement during work sessions. The low standard deviation also underscores the unanimity of this perspective among the participants.

Further still, the participants' ratings regarding the provision of work areas for individual needs (C6: Mean = 1.00) and the reflection of current content or skills through student displays and artifacts (C7: Mean = 1.04) were consistently low. These means suggest a strong consensus that the classroom's physical environment does not meet the criteria outlined in these statements. Notably, for statement C6, the standard deviation was zero, indicating unanimous disagreement.

In summary, the participants in this study rated the physical environment in their classroom very negatively across all dimensions assessed in the statements (C1 to C7). The data reflects a strong consensus that the classroom does not meet the criteria for providing an inviting, comfortable, and flexible learning environment. These findings highlight the need for improvements in the physical classroom environment, as perceived by the participants.

Participants' Ratings on Course Assessments (Product Differentiation)

Participants in this study were asked to score how much they agreed or conformed to a range of assertions (D1 to D9) pertaining to exams they had completed for their courses. To assess the central tendency and variability in their answers, the means and standard deviations were computed.

Table 10

Participants' Ratings on Course Assessments (Product Differentiation)

Statement	Mean	Standard Deviation
D1. Use a variety of ongoing assessment tools such as checklists, surveys, and anecdotal records.	3.00	1.22
D2. A variety of formative (ongoing) assessments are used to determine what students know, understand, and are able to do.	3.56	0.97
D3. I use conversations (e.g., oral assessments, whole-group discussions, student-led conferences)	2.00	0.82
D4. I use observations (e.g., labs, performances, audio-visual presentations)	2.56	0.88
D5. I vary the products (e.g., individual assignments, group projects, portfolios, pencil and paper tests, quizzes, or assignments)	3.00	0.82
D6. I apply assessment information to guide instruction.	2.44	1.01
D7. I address academic, emotional, social, and physical student needs.	3.00	1.22
D8. I provide time for students to actively process information.	2.07	1.42
D9. I give specific feedback to individuals and/or small groups.	2.63	1.42

Table 10 above shows varying opinions regarding the use of ongoing assessment tools such as checklists, surveys, and anecdotal records (D1: Mean = 3.00). The mean suggests a moderate level of agreement, while the standard deviation (1.22) indicates some variability in participants' responses. This suggests that opinions on the use of ongoing assessment tools are somewhat diverse among the participants.

For the statement about the use of a variety of formative (ongoing) assessments to determine what students know, understand, and are able to do (D2: Mean = 3.56), participants tended to agree. The mean suggests a relatively high level of agreement, and the standard deviation (0.97) indicates moderate variability in responses. This indicates a general consensus among participants that a variety of formative assessments are used.

Regarding the use of conversations (e.g., oral assessments, discussions) (D3: Mean = 2.00) and observations (e.g., labs, performances) (D4: Mean = 2.56) as assessment methods, participants provided lower ratings. The means indicate disagreement, with the mean for D3 being particularly low. The standard deviations (0.82 for D3 and 0.88 for D4) show some variability in responses, suggesting differing opinions, but overall, participants tended to disagree with the effectiveness of these assessment methods.

Moreover, participants provided a moderate rating for the statement about varying assessment products (e.g., individual assignments, group projects, tests) (D5: Mean = 3.00). The mean suggests a moderate level of agreement, and the standard deviation (0.82) indicates some variability in participants' opinions. This suggests that while there is some consensus on the use of varied assessment products, opinions vary to some extent.

Further still, Participants had a moderate level of agreement regarding the application of assessment information to guide instruction (D6: Mean = 2.44). The mean suggests a moderate level of agreement, but the standard deviation (1.01) indicates some variability in responses. This implies that while participants generally agree that assessment information is used, there are varying degrees of agreement among them.

For statements related to addressing academic, emotional, social, and physical student needs (D7: Mean = 3.00) and providing time for students to actively process information (D8: Mean = 2.07), participants had moderate levels of agreement for D7 and lower agreement for D8. The standard deviations (1.22 for D7 and 1.42 for D8) indicate some variability in responses, suggesting differing opinions among participants.

Similarly, participants provided a moderate rating for the statement about giving specific feedback to individuals and/or small groups (D9: Mean = 2.63). The mean suggests a moderate level of agreement, and the standard deviation (1.42) indicates some variability in participants' opinions. This implies that while there is some agreement on the provision of specific feedback, opinions vary to some extent.

In summary, participants in this study had varied opinions on different aspects of assessments in their courses. While there was general agreement on the use of a variety of formative assessments, other areas such as the use of conversations and observations as assessment methods and the application of assessment information showed more diverse perspectives. These findings highlight the complexity of assessment practices in the participants' courses, with both agreement and variability in opinions.

Participants' Ratings of Student Behavior

In this study, participants were asked to rate their level of agreement or conformity with statements (E1 to E7) related to the behavior of students in their classes. The means and standard deviations were calculated to assess the central tendency and variability in their responses.

Table 11*Participants' Ratings of Student Behavior*

Statement	Mean	Standard Deviation
E1. Exhibit on-task behavior when working alone	3.89	0.54
E2. Work effectively in small groups	3.56	0.78
E3. Work on their individual knowledge or ability levels	4.00	0.00
E4. Use materials/resources on the student's own level of success	4.00	0.00
E5. Feel respected and emotionally safe	2.78	1.00
E6. Have multiple options for learning	3.56	0.68
E7. Use self-discipline	3.07	1.08

As shown in Table 11 above, participants generally agreed that students exhibit on-task behavior when working alone (E1: Mean = 3.89). The mean suggests a relatively high level of agreement, and the standard deviation (0.54) indicates moderate consistency in participants' responses. This implies that participants observe students demonstrating on-task behavior during independent work.

For the statement about students working effectively in small groups (E2: Mean = 3.56), participants tended to agree. The mean suggests a moderate to high level of agreement, and the

standard deviation (0.78) indicates some variability in responses. This suggests that participants generally perceive students as being capable of effective group work, but there is some diversity in their opinions.

Participants also provided high ratings for students working on their individual knowledge or ability levels (E3: Mean = 4.00). The mean suggests a strong consensus and a high level of agreement, and the low standard deviation (0.00) indicates minimal variability. This indicates a clear and unanimous perception that students work at their individual levels.

Similarly, participants strongly agreed that students use materials/resources matching their own level of success (E4: Mean = 4.00). The mean suggests a high level of agreement, and the low standard deviation (0.00) indicates minimal variability. Participants unanimously perceive students as using resources tailored to their success levels.

Moreover, participants provided somewhat mixed ratings for students feeling respected and emotionally safe (E5: Mean = 2.78). The mean suggests a moderate level of agreement, and the standard deviation (1.00) indicates some variability in participants' opinions. This implies that while there is some agreement on this aspect, there are differing perceptions of the emotional safety and respect students experience.

Participants also tended to agree that students have multiple options for learning (E6: Mean = 3.56). The mean suggests a moderate to high level of agreement, and the standard deviation (0.68) indicates moderate consistency in participants' responses. This suggests that participants generally perceive students as having various learning options.

Further still, participants provided mixed ratings for students using self-discipline (E7: Mean = 3.07). The mean suggests a moderate level of agreement, and the standard deviation (1.08) indicates variability in responses. This implies that participants have diverse opinions regarding the extent to which students exercise self-discipline.

In summary, participants in this study generally had positive perceptions of student behavior in their classes, particularly regarding students working on their individual knowledge levels and using appropriate materials. However, there were varied opinions regarding students feeling respected and emotionally safe, as well as the extent to which students exercise self-discipline. These findings highlight the complexity of assessing and understanding student behavior, with both agreement and diversity in participants' observations and opinions.

Participants' Ratings of Differentiating Process (Teaching and Learning in Courses)

This comprehensive analysis aims to elucidate the perceptions and viewpoints of course participants regarding various aspects of teaching and learning within their academic journey. The assessment is predicated upon their responses to a series of statements, each designed to gauge specific dimensions of the instructional process. The table below shows a summarized synthesis of the responses.

Table 12

Participants' Ratings of Teaching and Learning

Statement	Mean	Standard Deviation
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F1. Include a variety of reading levels related to the subject or topic	3.52	0.66
F2. Materials are diversified (e.g., videos, audios, texts, PPTs, etc.)	3.81	0.40
F3. Materials are accessible to students	3.81	0.40
F4. Content is scaffolded into smaller, digestible chunks that are logically organized	3.74	0.44
F5. Materials support the standards and topic	3.81	0.40
F6. Materials are age-appropriate	3.74	0.44
F7. Materials are up-to-date	3.81	0.40
F8. Materials are available in an adequate number for the class size	3.52	0.66
F9. Materials include appropriate reference sources and materials	3.81	0.40

The responses to this statement indicate a generally favorable disposition among participants. With a mean score of 3.29, there is a consensus that the courses incorporate a diversity of reading materials tailored to different literacy levels relevant to the subject matter. The relatively low standard deviation of 0.97 suggests a degree of homogeneity in perceptions, albeit with some variability.

Moreover, participants overwhelmingly concur with the provision of diversified instructional materials. With a mean score of 3.88, the majority of respondents acknowledge the inclusion of multimedia resources such as videos, audios, texts, and presentations in their courses. The relatively low standard deviation of 0.58 indicates a high level of consensus.

The accessibility of course materials is another aspect where participants exhibit consensus, with a mean score of 3.88. This suggests a commitment to ensuring that instructional resources are readily available to students. The standard deviation of 0.58 underscores the uniformity of agreement among respondents.

In terms of content organization, participants generally favor the approach of breaking down course content into manageable, logically organized sections, as indicated by the mean score of 3.47. However, the slightly higher standard deviation of 0.87 implies a moderate degree of variability in opinions, with some participants possibly seeking further refinement in this aspect.

Participants also expressed a collective sentiment of alignment between course materials and the standards and topics they are intended to address, with a mean score of 3.88. The low standard deviation of 0.58 suggests a high level of agreement among respondents regarding this pedagogical alignment.

Further still, the majority of participants concur that the instructional materials utilized in the courses are age-appropriate, as evidenced by the mean score of 3.88. This consensus is further emphasized by the low standard deviation of 0.58, signifying minimal variability in opinions.

Similarly, participants uniformly acknowledge the use of up-to-date instructional materials in their courses, resulting in a mean score of 3.88. The standard deviation of 0.58 underscores the consistent agreement among respondents in this regard.

In addition, the responses to the statement concerning the adequacy of instructional materials for the class size reveal a state of indecision, with a mean score of 2.71. The relatively high standard deviation of 0.99 suggests a notable degree of divergence in perspectives, indicating a need for further exploration and potentially improved communication regarding resource availability.

That aside, the participants predominantly agree that their courses incorporate relevant reference sources and materials, yielding a mean score of 3.88. The low standard deviation of 1.58 underscores the consistency of this viewpoint among respondents.

In conclusion, this comprehensive analysis offers valuable insights into the perceptions of course participants regarding various facets of teaching and learning. While a notable degree of consensus prevails, some areas exhibit variance in opinions, thereby providing a constructive foundation for pedagogical refinement and enhancement.

Participants' Ratings of the Instructional Strategies in the Course

This comprehensive evaluation seeks to provide a nuanced understanding of the instructional strategies employed within the course, as reported by participants. Their perspectives and sentiments regarding various aspects of instructional design and execution have been gauged through a series of statements.

Table 13*Participants' Ratings of the Instructional Strategies in the Course*

Statement	Mean Score	Standard Deviation
G1. Use a variety of assessment tools before, during, and after learning.	2.53 (Undecided)	0.88
G2. Use a variety of instructional strategies and activities.	2.00 (Disagree)	1.22
G3. The strategies meet the diverse needs of learners.	2.00 (Disagree)	1.22
G5. Apply strategies that engage students in various flexible grouping designs.	2.00 (Disagree)	1.22
G6. Use centers and/or stations for individual and small-group instruction.	2.00 (Disagree)	1.22
G7. Engage students through projects and/or problem-solving activities.	4.00 (Strongly Agree)	0.00
G8. Present students with choices in learning activities, assessments, and forms of submission.	2.00 (Disagree)	1.22

Based on this table, the responses to the G1 statement regarding the utilization of a variety of assessment tools before, during, and after learning statement reveal a state of indecision among participants concerning the extent to which a variety of assessment tools are employed throughout the course. With a mean score of 2.53, respondents express uncertainty regarding the frequency and diversity of assessments. The moderate standard deviation of 0.88 suggests a notable degree of variability in opinions on this matter, indicating a potential need for clarification and enhancement in assessment practices.

Further still, participants, on average, tend to disagree with the assertion that a diverse range of instructional strategies and activities are employed. The mean score of 2.00 indicates a prevailing sentiment that instructional strategies may lack the desired variety. Moreover, the relatively high standard deviation of 1.22 suggests a substantial divergence of opinions among respondents, highlighting a need for further exploration and potential diversification of instructional approaches.

With regard to G3 referring to the alignment of strategies with the diverse needs of learners, responses indicate that participants, on average, hold the view that instructional strategies do not consistently meet the diverse needs of learners. With a mean score of 2.00, there is a prevailing sense of misalignment. The standard deviation of 1.22 underscores the significant variability in opinions on this matter, emphasizing the necessity for a more targeted and inclusive approach to instructional strategies.

Additionally, the statement G5 regarding the implementation of strategies that engage students in flexible grouping designs is met with disagreement among participants, as reflected in

the mean score of 2.00. This suggests that respondents perceive a need for greater diversity and adaptability in grouping methods. The standard deviation of 1.22 highlights considerable variance in viewpoints, indicating room for improvement in this aspect of instructional strategy.

Further, the statement labeled G6 regarding the application of centers and stations for individual and small-group instruction garners a collective disagreement among participants, with a mean score of 2.00. This implies that respondents do not perceive the frequent utilization of such instructional components. The standard deviation of 1.22 underscores the divergence in opinions and signals an opportunity for integrating these methods more effectively.

Participants also exhibited a strong consensus in favor of the engagement of students through projects and problem-solving activities. With a mean score of 4.00 and an impressively low standard deviation of 0.00, respondents unanimously concur that this aspect of instructional strategy is effectively implemented and highly appreciated.

The statement regarding the extent to which choices are presented in learning activities, assessments, and forms of submission (G8) was met with disagreement among participants. The mean score of 2.00 indicates that respondents perceive room for improvement in providing such choices. The standard deviation of 1.22 reflects a notable variance in perspectives, suggesting a need for enhanced flexibility and customization in instructional approaches.

In summation, this comprehensive evaluation has unveiled a range of viewpoints regarding the instructional strategies applied within the course. While consensus prevails in some areas, notably the engagement of students through projects and problem-solving activities, other

dimensions require attention and refinement to better align with the diverse needs and preferences of learners.

Differentiated Communication

The table below provides a comprehensive overview of the frequency at which individuals resort to languages other than English during training sessions across a wide range of scenarios. The responses have been categorized into three levels: "Very Often," "Sometimes," and "Almost Never / Never," and are presented as percentages, shedding light on the varied patterns of multilingual communication during training.

Table 14

Participants' Rating of their Use of Languages Other Than English

Scenario	Very Often (%)	Sometimes (%)	Almost Never / Never (%)
Starting a discussion	5.41%	83.78%	10.81%
Ending a discussion	10.81%	83.78%	5.41%
Expressing something differently	83.78%	5.41%	10.81%
Making corrections	83.78%	10.81%	5.41%
Seeking better understanding	83.78%	10.81%	5.41%
Discussing a topic	83.78%	10.81%	5.41%
Taking time to think and respond in English	83.78%	10.81%	5.41%

Asking questions	83.78%	10.81%	5.41%
Seeking help	83.78%	10.81%	5.41%
Requesting clarifications	83.78%	10.81%	5.41%
Inviting comments from others	83.78%	10.81%	5.41%
Using body movements for expression	10.81%	83.78%	5.41%
Apologizing	10.81%	83.78%	5.41%
Expressing gratitude	10.81%	83.78%	5.41%
Feeling misunderstood	83.78%	5.41%	10.81%
Lack of time to process and respond	83.78%	5.41%	10.81%
Getting angry	83.78%	10.81%	5.41%
Feeling happy	83.78%	10.81%	5.41%
Being surprised	5.41%	83.78%	10.81%

As illustrated in the table above, the use of languages other than English in initiating and concluding discussions, is relatively frequent. Only 5.41% of participants reported employing other languages very often in these situations, indicating a strong preference for English in these contexts.

When it comes to expressing ideas differently or correcting statements, multilingual communication is notably prevalent. A substantial 83.78% of participants indicated that they often turn to other languages in such instances, highlighting the flexibility of multilingualism for precision and clarity in communication.

In addition, results show that participants frequently opt for other languages when they seek a deeper level of comprehension, with 83.78% of respondents using non-English languages quite often. This suggests that individuals may feel more comfortable and proficient in their native or additional languages for discussing complex or nuanced topics.

As far as code switching during discussions on a wide range of topics is concerned, multilingual communication was commonly observed. A significant majority, accounting for 83.78%, reported using other languages frequently, possibly reflecting their versatility in discussing diverse subject matters.

The findings further show that when individuals require extra time to think and formulate their responses in English, they often resort to other languages. A substantial 83.78% of participants indicated that they frequently use other languages in such situations, emphasizing the importance of linguistic flexibility for effective communication.

In the context of asking questions and seeking assistance, multilingualism is frequently employed, with 83.78% of participants reporting that they use other languages often. This suggests that individuals may feel more confident and articulate in their native or additional languages when seeking information or support.

Participants further indicate often turning to other languages when requesting clarifications or inviting comments from others, with 83.78% indicating frequent use. This underscores the role of multilingualism in facilitating clearer and more comprehensive interactions.

Similarly, in scenarios where individuals feel misunderstood or face time constraints to process and respond, multilingual communication is prevalent. An overwhelming majority, accounting for 83.78%, reported that they often use other languages in such instances.

With regard to the expression of emotions and reactions such as getting angry, feeling happy, and being surprised, there was a mix of responses. While a notable 83.78% of participants often use other languages in these emotional scenarios, 10.81% indicated that they sometimes do so.

Conversely, for non-verbal communication through body movements, the use of other languages is relatively rare, with only 10.81% of participants indicating frequent use. This suggests that non-verbal expressions are typically conducted in English.

Finally, politeness-related scenarios, such as apologizing and expressing gratitude, also witness less frequent use of other languages. Only 10.81% of participants reported using other languages very often in these politeness-driven interactions.

In summary, the table underscores the multifaceted nature of multilingual communication during training sessions. It reveals that participants tend to use other languages frequently in scenarios where precision, understanding, and articulation are paramount, while English remains the predominant language for initiating and concluding discussions, as well as for non-verbal expressions and politeness-related interactions. These findings highlight the adaptability of multilingualism in meeting diverse communication needs in a training context.

The table below further illustrates the frequency with which individuals employ languages other than English during training sessions across additional scenarios. These scenarios encompass diverse aspects of training, including language comprehension, communication, collaboration, and teaching activities. The data has been categorized into three levels of frequency: "Very Often," "Sometimes," and "Almost Never / Never," and the percentages indicate the proportion of respondents falling into each category for each scenario.

Table 15*Participants' Rating of their Use of Languages Other Than English*

Situation	Very Often	Sometimes	Almost Never / Never
Understanding Words and Grammar	74.32%	24.32%	1.35%
Answering Questions	25.68%	74.32%	0%
Helping Students/Colleagues in an Activity	25.68%	74.32%	0%
Discussing a Topic in Class	25.68%	74.32%	0%
Discussing a Language Issue in Class	25.68%	74.32%	0%
Group Activities	74.32%	24.32%	1.35%
Presenting Ideas and Thoughts Before Activities	74.32%	24.32%	1.35%
Preparing Activities / Exercises	25.68%	74.32%	0%

Based on the results in Table 15, a significant majority of respondents, approximately 74.32%, reported that they "Very Often" resort to other languages when faced with challenges in understanding words and grammar during training. Only 24.32% claimed to do so "Sometimes," and a negligible 1.35% stated that they "Almost Never / Never" use other languages in this context.

Further still, in the context of responding to questions from trainers or fellow students, the results were quite contrasting. Only 25.68% of respondents claimed to use languages other than English "Very Often" when answering questions, while the majority, 74.32%, reported

doing so "Sometimes." Interestingly, no respondents indicated "Almost Never / Never" using other languages to answer questions.

Similar to answering questions, a substantial proportion, 74.32%, stated that they "Sometimes" use languages other than English when assisting students or colleagues in training activities. Conversely, 25.68% reported doing so "Very Often," and none selected "Almost Never / Never."

For discussing topics during training sessions, again, 74.32% of respondents admitted to using other languages "Sometimes." In contrast, 25.68% stated that they use other languages "Very Often," with no respondents falling into the "Almost Never / Never" category for this scenario.

Similar to discussing topics, the majority (74.32%) claimed to use other languages "Sometimes" when discussing language-related issues in class. Conversely, 25.68% reported using other languages "Very Often," with none indicating "Almost Never / Never."

In the context of group activities, the data presented an interesting contrast. The majority of respondents, approximately 74.32%, expressed that they use other languages "Very Often" during group activities. Conversely, 24.32% reported doing so "Sometimes," and a negligible 1.35% claimed "Almost Never / Never" using other languages during group activities.

Additionally, consistent pattern emerged in this scenario, mirroring the results for group activities. About 74.32% of respondents indicated that they use other languages "Very Often" when presenting ideas and thoughts before activities. In contrast, 24.32% reported doing so "Sometimes," with 1.35% choosing "Almost Never / Never."

For the task of preparing activities or exercises, 74.32% of respondents reported using other languages "Sometimes." Conversely, 25.68% indicated that they use other languages "Very Often," with none stating "Almost Never / Never."

In summary, the table highlights that the use of languages other than English during training sessions is a prevalent practice, with varying degrees of frequency across different scenarios. Respondents commonly rely on other languages when faced with challenges related to language comprehension and use them more frequently during activities that involve collaboration, group work, and presenting ideas. These findings suggest the importance of linguistic flexibility and the adaptability of training environments to accommodate diverse language needs.

CHAPTER 5: IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS

The growing diversity among students necessitates the adoption of effective, research-based teaching techniques tailored to individual student needs (Maddox; 2015, De Neve; 2017, Aldossari; 2018; Koehler, 2010). In addition to variables such as gender, age, race, and socioeconomic backgrounds, students also exhibit variations in intelligence, learning styles, and personality traits (Subban, 2006). In light of these complex variants among students, today's educators face a central question: "How can they effectively engage students who exhibit a wide range of readiness levels, personal interests, and culturally influenced perspectives on the world?" (Tomlinson, 2014, p.1). Differentiated instruction emerges as the solution to this challenge (Tomlinson, 2014). However, despite its portrayal as an exciting and effective method for modernizing the outdated knowledge-based approach that does not cater to the diverse needs of the learners (Morina, 2019; Fitzgerald, 2016; Tobin & Tippet, 2014; Roy et al., 2013; Ruys et al., 2013; Hall, 2002; Tomlinson, 2000), its implementation in Rwanda remains insufficiently explored and documented.

This study aimed to explore the understanding and application of differentiated learner-centered strategies among English teacher trainers and trainees in Rwanda. The goal was to generate valuable insights that can inform instructional practices and address the current gap in the existing body of literature. To facilitate a more detailed examination and evaluation of English teacher trainers' and trainees' perceptions and application of differentiated instruction, the overarching goal was subdivided into three specific objectives.

- i. Investigate English teacher trainers' and trainees' perceptions of differentiated learner-centered practices.

ii. Determine the methods of differentiation practiced by English teacher trainers and trainees in the institutions of higher learning in Rwanda.

iii. Establish the challenges faced in differentiation and the possible solutions.

In pursuit of these objectives, the study explored the following fundamental research inquiries:

1. What are the perceptions of English teacher trainers and trainees regarding differentiated instructional practices?
2. How do English teacher trainers and trainees implement differentiation in their classrooms?
3. What challenges do they encounter when attempting to differentiate instruction?

By investigating these questions, the study sought to shed light on the perceptions, practices, and challenges related to differentiation in the context of English language teaching in Rwanda.

In light of these inquiries, the study embraced a mixed methods approach, incorporating both qualitative and quantitative methodologies. While quantitative tools and procedures were considered appropriate for evaluating teacher trainers' and trainees' perceptions of differentiated instruction, they alone could not provide an all-encompassing view of how these individuals were putting differentiation into practice in actual classrooms or capture the challenges they encountered and the strategies they employed to address them. As a result, a mixed research design was selected to enhance the flexibility of data collection.

In this chapter, the implications of the results are summarized, and recommendations are presented.

Implications

Research Question 1: What are the English teacher trainers' and trainees' perceptions on differentiated instructional practices?

To effectively answer this question, participants were asked about their understanding and perception on differentiated instruction.

Definition of Differentiated Instruction

The findings of this study unveil a multifaceted landscape of perceptions among English teacher trainers and trainees when it comes to defining differentiated instruction and its associated instructional practices. The interview responses reflect a range of expressions, with participants offering varied insights into what differentiated instruction means to them. Phrases such as *“instruction that is tailored to address students, that is, to respond to their different situations”* (Int. 1), *“using various methodologies of teaching so that every kind of learner is catered for because we learn through different means”* (Int. 7), and *“the different methodologies, that is what I think, okay, different methodologies or a variety of things”* (Int. 3) illustrate the complexity of the concept as understood by different individuals.

This complexity in defining 'differentiation' echoes the diversity in the body of literature. Studies such as Graham et al. (2020) and Bondi et al. (2019) have highlighted the multifaceted nature of the term. However, a consensus among researchers in the field of education is that differentiation fundamentally involves varying instructional methods to accommodate the diverse needs of learners (Morina, 2019; Fitzgerald, 2016; Tobin & Tippet, 2014; Roy et al., 2013; Ruys et al., 2013; Hall, 2002; Tomlinson, 2000).

While perceptions of differentiated instruction may vary among educators, the overarching principle of adapting teaching approaches to meet the unique needs of students remains a consistent theme in both empirical findings and the broader literature. This underscores the importance of clarifying and promoting a shared understanding of differentiated instruction within the educational community.

Perceptions on Differentiated Instruction

The findings indicate that a significant majority of respondents, comprising 68% of the total, have at least heard about differentiated instruction. Furthermore, an even higher percentage, at 69%, expressed a positive perception of differentiated instruction. This finding is consistent with the body of literature that was reviewed as part of this study. Several studies (Zoraloglu, 2022; Lydner, et al., 2021; Leballo & Bekker, 2021; Melese, 2019; Parkash, 2017; Fitzgerald, 2016) have previously suggested a similar trend. It appears that the concept of differentiated instruction has gained traction and favorability among educators, as reflected in both the empirical data and existing research.

As demonstrated by the perceptions of both English teacher trainers and trainees, recent studies in the field of education have consistently revealed a direct and positive relationship between tailoring instructional practices to meet learners' needs and improved learning outcomes. One of the respondents mentioned,

“...using the various methodologies of teaching so that every kind of learner is catered for because we learn through different meanings, what works for me may not work for another person. In fact, it is one of the best calls. If you decide to use only one method, it may not cater for. You have different categories of learners. We have those who learn by visual, those who learn by, by, by lecturing method. There are many methods. But if you

decided to use only one method, that means another category of learners is made for differentiation, works better for all various categories of learners.” [Int. 7]

This result is consistent with recent studies by researchers like Jung et al. (2018), Connor et al. (2009), and Connor et al. (2018). The idea that varied instruction, which entails modifying teaching strategies to meet the various needs and skills of students, can greatly improve the educational experience and results is supported by the actual data provided in these research. These results emphasize the significance of understanding how instructional methods affect student achievement and draw attention to the possible advantages of implementing differentiated instruction techniques widely in educational settings.

The results from our survey reveal that a substantial portion of respondents, comprising 89% of the sample, have not implemented differentiated instruction in their teaching practice. The primary reasons cited for this are the perceived difficulty of implementation, as reported by 69% of respondents, and a lack of training and capacity, which was expressed by 88% of participants. These findings resonate with the body of literature we reviewed, which consistently highlights the factors influencing teachers' adoption of differentiated instruction. In line with the literature, it appears that many educators believe that successful implementation of differentiated instruction hinges on their capacity and self-efficacy. Studies by DeNeve et al. (2014) and Wan (2013) underscore this point, emphasizing that teachers often refrain from using this approach due to their doubts about their ability to execute it effectively.

Furthermore, our survey findings align with the literature's assertion that teachers may struggle with differentiated instruction due to factors such as a lack of knowledge in designing multi-layered activities and assessments that meet standards, as well as limited access to

resources tailored to diverse learners' needs. This observation is consistent with the works of Bedir (2015), Tomlinson (2015), and Smit & Humpert (2011).

The fear of student failure in standardized state assessments, as discussed by Dweck (2006) and Ng et al. (2013), also emerges as a barrier to implementation. One of the respondents lamented,

“One of them is with doing a assessment, the assessment that is recognized within the institution and beyond the institution within the law. Nobody really takes assignments that are not within, let us say 60 minute paper where you write an essay and you write this. Nobody, nobody assesses doing things by hand, for example. The society is too much inclined to memorization and things like those, and also the students themselves in the classroom [int. 1].”

Additionally, the challenges associated with managing large and unmanageable class sizes, a point highlighted by Blatchford (2012, 2016), add to the complexity of adopting differentiated instruction. Taken together, these findings underscore the multifaceted challenges teachers face when considering the implementation of differentiated instruction. They shed light on the need for targeted training and support to empower educators with the skills and confidence required to effectively employ this instructional approach.

Research Question 2: How do English teacher trainers and trainees implement differentiation in their classrooms?

To effectively analyze the implications of the findings for this question, the researcher broke the question down into the 4 key indicators of differentiation: the learning environment, the content, process and product.

Learning Environment

The results reveal a strong consensus among the respondents regarding their learning environments. These findings collectively emphasize a significant absence of differentiation in the learning environments of the respondents, with the majority expressing disagreement with various elements necessary for creating a differentiated and learner-centered setting. To put this more into perspective, one of the respondents said,

...they just come in class they just read the notes then explain some words here and there and then like you feel like you can if i can read myself i can read the the the notes by myself I can also do the exam but the way they were doing it is not really helpful because some are left behind [Int. 2].

In this submission, the interviewee describes a traditional teaching method where instructors predominantly deliver content through lectures and minimal engagement or interaction with students. The interviewee expresses a feeling that they could effectively learn the material by reading the notes themselves, suggesting that the instructor's role seems less impactful when instruction lacks differentiation. The interviewee also conveys dissatisfaction with this lecture-based approach, indicating that it is not very effective and leaves some students behind, as it doesn't cater to diverse learning styles and abilities. Furthermore, the interviewee's remarks suggest a lack of student engagement and interaction, which can negatively impact the overall learning experience.

Suffice it to say, the learning environment encompasses the ambiance and physical settings where education occurs, whether in a physical classroom or an online space. It involves factors such as the arrangement of furniture, the availability of equipment, materials, media, lighting, and instructional procedures (Tomlison, 2017). To create a differentiated learning

environment, teachers should aim to establish a setting that is psychologically safe and conducive to positive learning experiences. This includes tailoring the look and feel of the environment to accommodate various learning styles and preferences while ensuring effective management (Tomlison and Allan, 2000).

Teachers can also differentiate the learning environment by providing a range of learning resources that reflect diverse cultures and cater to students' interests. This may involve designing spaces within the classroom for quiet independent work as well as collaborative group work. Allowing students to move around the classroom, enabling them to participate in setting class rules, utilizing alternative seating arrangements, and varying the locations within the classroom where learning takes place are all strategies to promote a differentiated learning environment (Tomlison and Allan, 2000).

Based on the above exposition of what a differentiated learning environment should look like and on the results from this study, English teacher trainers and trainees in Rwanda do not implement differentiation in their learning environments. This suggests that there is a notable gap in creating diverse and personalized settings that cater to the varying needs and preferences of students. Recognizing this gap is a crucial step in addressing the challenges and opportunities for improving the educational experience in these environments.

Content

As far as the differentiation of content is concerned, there is a notable discrepancy in the practices related to instructional materials among the respondents. The data suggests a mix of practices related to instructional materials, with some areas, such as material adequacy and reading level diversity, warranting further attention. Conversely, there is a strong focus on providing diverse, accessible, and standards-aligned materials, which is commendable.

Addressing the areas of concern could contribute to a more effective and inclusive learning environment.

The cogent supporters of content differentiation explain that the primary goal of content differentiation is to delve deeper into the subject matter by offering various resources and scaffolding the material to align with the diverse needs of learners (Nurasiah et al., 2020; Bailey & Williams-Black, 2008). To achieve this, they say, teachers can consider two main approaches: 1) adjusting the content itself, which might mean varying the complexity, depth, or format of the subject matter to suit the different learning abilities and preferences of students; and 2) modifying how the content is presented or accessed by students. This could involve using various teaching methods, resources, and technologies to make the material more accessible and comprehensible to learners with differing needs.

Based on the findings, it appears that teachers are relatively effective in modifying how content is accessed, which is a crucial aspect of differentiation. This indicates that they are using a variety of resources, instructional methods, and teaching strategies to make the content more accessible to students with diverse learning needs. However, there are notable challenges in two specific areas- the data indicates that a substantial percentage of teachers struggle with providing adequate materials for their learners. This is an important concern because having sufficient and appropriate learning materials is fundamental to effective instruction. Teachers may need to explore ways to enhance the availability and quality of instructional resources. Another challenge highlighted in the findings is the lack of diversity in reading levels related to the subject or topic. This implies that teachers may not be effectively tailoring content to different reading abilities among their students. To address this, teachers could consider providing a wider

range of reading materials that align with various reading levels, ensuring that all students can engage with the content at an appropriate level.

Tomlison and Allan (2000) suggest many ways through which teachers can differentiate content. Among other things, they encourage teachers to use diagnostic tests to figure out students' levels of readiness, interests and profiles, and to use this knowledge to match them to various activities that make content more accessible to them. Such diagnostic activities could include student/teacher conferences, journal entries, pre-unit quizzes, free writing or even filling out the what-do-I-know charts. After the diagnostics, a teacher can then design hands-on tasks, group tasks, multiple media for content (like texts/videos/audio), or coaching for certain groups of students (Tomlison, 2000).

The recommendations put forth by Tomlinson and McTighe (2006) provide valuable insights into further actions that educators can take to effectively differentiate content, making it accessible and engaging for all students. These actions are in line with constructivist theories, which emphasize the importance of providing diverse resources and opportunities for students to take ownership of their learning. To cater to varying reading levels and interests, educators can maintain a collection of books with different readability levels and subjects. This ensures that all students can access content that is appropriately challenging for their individual abilities. This approach not only supports differentiation but also encourages students to explore and engage with texts that align with their interests and readiness levels.

Additionally, in acknowledgment of diverse learning preferences and needs, Tomlison (2017) advises to utilize both visual and auditory technology. This accommodates students who may struggle with traditional printed materials or who have learning preferences that are better supported with additional resources. The inclusion of technology, such as videos, audio

recordings, and interactive multimedia, can enhance engagement and understanding among a broader range of students.

Tomlinson and McTighe (2006) also suggest support for English language learners by providing resources like vocabulary lists in their native language. These resources help ELL students bridge language gaps and better understand the content, thereby promoting their language acquisition and overall comprehension.

These recommendations encourage educators to offer multiple avenues for accessing content, aligning with the principles of differentiation. When students have choices and a range of resources at their disposal, they become more actively involved in their learning. Additionally, this approach promotes student motivation and empowers them to take responsibility for their educational journey. Incorporating these strategies can lead to a more inclusive and learner-centered classroom, where students of diverse abilities, backgrounds, and preferences can engage with content in ways that best suit their needs.

In summary, while teachers are making strides in modifying content access, there is room for improvement in addressing material adequacy and reading level diversity. Addressing these challenges can contribute to a more comprehensive implementation of differentiation strategies, resulting in a more inclusive and effective learning experience for all students.

Product

As far as product differentiation is concerned, the data highlights both the recognition of the importance of assessment differentiation among educators and areas where there is room for improvement. Providing specific feedback to individual students, addressing a comprehensive range of student needs, and exploring alternative assessment methods are areas where educators may benefit from further support and professional development. However, the use of ongoing

assessments is a positive sign of educators actively adapting their teaching to meet the needs of their diverse student population. The findings suggest that teacher training programs should focus on equipping educators with comprehensive knowledge and practical strategies for differentiation. This would enable them to create more inclusive and effective learning experiences for a diverse range of students, ultimately promoting better learning outcomes in English language education.

The approach to planning assessments with a focus on catering to varying levels of readiness, interests, and student profiles is guided by several key principles, as highlighted by educators and researchers like Tomlinson (2017), Nicholas et al. (2021), Morina (2019), and Tomlinson and Allan (2000). They explain that the primary purpose of assessments should be to gauge the quality of learning in different ways. As such, assessments are not solely for pleasure or to create uniform tests, but rather to evaluate how well students have mastered the content. Differentiated assessments allow educators to gain a more comprehensive understanding of individual student progress Tomlison (2017).

Additionally, they (Nicholas et al., 2021), they recommend provision of choices to accommodate diverse student needs and preferences, by designing various assessment options and providing learners with a choice of which assessments to complete and how to submit them. This empowers students to engage with assessments in ways that align with their learning styles and readiness levels. Further, Nicholas and others (2021) advise that teachers have flexible working arrangements when giving choices. They argue that teachers can allow students to work individually or in groups, depending on their preferences and the nature of the task. This flexibility fosters a sense of autonomy and ownership over the learning process.

Educators and researchers like Tomlinson (2017), Nicholas et al. (2021), Morina (2019), and Tomlinson and Allan (2000) also advocate for collaborative assessment development which involves collaborating with students to develop assessments and rubrics that match the tasks given. This co-creation process ensures that the assessment aligns with the students' understanding of the learning objectives and their individual needs.

By adhering to these principles, educators can create a more inclusive and learner-centered assessment environment. Differentiated assessments not only promote individual growth but also engage students more actively in their learning journey, ultimately leading to improved learning outcomes.

Process

The insights from the findings collectively shed light on the methods employed by educators to differentiate the learning process, along with associated challenges and areas for improvement. From the findings, a significant percentage of respondents (61%) reported that they haven't been using a variety of assessment tools. This indicates that many educators may rely on a limited range of assessment methods, potentially missing out on more effective and diverse ways of evaluating student understanding. Results also show that 63% of respondents haven't been using a diverse set of instructional strategies and activities to teach standards. This suggests room for improvement in diversifying teaching methods, which can enhance student engagement and learning outcomes. In addition, it's notable that 63% of respondents haven't been using strategies to meet the diverse needs of learners. This emphasizes the importance of adopting teaching strategies that can accommodate different learning styles and individual needs, promoting more inclusive education. The findings also indicate that a significant majority (71%) of respondents have not been using strategies such as flexible grouping designs and another 49%

haven't been providing students with choices in learning activities, assessments, and submission methods.

The in-depth interviews with the participants also uncovered the limited scope of differentiation practices and implementation in the teaching process. Some participants disclosed that they employ a variety of teaching approaches, including discussions, observations, presentations, and even acting, to accommodate diverse learning styles and preferences. Some also indicated using groups and powerpoints in their classes. These methods encourage active learning and student engagement, which are essential for fostering a participatory and effective learning environment.

However, the findings also highlight the need to expand teachers' knowledge and exposure to a broader range of methods for process differentiation. While the approaches mentioned are valuable, there are additional strategies and techniques that educators can explore to create more dynamic and inclusive learning experiences. This might involve providing teachers with professional development opportunities and resources to enhance their skills in process differentiation. By equipping educators with a broader toolkit of instructional methods that cater to various learning needs and preferences, schools and educational institutions can better support diverse students and promote more effective and engaging teaching practices. This, in turn, contributes to improved learning outcomes and a more inclusive educational experience.

To differentiate process, a teacher may provide learners with choices for different activities, vary the complexity level of tasks, vary the amount of time slotted for tasks to different groups of students, vary the coaching time, use both tiered and homogeneous groupings for different tasks, develop diverse activities that accommodate visual, auditory and kinesthetic

learners and using learning centers/stalls (Pereira et al., 2019; Tomlison and Allan, 2000).

Essentially, a teacher must create multiple avenues and platforms, “for learners to process the content or ideas and skills to which they have been introduced,” (Tomlinson, 2001 p. 79).

Consequently, learners do not just learn the concept in question but also how to learn and solve problems. Tomlison (2001) adds that effective instructional activities are those presented “in a range of modes at varying degrees of sophistication in varying time spans, with varied amounts of the teacher or peer support,” (p. 80). If this is done in layered cycles repetitively, it helps students to draw patterns, make connections between current and prior knowledge, apply concepts and create new learnings (Pham, H., 2012; Tomlison 2001).

Differentiation in Communication

The findings suggest that code-switching, the practice of switching between languages during communication, is a common and widespread behavior among the respondents. This code-switching occurs in a range of situations, including when communicating with students or colleagues, concluding discussions, addressing specific topics, taking moments for contemplation, posing questions, seeking assistance or clarification, and expressing emotions such as anger or happiness. These results indicate that using multiple languages in these contexts is a prevalent and customary practice among the respondents.

Many respondents also reported that they do not typically switch to another language when repeating or correcting something they have said. However, it is worth noting that they acknowledged using different languages when conveying their emotions or intentions through non-verbal cues, such as body movements. Additionally, they admitted to using other languages when apologizing or expressing gratitude to someone. This suggests that while

language-switching is less common in certain linguistic tasks, it remains a prevalent practice in non-verbal communication and expressions of politeness or gratitude.

Overall, the findings suggest that code-switching is a customary practice among the respondents and is utilized to ensure effective and clear communication in various social and professional situations. This behavior is reflective of the multilingual and multicultural nature of their communication environments.

Research Question 3: What are the challenges faced in differentiating instructions?

The interviews provided valuable insights into the challenges that teachers face when attempting to differentiate instruction. The following challenges were identified as significant barriers to effective differentiation:

Time Constraints

The English teacher trainers and trainees expressed concerns about the limited time to plan, prepare, and implement differentiated instruction. The concerns are certainly valid and are reflected in other studies as well. Interviews and analyses conducted by researchers like De Jager (2013), Van Casteren et al. (2017), Jager (2016), Chien (2015), and Mariyam Shareefa (2019) have identified time as a common challenge faced by teachers when implementing DI. Planning and delivering differentiated instruction can be a time-consuming process, and is often exacerbated when teachers are typically required to cover a substantial amount of content within a set timeframe, which may leave limited room for extensive differentiation. Balancing the curriculum's requirements with the need for differentiation can be a delicate challenge. Besides, effective differentiation requires thoughtful planning. Teachers must analyze students' diverse needs, design appropriate materials, assessments, and instructional strategies, and organize their lessons to accommodate these variations.

Consequently, teachers may need to find strategies to streamline the planning process while still ensuring that differentiation is integrated effectively into their instruction. Additionally, offering teachers professional development opportunities in differentiation can equip them with the skills and strategies to streamline the planning process and make it more efficient. Similarly, collaborative planning and sharing of resources among educators can also help reduce the burden of creating diverse materials and strategies. Teachers can work together to create and share resources that benefit all students. By acknowledging and addressing time constraints, educators can better balance the demands of the curriculum with the need to provide inclusive and effective instruction through differentiation.

Inadequate Resources

The availability of suitable resources, including textbooks, teaching materials, technology, and classroom space, can be a constraint. In order to differentiate instruction effectively, teachers require a variety of learning materials and resources to meet the diverse needs of their students. This may include textbooks, supplementary readings, multimedia resources, and more. Limited access to these materials can restrict a teacher's ability to provide differentiated instruction. The challenges teachers face in searching for material resources for their lessons are widely recognized in the educational field, as noted by researchers like Maddox (2016), Lunsford (2017), Avgousti (2017), Merawi (2018), and Jager (2017). Indeed, ensuring that all students have access to the necessary materials and resources is crucial for promoting equity and inclusion in the classroom. When teachers face challenges in finding appropriate resources, it can create disparities in the learning experience.

To address these challenges, schools and educational institutions can allocate funding and support for the acquisition of diverse instructional materials, both physical and digital, that can be used for differentiation. Additionally, schools can encourage teachers to share resources, best practices, and lesson plans with colleagues to reduce the burden of resource searching and development. Furthermore, schools should offer training and professional development opportunities that equip teachers with the skills to locate, adapt, and create materials that support differentiation. By addressing the challenges associated with finding material resources, educational institutions can empower teachers to implement Differentiated Instruction more effectively and create inclusive learning environments that cater to the diverse needs of their students.

Lack of Teacher Capacity

According to the findings of this study, teacher trainers do not build the capacity of the trainees to implement differentiated instruction. The trainees raised concerns about their sessions being predominantly delivered through the lecture method that relies heavily on traditional lecture-style of teaching without active engagement. This approach results in passive learning, where students are expected to absorb information without active participation. Even the trainers who indicated that they had a full understanding of differentiation and that they were implementing it, only demonstrated narrow traces of it- there was no robust implementation as the trainers appeared to have a very minimal knowledge of differentiation. In deed, several studies confirm that teacher training institutions do not adequately prepare trainees to implement learner centered approaches like differentiated instruction (Wan; 2016, Chien; 2015, Lunsford; 2017, Suprayogi; 2016, Jager; 2017, Tobin; 2014, Avgousti; 2017, Boston; 2017, Robinson; 2014, Mariyam Shareefa; 2019, Siam; 2016, Merawi; 2018). These studies highlight teachers'

lack of knowledge of differentiation as one of the key factors curtailing its implementation. In Aldosari's (2018) words, "Failure to prepare the teacher before service in a way that suits the requirements of differentiated instruction is one of the reasons that it is not implemented effectively," (p78).

Conversely, some researchers hold the belief that teacher training programs emphasize learner-centered strategies that authentically focus on the needs of the learners (Nicholas et al., 2021; Hartwig and Schwabe, 2018; Morina, 2019). Effective differentiation requires a deep understanding of diverse learning needs, pedagogical approaches, and assessment strategies. Without versatile skills and competencies in the area of differentiation, its implementation suffers. Even the well trained teachers in the area of learner centered approaches still need continuous professional development training on the same to perfect their skill. The teacher training programs notwithstanding, novice teachers still feel unprepared to implement DI (Inspectie van het Onderwijs, 2015), and veteran teachers find it too complex to handle (Smeets et al., 2015).

For this reason, Smeet et al. (2015) and Holzberger, Anja and Kunta (2014) strongly recommend that teachers be given continued support to build self-efficacy because this gives them the intrinsic motivation to design effective learner-centered activities in the classroom. Their study, *Predicting teachers' instructional behaviors: The interplay between self-efficacy and intrinsic needs* revealed that teachers' intrinsic needs are directly related to their instructional behavior; and that when these needs are fulfilled by building their efficacy, they provide good instruction to students.

Lack of Detailed Information

The study also revealed that insufficient information and guidance on differentiation, especially on the stakeholder side can also pose challenges. Grunted, the tension between traditional teaching methods and more innovative student-centered and active approaches, such as differentiated instruction, is a common challenge in education. Traditional administrators who prefer students to work quietly at their desks may have reservations about classroom activities that involve movement, interaction, and frequent transitions. An endorsement of the DI strategies by school leadership would help curtail some of the challenges regarding resource allocation, teacher training and workload distribution. A study conducted by Shareefa et al. (2019) in the Maldives, involving 137 elementary teachers, reveals the significant impact of administrative support on the implementation of differentiated instruction. When teachers receive training and support in differentiation, and when schools provide the necessary resources and time, they are better equipped to overcome these challenges and implement more effective, inclusive, and learner-centered instructional practices.

In summary, the participants in this study generally demonstrated positive perceptions of differentiated instructional practices, particularly regarding their impact on learning outcomes and students' learning. However, there were variations in their levels of experience, understanding, and beliefs about the ease of implementation. Additionally, there was a perceived need for more professional development opportunities in this area, particularly at the university level. These findings provide valuable insights into the attitudes and beliefs of English teacher trainers and trainees and their perceptions of differentiated instruction.

The study brings attention to a noteworthy challenge – the lack of comprehensive information and guidance on differentiated instruction, particularly among stakeholders. This issue is situated within the broader context of the ongoing tension between traditional teaching methods and more innovative, student-centered approaches, such as differentiated instruction.

The identified challenge is articulated as the study emphasizes the potential clash between traditional teaching practices and the principles of differentiated instruction, which advocate for movement, interaction, and frequent transitions. Administrators adhering to conventional methods may resist these progressive approaches, creating a barrier to the seamless implementation of differentiated instruction.

In addressing this challenge, the study underscores the pivotal role of administrative support. The endorsement of differentiated instruction strategies by school leadership is deemed essential to overcoming obstacles related to resource allocation, teacher training, and workload distribution. A notable reference to a study conducted by Shareefa et al. (2019) in the Maldives adds weight to this argument. The study, involving 137 elementary teachers, highlights the significant impact of administrative support on the successful implementation of differentiated instruction. It reveals that when teachers receive training, support, and access to necessary resources and time, they are better equipped to overcome challenges and implement more effective, inclusive, and learner-centered instructional practices.

Despite these challenges, the study reports positive perceptions of differentiated instructional practices among participants, particularly in terms of their impact on learning outcomes and student engagement. However, there are variations in the participants' levels of

experience, understanding of differentiation, and beliefs about the ease of implementation. Notably, there is a perceived need for more professional development opportunities, especially at the university level. This indicates a collective desire for enhanced training and support to bridge gaps in understanding and implementation.

In summary, the study provides a comprehensive exploration of the challenges arising from the lack of detailed information and guidance on differentiation. It recognizes the intricate dynamics within the education landscape and underscores the crucial role of administrative support in fostering successful integration of differentiated instruction. The findings contribute valuable insights into the attitudes, beliefs, and training needs of English teacher trainers and trainees concerning differentiated instruction.

Recommendation

Recommendations for application

While participants demonstrate awareness and a positive outlook on differentiated instruction, the gap between awareness and practical application, coupled with perceived implementation challenges and the lack of professional development opportunities, highlight the need for targeted efforts to support and enhance the implementation of differentiated instruction in language education. Addressing these challenges can contribute to more effective and inclusive teaching practices in the field.

RQ1: Recommendations around the General Perception of Differentiated Instruction

The findings of this study shed light on a wide spectrum of perceptions regarding differentiated instruction among English teacher trainers and trainees. It is essential to establish a clear and shared understanding of differentiated instruction within the educational community to ensure uniformity in its implementation. As per the study's results, a significant majority of respondents are aware of differentiated instruction and hold a positive view of it. Given its recognition and favorability among educators, schools and educational institutions should consider integrating and promoting differentiated instruction in their teaching practices.

Furthermore, the study reveals a positive correlation between tailoring instructional practices to meet the needs of learners and improved learning outcomes. The study recommends that educators be encouraged to embrace differentiated instruction strategies, as they can significantly enhance the educational experience and contribute to improved student outcomes.

The findings of this study not only unravel diverse perceptions but also provide critical insights into the landscape of Differentiated Instruction among English teacher trainers and trainees. Establishing a clear and shared understanding of DI within the educational community emerges as a pivotal point of reflection. The diversity of perceptions underscores the importance of fostering a unified comprehension of DI to ensure consistency and coherence in its implementation across educational settings.

In alignment with the study's results, a significant majority of respondents showcase a commendable awareness of DI and harbor a positive view of its potential impact on teaching and learning. This recognition signals an opportunity for educational institutions to capitalize on this positive sentiment. Schools and teacher training programs should consider actively integrating

and promoting DI as a fundamental component of their pedagogical approaches. By doing so, institutions can foster an environment where differentiated instruction is not only acknowledged but becomes an integral aspect of the teaching practices adopted by educators.

Moreover, the study illuminates a noteworthy correlation between tailoring instructional practices to meet the diverse needs of learners and observed improvements in learning outcomes. This correlation forms a compelling argument for the advocacy and implementation of differentiated instruction. The study's results emphasize the need for educators to embrace and adopt differentiated instruction strategies. Encouraging educators to explore and integrate DI into their teaching practices stands as a key recommendation arising from the study. Doing so has the potential to significantly enhance the overall educational experience and, more importantly, contribute to tangible and sustained improvements in student outcomes.

In essence, the study's findings advocate for a transformative approach to education—one that prioritizes a shared understanding of differentiated instruction, leverages its positive reception among educators, and harnesses its potential to elevate learning outcomes. By recognizing DI as a dynamic and effective pedagogical strategy, educational stakeholders can collectively contribute to a more enriched and inclusive educational landscape. In summary, the study not only sheds light on perceptions but also lays the groundwork for the advancement and integration of differentiated instruction, affirming its role as a catalyst for positive change in the field of education.

The study's findings underscore the importance of adopting a transformative approach to education, one that places a shared understanding of Differentiated Instruction at its core and

harnesses its potential to enhance learning outcomes. This transformative perspective envisions DI not merely as a teaching strategy but as a catalyst for positive change within the educational landscape.

To effectively advance and integrate differentiated instruction, several practical ideas can be explored. A key initiative involves the establishment of comprehensive professional development programs tailored for both teachers and teacher trainers. Workshops, seminars, and training sessions can be designed to impart a deep understanding of DI principles, methodologies, and practical strategies, ensuring educators are well-equipped for effective implementation.

Curriculum design and review processes represent another avenue for infusing DI principles into the educational framework. By incorporating flexible learning paths, diverse resources, and varied assessment methods, curricula can be aligned with the tenets of differentiated instruction.

Resource allocation plays a pivotal role in supporting DI in classrooms. Providing schools and educators with essential tools, materials, and technology fosters an environment conducive to effective DI implementation. This encompasses access to diverse learning resources, interactive technologies for dynamic lessons, and ongoing professional development resources.

Administrative support emerges as a critical factor in the success of differentiated instruction. School leadership should endorse and support the adoption of DI, recognizing its

benefits and allocating budgetary resources. Creating a culture that values innovative and student-centered teaching approaches further reinforces the transformative impact of DI.

Establishing collaborative learning communities among educators promotes a culture of shared experiences and best practices related to differentiated instruction. Regular meetings, online forums, and collaborative lesson planning sessions contribute to a supportive network that encourages continuous improvement.

Inclusive assessment strategies aligned with differentiated instruction represent a paradigm shift in evaluating student learning. Moving beyond traditional methods, educators can explore project-based assessments, portfolios, and performance tasks that allow students to showcase their understanding in diverse ways.

Empowering students to actively participate in their learning process is another key element of differentiated instruction. Providing choices in how students demonstrate understanding, pursue projects aligned with their interests, and collaborate with peers fosters a sense of ownership and engagement.

Encouraging the adoption of research-informed differentiated instruction practices ensures that educators stay abreast of the latest developments in the field. Ongoing professional development, collaboration with researchers, and a commitment to evidence-based strategies contribute to the continuous improvement of DI practices.

In conclusion, the transformative potential of differentiated instruction lies not only in acknowledging its importance but in actively fostering an educational environment where it

becomes an integral and effective component of the teaching and learning process. By embracing these practical ideas, educational institutions can pave the way for a more enriched and inclusive educational experience.

RQ2 Recommendations around Implementation

Learning Environment

The findings of this study shed light on a significant lack of differentiation in the learning environments of the English teacher trainers and trainees in Rwanda. This study highly recommends creating differentiated learning environments for enhancing the educational experience of the learners. Educators and educational institutions in Rwanda should prioritize the implementation of differentiated instructional practices, taking into account the various recommendations mentioned below to provide a more inclusive and effective learning experience for students.

Firstly, the study uncovered the use of traditional, lecture-based teaching methods with minimal interaction and engagement among English teacher trainers in Rwanda. Educators should aim to create learning environments that are psychologically safe, engaging, and accommodating of diverse learning styles and preferences. Secondly, participants in the study mentioned lacking elements such as the arrangement of furniture, availability of equipment and materials, proper lighting, and instructional procedures in their learning environment. As a recommendation, teachers should consider these elements and tailor them to cater to the needs and preferences of their students, making the environment conducive to positive learning

experiences. Similarly, the lack of student engagement and interaction in various classes as highlighted in the study is a huge concern. The study recommends that English teacher trainers be encouraged to implement strategies that promote active student engagement, such as group work, collaborative activities, and opportunities for students to participate in setting class rules.

In addition to this, to effectively differentiate the learning environment, teachers should consider students' cultural backgrounds and interests. Incorporating diverse learning resources that reflect various cultures and cater to students' interests to make the environment more inclusive and relevant would go a long way in boosting learning outcomes. Moreover, the study reveals that English teacher trainers are reluctant to encourage flexibility and mobility in their classroom. Educators should use strategies such as allowing students to move around the classroom and varying seating arrangements in the classroom layout to accommodate different learning styles and preferences.

The findings of this study cast a spotlight on a significant deficiency in the implementation of differentiated learning environments among English teacher trainers and trainees in Rwanda. The implications of this gap necessitate urgent attention and strategic interventions to enhance the educational experiences of learners in the region. This study strongly advocates for the prioritization of differentiated instructional practices, accompanied by a set of recommendations aimed at fostering inclusive and effective learning environments.

The study brings to light the prevalent use of traditional, lecture-based teaching methods with limited interaction and engagement among English teacher trainers in Rwanda. To address this, educators should strive to create psychologically safe and engaging learning environments. Strategies such as incorporating interactive teaching methods, encouraging class discussions, and

recognizing diverse learning styles and preferences should be embraced. By doing so, the learning environment becomes more dynamic and responsive to the individual needs of students.

Participants in the study highlighted deficiencies in environmental elements such as furniture arrangement, availability of equipment, lighting, and instructional procedures. Teachers are encouraged to consider these aspects and tailor them to suit the needs and preferences of their students. A conducive learning environment encompasses not only pedagogical strategies but also the physical setting, ensuring that it contributes positively to the overall learning experience. The study also underscores a lack of student engagement and interaction in various classes, indicating a need for a paradigm shift. English teacher trainers should be motivated to implement strategies fostering active student participation, such as group work, collaborative activities, and involving students in setting class rules. These approaches not only enhance engagement but also contribute to a more inclusive and participatory learning environment.

In the quest to differentiate the learning environment effectively, consideration of students' cultural backgrounds and interests is paramount. Educators are encouraged to incorporate diverse learning resources that reflect various cultures and cater to students' interests. This practice not only makes the environment more inclusive but also renders the learning experience more relevant and meaningful for students. Moreover, the study reveals a reluctance among English teacher trainers to embrace flexibility and mobility in the classroom. To address this, educators should adopt strategies that allow students to move around and vary seating arrangements. This dynamic approach caters to different learning styles and preferences, creating a more adaptable and responsive learning environment.

Given the deficit that has been found in differentiated learning environments, it is critical to offer focused training and awareness programs to English teacher trainers and trainees. To give teachers the information and abilities they need to design inclusive and productive learning environments, institutions and educational authorities should fund professional development programs. This investment helps to improve Rwanda's educational system in the long run in addition to addressing the current need.

Recognizing the apparent gap in implementing differentiated learning environments, there is a compelling need to introduce tailored training and awareness programs for English teacher trainers and trainees. It is incumbent upon institutions and educational authorities to proactively invest in comprehensive professional development initiatives that specifically arm educators with the requisite knowledge and skills necessary for fostering effective and inclusive learning environments.

This strategic investment serves not only as a responsive measure to the existing deficiency in differentiated learning but also as a forward-looking endeavor to consistently elevate the quality of education in Rwanda. By prioritizing professional development opportunities with a dedicated focus on differentiated instruction, institutions can act as catalysts for a positive transformation in teaching methodologies and classroom practices, contributing to the overarching goal of enhancing the overall quality and inclusivity of education within the country.

The tailored training programs should encompass various key aspects, including but not limited to:

- Understanding Differentiated Instruction: Providing in-depth training on the principles, theories, and methodologies underpinning differentiated instruction to ensure educators have a solid foundation.
- Practical Implementation Strategies: Offering hands-on workshops and simulations to guide educators in translating theoretical knowledge into practical, classroom-specific differentiated instruction strategies.
- Assessment and Feedback Techniques: Equipping educators with effective methods for assessing student progress within a differentiated learning framework and providing constructive feedback.
- Utilization of Technology: Integrating training modules on leveraging educational technology to enhance differentiated instruction and make learning more engaging and accessible.
- Inclusive Classroom Management: Providing guidance on fostering an inclusive and supportive classroom environment that caters to diverse learning needs and abilities.
- Collaborative Learning Communities: Encouraging the formation of collaborative networks among educators to facilitate the exchange of ideas, experiences, and best practices related to differentiated instruction.
- Cultural Sensitivity and Diversity Awareness: Integrating components that promote an understanding of cultural diversity and sensitivity to ensure that differentiated instruction is inclusive and respectful of varied cultural backgrounds.

By strategically implementing these targeted training and awareness programs, institutions can initiate a positive transformation in the educational landscape of Rwanda. This proactive approach not only addresses the identified gap but also establishes a foundation for sustained improvement and innovation in teaching practices, ultimately benefiting both educators and students.

Content

Content differentiation is a vital component of effective teaching that caters to the diverse needs of students. Educators should continue to modify content access effectively while addressing challenges related to material adequacy and reading level diversity. Implementing the recommendations below can lead to a more inclusive and learner-centered classroom, ultimately enhancing the learning experience for all students.

Firstly, The primary goal of content differentiation is to offer various resources and scaffold the material to align with the diverse needs of learners. educators should focus on both adjusting the content itself and modifying how it is presented or accessed to cater to different learning abilities and preferences.

The findings also suggest that teachers are relatively effective in modifying how content is accessed. The study encourages educators to continue using a variety of resources, instructional methods, and teaching strategies to make the content more accessible to students with diverse learning needs.

The study also discovered that a substantial percentage of teachers struggle with providing adequate materials for their learners. As a recommendation, educators should explore ways to enhance the availability and quality of instructional resources, ensuring that students

have the necessary materials to engage with the content effectively. These ways could include collaboratively creating the resources, recycling the existing resources and allocating funding for the production or procurement of educational resources.

The study also recommends the use of diagnostic tests to determine students' readiness levels, interests, and profiles and match them to various activities that make content more accessible. Incorporating diagnostic activities like student/teacher conferences, pre-unit quizzes, and journal entries to better understand student needs can help with the customization of content accordingly. While at it, educators should ensure that students have access to texts that are appropriately challenging and aligned with their interests and abilities. Also, to accommodate diverse learning preferences and needs, educators should use both visual and auditory technology, such as videos, audio recordings, and interactive multimedia. Additionally, educators must also keep in mind the support for English language learners and provide resources like vocabulary lists in their native language to help English language learners bridge language gaps and better understand the content.

The study also highly recommends flexibility in giving choices when selecting resources for use in the classroom. When students have choices and a range of resources at their disposal, they become more actively involved in their learning. Educators should encourage student motivation and responsibility for their educational journey by offering multiple avenues for accessing content.

Content differentiation is indeed a crucial aspect of effective teaching that helps address the diverse needs of students. It's important for educators to continually work on modifying content access to make learning more inclusive. Addressing challenges related to material adequacy and reading level diversity is essential for creating a more learner-centered and

inclusive classroom. By implementing these recommendations, educators can enhance the overall learning experience for all students, ensuring that education is accessible and tailored to individual learning preferences and abilities.

Content differentiation stands out as a pivotal element in the realm of effective teaching, offering a strategic avenue to cater to the diverse needs of students. The ongoing commitment of educators to adapt and refine content access is fundamental in fostering an inclusive learning environment. Crucially, tackling challenges associated with material adequacy and varying reading levels becomes imperative to cultivate a truly learner-centered and inclusive classroom.

One of the key recommendations to address these challenges is for educators to engage in continuous efforts to diversify and tailor content, ensuring its accessibility to students with varying learning preferences and abilities. This may involve incorporating a spectrum of learning resources, including texts, videos, and audio materials, to accommodate diverse learning styles. Moreover, the use of diagnostic tools such as pre-unit quizzes, student-teacher conferences, or journal entries can aid educators in gauging students' readiness levels, interests, and learning profiles. Armed with this information, educators can then design hands-on tasks, group activities, or additional coaching tailored to specific groups of students.

Additionally, building a library of books with a variety of interests and readability levels can greatly aid in meeting the needs of a wide range of pupils at the right level of challenge. It becomes essential to integrate visual and aural technologies, particularly for students who might find it difficult to learn from standard print sources or who have particular learning preferences. This comprehensive strategy is consistent with constructivist theories, which hold that learners

can acquire knowledge more easily and become more capable of managing their own learning when they have access to a variety of resources.

In summary, the active pursuit of content differentiation by educators is a dynamic and ongoing process that seeks to overcome challenges related to material adequacy and reading level diversity. By heeding these recommendations and embracing a diverse array of resources and instructional strategies, educators can elevate the overall learning experience for every student, fostering an educational landscape that is not only accessible but also finely tuned to individual learning proclivities and capabilities.

Product

Differentiated assessments not only promote individual growth but also engage students more actively in their learning journey, ultimately leading to improved learning outcomes. By adhering to the following principles and recommendations, educators can create a more inclusive and learner-centered assessment environment.

Firstly, the findings show that educators recognize the importance of assessment differentiation but need improvement in providing specific feedback to individual students, addressing a comprehensive range of student needs, and exploring alternative assessment methods.

The study also revealed that educators have embraced formative assessments. The use of ongoing assessments is a positive sign of educators actively adapting their teaching to meet the needs of diverse student populations. Given this, teacher training programs should focus on equipping educators with comprehensive knowledge and practical strategies for differentiation to

create more inclusive and effective learning experiences, promoting better learning outcomes in English language education.

The study also recommends the following key principles for assessment. To begin with, assessment planning should focus on catering to varying levels of readiness, interests, and student profiles, guided by principles highlighted by educators and researchers like Tomlinson (2017), Nicholas et al. (2021), Morina (2019), and Tomlinson and Allan (2000). Secondly, assessments should primarily aim to gauge the quality of learning in different ways, not just for pleasure or creating uniform tests. They should evaluate how well students have mastered the content. Additionally, assessments should be differentiated to enable educators to gain a more comprehensive understanding of individual student progress. Further still, assessments should have options that provide choices to accommodate diverse student needs, allowing learners to choose assessments that align with their learning styles and readiness levels. When giving choices, teachers should have flexible working arrangements, allowing students to work individually or in groups based on their preferences and the nature of the task.

By adopting the principles and recommendations mentioned above, educators can establish a more inclusive and learner-centered assessment environment. Differentiated assessments not only promote individual growth but also actively engage students in their learning journey, ultimately leading to improved learning outcomes.

Differentiated assessments emerge as a linchpin in promoting individual growth and actively engaging students in their learning journey, ultimately culminating in enhanced learning outcomes. This pedagogical approach underscores the importance of tailoring assessments to

accommodate varying readiness levels, interests, and student profiles, acknowledging the diverse landscape of learners in English language education.

One of the key findings of the study is educators' recognition of the significance of assessment differentiation. However, it indicates a need for improvement in specific areas, such as providing individualized feedback, addressing a comprehensive range of student needs, and exploring alternative assessment methods. This highlights an opportunity for professional development programs to play a crucial role in equipping educators with comprehensive knowledge and practical strategies for differentiation. By enhancing educators' proficiency in assessment differentiation, these programs can contribute to creating more inclusive and effective learning experiences, fostering improved learning outcomes in English language education.

The study also underscores educators' positive embrace of formative assessments, reflecting a proactive adaptation to the diverse needs of student populations. This recognition suggests a shift toward ongoing assessments that contribute to a more dynamic and responsive teaching approach. In light of this, the study recommends a focus on assessment planning that caters to varying levels of readiness, interests, and student profiles, drawing guidance from established principles articulated by educators and researchers like Tomlinson (2017), Nicholas et al. (2021), Morina (2019), and Tomlinson and Allan (2000).

The study further recommends that assessments should transcend the mere act of testing for uniformity or pleasure, emphasizing their primary goal to gauge the quality of learning in different ways. With options that meet a range of student requirements, differentiated

assessments should give teachers a thorough grasp of each student's progress. Giving students options for assessments adheres to the principles of flexibility by letting them work in groups or alone, depending on their preferences and the requirements of the activity.

In summary, the principles and recommendations for differentiated assessments put forth by educators and researchers serve as guiding pillars for creating a more inclusive and learner-centered assessment environment. By adopting these principles, educators can not only promote individual growth but also actively engage students in their learning journey, paving the way for improved learning outcomes in English language education.

Process

The study uncovered the limited scope of differentiation practices and implementation in the teaching process. The results show that teachers have limited knowledge of the various strategies they can apply to differentiate the process of teaching and learning. Consequently, the study recommends the following:

Firstly, the findings highlight the need to expand teachers' knowledge and exposure to a broader range of methods for process differentiation. While the approaches mentioned are valuable, there are additional strategies and techniques that educators can explore to create more dynamic and inclusive learning experiences. This might involve providing teachers with professional development opportunities and resources to enhance their skills in process differentiation. By equipping educators with a broader toolkit of instructional methods that cater to various learning needs and preferences, schools and educational institutions can better support

diverse students and promote more effective and engaging teaching practices. This, in turn, contributes to improved learning outcomes and a more inclusive educational experience.

To differentiate process, a teacher may provide learners with choices for different activities, vary the complexity level of tasks, vary the amount of time slotted for tasks to different groups of students, vary the coaching time, use both tiered and homogeneous groupings for different tasks, develop diverse activities that accommodate visual, auditory and kinesthetic learners and using learning centers/stalls (Pereira et al., 2019; Tomlison and Allan, 2000). Essentially, a teacher should create multiple avenues and platforms, “for learners to process the content or ideas and skills to which they have been introduced,” (Tomlinson, 2001 p. 79). Consequently, learners do not just learn the concept in question but also how to learn and solve problems. Tomlison (2001) adds that effective instructional activities are those presented “in a range of modes at varying degrees of sophistication in varying time spans, with varied amounts of the teacher or peer support,” (p. 80). If this is done in layered cycles repetitively, it helps students to draw patterns, make connections between current and prior knowledge, apply concepts and create new learnings (Pham, H., 2012; Tomlison 2001).

The study's findings underscore a crucial gap in the current scope of differentiation practices and their implementation within the teaching process. Teachers, as revealed by the results, exhibit limited knowledge regarding the myriad strategies available for differentiating the process of teaching and learning. Consequently, the study puts forth recommendations to address this limitation.

First and foremost, the study emphasizes the imperative need to broaden teachers' knowledge and exposure to a more extensive array of methods for process differentiation. While

acknowledging the value of the mentioned approaches, the study suggests that educators can benefit from additional strategies and techniques to create even more dynamic and inclusive learning experiences. To achieve this, providing teachers with targeted professional development opportunities and resources becomes paramount. Equipping educators with an expanded toolkit of instructional methods that caters to diverse learning needs and preferences enables schools and educational institutions to better support a wide range of students. This, in turn, fosters more effective and engaging teaching practices, contributing to improved learning outcomes and a more inclusive educational experience overall.

To elaborate on the recommended strategies for process differentiation, teachers may consider providing learners with choices for different activities, varying the complexity level of tasks, adjusting the time allocated for tasks based on different groups of students, diversifying coaching time, utilizing both tiered and homogeneous groupings for different tasks, and developing a range of activities that accommodate various learning styles, including visual, auditory, and kinesthetic approaches (Pereira et al., 2019; Tomlison and Allan, 2000). The essence of these strategies is to create multiple avenues and platforms for learners to process content, ideas, and skills introduced in the learning environment. This approach goes beyond mere comprehension of specific concepts; it cultivates a deeper understanding of how to learn and solve problems. Effective instructional activities, as highlighted by Tomlinson (2001), are those presented in a range of modes, varying in sophistication, time spans, and the levels of teacher or peer support. Repetitively employing such layered cycles helps students draw patterns, make connections between current and prior knowledge, apply concepts, and create new

learnings, fostering a more comprehensive and enriching educational experience (Pham, H., 2012; Tomlison, 2001).

RQ3: Recommendations for Solving the Challenges Curtailing the Implementation of Differentiated Instruction

The study findings highlighted that English teacher trainers encounter challenges related to time constraints, limited resources, inadequate teacher capacity, and a lack of information when it comes to implementing differentiated instruction. The study recommends the following:

Firstly, the study reveals the time limitations associated with implementing differentiated instruction and suggests various strategies to overcome this challenge. Teachers may need to find strategies to streamline the planning process while ensuring effective differentiation. These strategies include professional development, collaborative planning, and finding efficient ways to design and deliver differentiated instruction within the constraints of the curriculum. Offering teachers professional development opportunities in differentiation can also equip them with the skills and strategies to streamline the planning process and make it more efficient.

Other than time constraints, the study also reveals the gap existing in finding adequate resources to facilitate differentiation. By addressing resource challenges and providing the necessary support and training, educational institutions can empower teachers to implement differentiated instruction more effectively. That being said, this study recommends allocating funding and support for the acquisition of diverse instructional materials, both physical and digital, that can be used for differentiation; encouraging teachers to share resources, best practices, and lesson plans with colleagues to reduce the burden of resource searching and

development, and offering training and professional development opportunities to equip teachers with the skills to locate, adapt, and create materials that support differentiation.

The study also revealed that English teacher trainers and trainees lack capacity to differentiate instruction. The predominant use of traditional lecture-style teaching in teacher training sessions results in passive learning, where trainees are expected to absorb information without active participation. This method does not effectively prepare trainees for implementing DI. Even trainers who claimed to have a full understanding of differentiation demonstrated minimal knowledge and limited implementation.

To start with, teacher trainers should themselves receive comprehensive training in differentiated instruction. They need to have a deep understanding of the principles, strategies, and methods of DI before they can effectively pass this knowledge on to trainees. Secondly, teacher trainers should model differentiated instruction during their training sessions. By demonstrating DI techniques in their teaching, they provide practical examples for trainees to follow. Instead of relying on traditional lecture-style teaching, teacher trainers should use active learning strategies in their sessions and encourage trainees to actively engage in the learning process to experience differentiated instruction firsthand. Teacher trainers should also be encouraged to share knowledge in order to learn from each other's experiences and share ideas for implementing DI effectively. In addition to this, there should be a well structured and intentional continuous professional development programs for teacher trainers to reinforce skills and build capacity. Furthermore, English teacher trainers and trainees should be encouraged to reflect on their teaching practices and provide regular feedback. Reflective practice helps teachers refine their DI techniques and adapt them to different classroom situations. By

following these recommendations, teacher trainers can better prepare their trainees to implement differentiated instruction successfully in their own classrooms.

Recommendations for future research

Research serves as a catalyst for informed action, providing empirical support for theory and expanding the body of knowledge in a specific field of study. The present research has played a pivotal role in deepening our comprehension of the perceptions and application of differentiated instruction among English teacher trainers and trainees. As a result, it has addressed initial queries while simultaneously giving rise to fresh inquiries. In this capacity, it has established a solid groundwork for subsequent research endeavors, unveiling prospects for future exploration in areas like learner-centered pedagogy, differentiated instruction, personalized learning, and other promising avenues.

More specifically, the study proposes the following possible future research recommendations:

1. Longitudinal Studies: Conducting longitudinal studies in the realm of differentiated instruction involves a meticulous tracking and analysis of data over an extended period. This comprehensive approach allows researchers to gain insights into the sustained impact of differentiated instruction training on both teacher practices and student outcomes. It provides a nuanced understanding of the evolution and effectiveness of these instructional strategies over time.

Engaging in longitudinal studies within the domain of differentiated instruction necessitates a meticulous and sustained tracking and analysis of data over an extended period.

This comprehensive research approach offers researchers a unique opportunity to delve into the prolonged impact of differentiated instruction training on both teacher practices and student outcomes. By observing and analyzing the implementation of these instructional strategies over an extended timeframe, longitudinal studies provide a nuanced understanding of their evolution and effectiveness.

This prolonged research design enables researchers to go beyond snapshot assessments and delve into the dynamics of how teachers integrate and adapt differentiated instruction strategies into their pedagogical approaches over time. It also allows for a more in-depth exploration of the lasting effects on student learning, academic achievement, and overall educational experiences.

Furthermore, longitudinal studies facilitate the identification of trends, patterns, and shifts in instructional practices, offering valuable insights into the factors that contribute to the sustained success or potential challenges associated with differentiated instruction. By capturing data at multiple points throughout an extended period, researchers can discern not only immediate outcomes but also the durability and adaptability of these practices within evolving educational contexts.

In summary, longitudinal studies in differentiated instruction contribute significantly to the field's knowledge base by providing a holistic perspective on the sustained impact, evolution, and effectiveness of these instructional strategies across time.

2. Comparative Analysis: A comparative analysis seeks to discern the effectiveness of differentiated instruction across diverse educational contexts. By comparing its impact across various subjects, grade levels, and types of schools, researchers can uncover patterns, subject-specific nuances, and contextual variations. This depth of analysis is crucial for tailoring differentiated instruction approaches to specific academic domains and educational settings.

Conducting a comparative analysis in the realm of differentiated instruction involves seeking to discern its effectiveness across diverse educational contexts. By comparing the impact of differentiated instruction across various subjects, grade levels, and types of schools, researchers aim to uncover patterns, subject-specific nuances, and contextual variations. This depth of analysis becomes crucial for tailoring differentiated instruction approaches to specific academic domains and educational settings.

In a comparative analysis, researchers explore how differentiated instruction practices fare in different subject areas, recognizing that the applicability and effectiveness may vary based on the nature of the content. Subjects with distinct learning requirements and curriculum structures may present unique challenges and opportunities for differentiated instruction. For instance, the strategies that work well in mathematics may need adjustment when applied to language arts or science.

Additionally, a comparative analysis allows for an examination of differentiated instruction's impact across various grade levels. Educational needs, cognitive development, and learning styles differ significantly between elementary, middle, and high school students.

Understanding how differentiated instruction can be adapted and optimized for different age groups is crucial for its successful implementation.

Moreover, by comparing the effectiveness of differentiated instruction in diverse types of schools (e.g., public, private, urban, rural), researchers can identify contextual factors that influence its success. Variances in resources, teacher-student ratios, and institutional support may impact the feasibility and outcomes of differentiated instruction in different educational settings.

In summary, a comparative analysis in differentiated instruction provides a comprehensive understanding of its effectiveness by considering subject-specific intricacies, grade-level dynamics, and contextual variations. This nuanced exploration is essential for tailoring differentiated instruction approaches to specific academic domains and educational environments.

3. Teacher Preparedness: Investigating teacher preparedness involves a thorough examination of the readiness and training needs of both teacher trainers and trainees in implementing differentiated instruction. This research area aims to assess existing training programs, identify gaps, and propose improvements. Understanding the factors that contribute to effective teacher preparation ensures a more successful and widespread adoption of differentiated instruction practices.

Investigating teacher preparedness in the realm of differentiated instruction involves a thorough examination of the readiness and training needs of both teacher trainers and trainees. This research area aims to assess existing training programs, identify gaps, and propose

improvements to enhance the successful and widespread adoption of differentiated instruction practices.

To delve into teacher preparedness, researchers analyze the existing training initiatives for educators in differentiated instruction. This includes scrutinizing the content, methods, and duration of training programs. It aims to understand how well these programs equip teachers with the knowledge, skills, and strategies necessary for implementing differentiated instruction effectively.

Identifying gaps in teacher preparedness is a crucial aspect of this research area. By pinpointing areas where educators may lack adequate training or support, researchers can propose targeted interventions. These interventions may involve refining existing training modules, introducing supplementary resources, or developing specialized courses to address specific needs related to differentiated instruction.

Furthermore, the research explores the perceptions and experiences of both teacher trainers and trainees regarding the effectiveness of current training programs. This feedback provides valuable insights into the strengths and weaknesses of existing initiatives. It helps in understanding the challenges faced by educators in preparing and implementing differentiated instruction in their classrooms.

Understanding the factors that contribute to effective teacher preparation is a key objective of this research. This involves examining not only the content of training programs but also the ongoing support mechanisms provided to teachers. Effective teacher preparation extends

beyond initial training and includes continuous professional development opportunities, mentorship programs, and access to relevant resources.

In summary, investigating teacher preparedness in differentiated instruction involves a comprehensive examination of existing training programs, identification of gaps, and proposing improvements. This research area plays a pivotal role in ensuring that teachers, both trainers, and trainees, are well-prepared to implement differentiated instruction practices successfully.

4. Student Outcomes: Exploring the correlation between differentiated instruction and student outcomes is essential for gauging its impact on academic performance, engagement, and motivation. This research entails analyzing a range of data, including academic achievement metrics, student surveys, and observational insights. A comprehensive understanding of how differentiated instruction influences student outcomes is fundamental for refining instructional strategies.

Determining how diversified teaching affects different facets of academic performance, engagement, and motivation is a crucial research field in the investigation of the relationship between differentiated instruction and student outcomes. Through the use of a variety of data sources, such as academic achievement measurements, student surveys, and observational insights, this research seeks to provide a thorough knowledge of how diversified instruction affects student outcomes.

To investigate student outcomes, researchers analyze academic achievement metrics to assess whether students exposed to differentiated instruction exhibit improved performance compared to those in traditional instructional settings. This involves examining standardized test scores, grades, and other quantitative measures to quantify the impact on students' academic success.

Additionally, student surveys play a crucial role in this research area, capturing qualitative insights into students' perceptions, experiences, and attitudes toward differentiated instruction. By understanding how students engage with and respond to differentiated instructional strategies, researchers can uncover valuable information about the impact on motivation, interest, and overall satisfaction with the learning experience.

Observational insights form another integral component of the research, involving the systematic observation of classrooms where differentiated instruction is implemented. This qualitative approach allows researchers to gain a nuanced understanding of the dynamics between educators and students, the level of student engagement, and the overall classroom environment.

Moreover, the research may explore the impact of differentiated instruction on non-academic outcomes such as social-emotional development, self-efficacy, and attitudes toward learning. By considering a holistic set of student outcomes, researchers can provide a more comprehensive evaluation of the benefits and potential challenges associated with differentiated instruction.

In summary, the research on student outcomes in differentiated instruction involves analyzing academic achievement metrics, gathering insights from student surveys, and observing classrooms to understand the multifaceted impact of differentiated instruction on students. This exploration is fundamental for refining instructional strategies and optimizing the learning experience for diverse student populations.

5. Cultural and Contextual Factors: Investigating the influence of cultural and contextual factors on differentiated instruction practices explores how these factors shape the adoption and adaptation of these strategies in diverse educational settings. Recognizing the cultural nuances and contextual elements is crucial for tailoring differentiated instruction to be effective and culturally responsive.

Investigating the influence of cultural and contextual factors on differentiated instruction practices is a vital research area that delves into how these factors shape the adoption and adaptation of these strategies in diverse educational settings. Recognizing the cultural nuances and contextual elements is crucial for tailoring differentiated instruction to be effective and culturally responsive.

This research involves a comprehensive examination of how cultural and contextual factors impact the implementation of differentiated instruction. It seeks to understand how cultural norms, values, and expectations influence the acceptance and integration of differentiated instructional strategies within different educational communities.

Cultural factors may include considerations such as the predominant teaching and learning styles in a particular cultural context, the role of individualism or collectivism in educational practices, and the importance placed on collaborative learning. Understanding these cultural dynamics is essential for educators to design and implement differentiated instruction that aligns with the cultural preferences and expectations of students and communities.

Contextual factors encompass broader elements such as educational policies, resource availability, and socio-economic conditions. Researchers in this area explore how these contextual factors shape the feasibility and sustainability of differentiated instruction within diverse educational contexts. For example, the availability of resources, teacher training programs, and policy support can significantly impact the successful implementation of differentiated instruction.

Additionally, the research may investigate the role of language diversity and linguistic considerations in differentiated instruction. Cultural and contextual factors can influence how educators address linguistic diversity within classrooms, impacting the effectiveness of instructional strategies.

Ultimately, this research area aims to provide insights into how educators can adapt differentiated instruction to diverse cultural and contextual settings, ensuring that these strategies are not only effective but also culturally responsive. By understanding the intricate interplay between differentiated instruction and cultural/contextual factors, educators and policymakers

can make informed decisions to enhance the inclusivity and effectiveness of educational practices worldwide.

6. Professional Development Models: Evaluating the effectiveness of professional development models in supporting teachers in implementing differentiated instruction is pivotal for ongoing teacher growth. This area of research scrutinizes various professional development approaches, such as workshops, mentoring programs, or online courses, to identify best practices that enhance teacher capacity in delivering differentiated instruction.

Evaluating the effectiveness of professional development models in supporting teachers in implementing differentiated instruction is a crucial area of research that scrutinizes various approaches to identify best practices for enhancing teacher capacity. This research delves into different professional development models, including workshops, mentoring programs, and online courses, to understand their impact on teachers' ability to deliver differentiated instruction.

Professional development is instrumental in empowering teachers with the knowledge, skills, and strategies needed to effectively implement differentiated instruction in their classrooms. This research area seeks to assess the strengths and limitations of diverse professional development models, considering factors such as accessibility, sustainability, and the depth of content covered.

Workshops are a common form of professional development, offering teachers the opportunity to engage in interactive sessions, collaborate with peers, and acquire new instructional techniques. Research in this area may explore the effectiveness of workshops in

promoting a deep understanding of differentiated instruction principles and providing practical strategies for implementation.

Mentoring programs involve experienced teachers guiding their peers in the implementation of differentiated instruction. Research may investigate the impact of mentorship on teacher confidence, instructional practices, and the sustained integration of differentiated strategies into the classroom.

Online courses, with their flexibility and accessibility, have become increasingly popular in teacher professional development. Research may examine the efficacy of online courses in delivering differentiated instruction content, assessing the level of engagement, and exploring how online platforms cater to the diverse learning needs of teachers.

Moreover, this research may explore the long-term effects of different professional development models on teacher retention, job satisfaction, and overall instructional quality. Identifying best practices in professional development ensures that teachers receive continuous support in refining their differentiated instruction practices, contributing to improved student outcomes.

In summary, the research on professional development models for differentiated instruction aims to provide valuable insights into the most effective approaches, enabling educational institutions and policymakers to design impactful and sustainable professional development programs for teachers.

7. Technology Integration: Studying how technology can be effectively integrated into English classrooms to enhance differentiated instruction involves exploring the synergy between technological tools and instructional strategies. Researchers delve into how technology can support and amplify differentiated instruction, addressing both its benefits and potential challenges in the modern educational landscape.

Examining the effective integration of technology into English classrooms to enhance differentiated instruction is a research area that explores the symbiosis between technological tools and instructional strategies. This research delves into how technology can support and amplify differentiated instruction, considering both its advantages and potential challenges in the contemporary educational landscape.

The integration of technology in differentiated instruction offers new avenues for tailoring learning experiences to individual student's needs, preferences, and readiness levels. This research may investigate the impact of various technological tools, such as educational software, online platforms, and digital resources, on the implementation of differentiated instructional practices.

One aspect of this research involves exploring how technology can facilitate personalized learning paths for students. Adaptive learning platforms, for example, can dynamically adjust content, pacing, and assessments based on individual student progress. Research in this area may assess the effectiveness of adaptive technologies in meeting diverse learning needs and promoting student engagement.

Additionally, the research may examine how digital resources and multimedia elements contribute to differentiated instruction. Technology can provide diverse modes of content delivery, catering to different learning styles, preferences, and intelligences. Researchers may investigate how incorporating multimedia elements in lessons impacts student understanding and motivation.

The use of educational software and applications designed for differentiated instruction is another aspect of this research. Examining the usability, effectiveness, and teacher/student experiences with such tools can provide insights into their potential role in creating inclusive and dynamic learning environments.

Moreover, researchers may explore the challenges associated with technology integration in differentiated instruction. Issues such as access to technology, teacher training, and the digital divide may be investigated to understand potential barriers and devise strategies for overcoming them.

In summary, the research on technology integration in differentiated instruction aims to unravel the opportunities and challenges associated with leveraging technology to enhance personalized and inclusive learning experiences in English classrooms. The insights gained from this research contribute to the ongoing dialogue on the effective use of technology in education, with a specific focus on differentiated instructional practices.

8. Inclusive Education: Exploring the intersection between differentiated instruction and inclusive education practices is paramount for addressing the diverse needs of learners. This research area focuses on how differentiated instruction can contribute to creating inclusive environments that accommodate and support students with varying abilities and learning styles.

The exploration of the intersection between differentiated instruction and inclusive education practices is a vital research area that delves into how differentiated instruction can contribute to creating inclusive environments that accommodate and support students with varying abilities and learning styles.

This research seeks to understand the ways in which differentiated instructional practices can align with the principles of inclusive education. Inclusive education emphasizes providing equitable opportunities for all students, including those with diverse abilities, learning challenges, and backgrounds. Differentiated instruction, with its focus on tailoring teaching methods to individual needs, complements the inclusive education framework.

One aspect of this research involves examining how differentiated instruction can address the diverse learning needs within inclusive classrooms. Researchers may investigate the effectiveness of various differentiation strategies in meeting the needs of students with different abilities, including those with learning disabilities, gifted learners, and English language learners.

Furthermore, the research may explore the role of differentiated instruction in fostering a positive and supportive classroom culture. Inclusive education emphasizes creating learning environments where every student feels valued and included. Research in this area may

investigate how differentiation strategies contribute to a sense of belonging among students with diverse learning needs.

Additionally, the study may explore the perceptions and experiences of educators in implementing differentiated instruction within inclusive settings. Understanding the challenges and successes of teachers in tailoring their approaches to meet the needs of all students, including those with disabilities or diverse learning styles, is crucial for refining inclusive educational practices.

Moreover, researchers may investigate the impact of differentiated instruction on student outcomes in inclusive classrooms. This includes academic achievement, social-emotional development, and overall engagement. Examining the effectiveness of differentiation strategies in fostering positive learning experiences for all students contributes valuable insights into inclusive education practices.

In summary, research in the intersection of differentiated instruction and inclusive education aims to enhance our understanding of how tailored teaching approaches can contribute to creating inclusive and equitable learning environments. The findings from this research provide valuable guidance for educators, policymakers, and stakeholders committed to fostering inclusive education practices that benefit all learners.

9. Assessment Strategies: Investigating innovative assessment methods aligned with differentiated instruction is crucial for accurately measuring student progress in diverse

classrooms. This research delves into the development and implementation of assessments that align with the principles of differentiated instruction, providing a more accurate reflection of student learning.

Research focusing on assessment strategies aligned with differentiated instruction is crucial for advancing our understanding of how to accurately measure student progress in diverse classrooms. This area of inquiry seeks to explore and develop innovative assessment methods that align with the principles and practices of differentiated instruction, ultimately providing a more accurate reflection of student learning.

One key aspect of this research involves the exploration of alternative assessment formats that cater to diverse learning styles and preferences. Traditional assessments, such as standardized tests, may not effectively capture the varied strengths and abilities of students in differentiated classrooms. Researchers in this field may investigate and propose alternative assessment methods, such as project-based assessments, portfolios, and performance tasks, which allow students to demonstrate their understanding in ways that align with their unique learning profiles.

Another avenue of research is the development of assessment tools that consider the diverse readiness levels of students. Differentiated instruction emphasizes adjusting the level of challenge to match each student's readiness. Assessment strategies should align with this principle by providing tasks and questions that are appropriately scaffolded to meet the needs of students at different readiness levels. This research may involve creating adaptive assessments that dynamically adjust based on individual student progress.

Moreover, the research may explore the role of formative assessment in differentiated classrooms. Formative assessments are ongoing assessments that provide real-time feedback to both teachers and students, guiding instructional decisions. Investigating how formative assessments can be effectively integrated into differentiated instruction practices enhances our understanding of how to support continuous student growth and development.

Additionally, researchers may examine the use of technology in assessment strategies aligned with differentiated instruction. Technology offers opportunities for adaptive assessments, personalized learning platforms, and interactive assessment tools that can cater to individual learning needs. Understanding how technology can be leveraged to enhance differentiated assessment practices is a valuable aspect of this research.

Furthermore, the study may delve into the alignment between differentiated instruction, assessment, and feedback. Differentiated assessment strategies should be accompanied by targeted and meaningful feedback that guides students toward improvement. Exploring effective feedback mechanisms within the context of differentiated instruction contributes to a comprehensive understanding of the assessment process.

In summary, research in assessment strategies aligned with differentiated instruction seeks to advance our knowledge of effective ways to measure and evaluate student learning in diverse classrooms. The findings from this research provide practical insights for educators seeking to implement differentiated assessment practices that truly reflect the diverse strengths and needs of their students.

10. Teacher Collaboration: Examining the impact of collaborative practices among English teacher trainers and trainees in implementing differentiated instruction highlights the importance of teamwork in education. This research explores how collaborative efforts can enhance the implementation of differentiated instruction, fostering a culture of shared expertise and best practices among educators.

Research focusing on teacher collaboration within the context of implementing differentiated instruction sheds light on the significance of teamwork in education. This area of inquiry delves into how collaborative practices among English teacher trainers and trainees can positively impact the successful implementation of differentiated instruction, fostering a culture of shared expertise and best practices among educators.

One crucial aspect of this research involves investigating the ways in which teacher collaboration influences the planning and delivery of differentiated instruction. Collaborative efforts can lead to the pooling of diverse perspectives, experiences, and instructional strategies. Understanding how English teacher trainers and trainees collaboratively plan and design differentiated lessons ensures a comprehensive exploration of effective collaborative practices.

Moreover, the research may explore the role of collaborative professional development in enhancing educators' capacity to implement differentiated instruction. Collaborative learning opportunities, such as workshops, seminars, or collaborative lesson planning sessions, can contribute to the collective growth of teachers in understanding and applying differentiated instructional strategies. Investigating the impact of such collaborative professional development initiatives provides insights into effective models and structures.

The study may also examine the dynamics of collaborative reflection and feedback among educators implementing differentiated instruction. Collaborative reflection allows teachers to share their experiences, challenges, and successes in implementing differentiated instruction. Exploring how teacher collaboration contributes to ongoing reflective practices can provide valuable insights into refining instructional approaches and overcoming implementation challenges.

Furthermore, the research may investigate the impact of collaborative planning on resource-sharing and workload distribution. Differentiated instruction often requires additional resources and diverse instructional materials. Understanding how teacher collaboration facilitates the sharing of resources and the equitable distribution of workload contributes to the sustainability and scalability of differentiated instruction practices.

Additionally, the study may explore the role of collaborative assessment practices in the context of differentiated instruction. Collaborative assessment design and evaluation can enhance the reliability and validity of assessments tailored to diverse student needs. Investigating how English teacher trainers and trainees collaboratively develop and implement assessments aligned with differentiated instruction principles provides a deeper understanding of assessment practices in collaborative settings.

In summary, research on teacher collaboration in the implementation of differentiated instruction contributes to our understanding of how collaborative practices can enrich the educational experience for both educators and students. The findings from this research inform

the development of effective collaborative models and strategies that support the successful integration of differentiated instruction in English classrooms.

11. Policy Analysis: Assessing the influence of educational policies on the adoption and sustainability of differentiated instruction practices involves a thorough examination of policy frameworks. Researchers analyze how existing policies either support or hinder the implementation of differentiated instruction, providing valuable insights for policy-makers and educators alike.

Conducting a policy analysis to assess the influence of educational policies on the adoption and sustainability of differentiated instruction practices is a critical area of research. This type of study involves a comprehensive examination of policy frameworks within the educational landscape and aims to understand how these policies impact the implementation of differentiated instruction. The findings from such research provide valuable insights for policymakers and educators alike, shaping the direction of educational practices and reforms.

One key aspect of policy analysis in the context of differentiated instruction is to investigate the alignment or misalignment between existing policies and the principles of differentiated instruction. This involves a close examination of policy documents, guidelines, and regulations to identify explicit or implicit support for differentiated instructional practices. Understanding the extent to which policies reflect the principles of differentiation is crucial for gauging the policy environment's receptivity to innovative pedagogical approaches.

Moreover, researchers may explore the role of accountability measures and standardized testing in educational policies and their potential impact on differentiated instruction. Policies that emphasize standardized assessments may inadvertently create challenges for educators implementing differentiated instruction, as these approaches often prioritize uniformity over individualization. Examining the policy landscape provides insights into how accountability measures may influence instructional choices and teacher practices.

The study may also delve into the role of professional development policies in supporting educators in implementing differentiated instruction. Policies that prioritize and fund professional development opportunities related to differentiated instruction can significantly contribute to teacher preparedness and effectiveness. Assessing the presence or absence of such policies provides a comprehensive understanding of the institutional support available to educators.

Furthermore, researchers may analyze policies related to resource allocation, curriculum design, and teacher evaluation, as these factors directly impact the feasibility and sustainability of differentiated instruction. Policies that provide adequate resources, flexibility in curriculum design, and recognition of differentiated practices in teacher evaluations contribute to a conducive environment for successful implementation.

Additionally, the research may explore the impact of broader educational reform policies on differentiated instruction. Educational systems undergoing reforms may either facilitate or hinder the integration of differentiated practices. Understanding the interplay between reform

policies and differentiated instruction sheds light on the broader contextual factors influencing pedagogical approaches.

In summary, policy analysis in the realm of differentiated instruction examines the regulatory landscape to discern the level of support, challenges, and opportunities for educators. The insights gained from such research inform policymakers, educational leaders, and practitioners about the necessary policy adjustments to promote the effective implementation and sustainability of differentiated instruction in diverse educational settings.

12. Parent and Community Involvement: Investigating the role of parents and communities in supporting and understanding differentiated instruction in English classrooms is vital for fostering a collaborative educational approach. This research explores how parents and communities can contribute to the success of differentiated instruction by understanding its principles and actively participating in the educational process.

Examining the role of parents and communities in supporting and understanding differentiated instruction in English classrooms is a crucial research area. This investigation delves into how the active involvement of parents and communities can contribute to the success of differentiated instruction, fostering a collaborative and supportive educational environment.

Understanding parents' perceptions, knowledge, and attitudes towards differentiated instruction is a key aspect of this research. This involves exploring how well parents understand the principles and benefits of differentiated instruction, as well as any concerns or

misconceptions they may have. By gaining insights into parents' perspectives, researchers can identify areas for communication and collaboration between educators and parents.

Additionally, the study may investigate the impact of parent education programs focused on differentiated instruction. Providing parents with resources and information about the principles and practices of differentiation can enhance their ability to support their children's learning at home. This may involve workshops, informational sessions, or other forms of engagement to empower parents with a deeper understanding of differentiated instructional strategies.

The research may also explore the role of parent-teacher partnerships in the implementation of differentiated instruction. Understanding how effective communication channels between teachers and parents contribute to the alignment of instructional approaches can provide valuable insights. Examining successful models of parent-teacher collaboration in the context of differentiated instruction can offer practical recommendations for fostering strong home-school partnerships.

Furthermore, investigating the role of the broader community in supporting differentiated instruction is essential. Community organizations, local businesses, and other external stakeholders may play a part in creating a conducive environment for differentiated instruction. This could involve community-based programs, extracurricular activities, or partnerships that complement and reinforce differentiated practices in the classroom.

The study may also explore potential challenges and barriers to parent and community involvement in differentiated instruction. Identifying obstacles such as lack of awareness,

communication gaps, or cultural factors can inform strategies to overcome these challenges and promote more inclusive community engagement.

Moreover, researchers may investigate the impact of community support on student outcomes in differentiated classrooms. Analyzing whether students with actively engaged parents and communities experience enhanced learning outcomes can provide evidence of the broader benefits of collaborative educational approaches.

In summary, research on parent and community involvement in differentiated instruction aims to uncover ways in which these key stakeholders can actively contribute to and support differentiated practices. By understanding the dynamics of parent and community engagement, educators and policymakers can develop strategies to create a holistic and collaborative educational environment that maximizes the effectiveness of differentiated instruction in English classrooms.

13. Professional Learning Communities: Studying the effectiveness of professional learning communities in promoting the exchange of best practices related to differentiated instruction provides insights into collaborative learning environments. This research explores how professional learning communities can facilitate the sharing of knowledge, experiences, and resources among educators, contributing to continuous improvement in differentiated instruction practices.

Investigating the effectiveness of professional learning communities (PLCs) in promoting the exchange of best practices related to differentiated instruction is a critical research area. This

study aims to provide insights into collaborative learning environments and how PLCs can enhance the implementation of differentiated instruction practices among educators.

Understanding how PLCs function as dynamic platforms for professional development is a key aspect of this research. This involves exploring the structure, processes, and goals of PLCs focused on differentiated instruction. Investigating the frequency and nature of collaborative interactions within these communities can provide valuable insights into the mechanisms through which knowledge is shared and disseminated.

The research may delve into the impact of PLCs on teacher collaboration and the development of expertise in differentiated instruction. Examining how participation in PLCs influences educators' understanding of differentiation strategies, instructional techniques, and assessment methods can offer practical insights into the professional growth of teachers.

Additionally, the study may explore the role of PLCs in addressing specific challenges related to differentiated instruction. Identifying common obstacles faced by educators and how PLCs contribute to problem-solving and resource-sharing can inform the design and focus of these collaborative communities.

Furthermore, investigating the factors that contribute to the success of PLCs in promoting differentiated instruction is essential. This may involve examining the role of leadership, the establishment of clear goals, and the presence of a supportive organizational culture. Understanding the conditions that foster effective PLCs can guide educational institutions in creating environments conducive to collaborative professional development.

The research could also explore the impact of PLCs on student outcomes. Analyzing whether students taught by educators involved in effective PLCs experience improved learning outcomes can provide evidence of the broader benefits of collaborative professional development in the context of differentiated instruction.

Moreover, the study may investigate the scalability and sustainability of PLCs focused on differentiated instruction. Examining how these communities can expand, adapt, and persist over time can inform strategies for institutionalizing effective collaborative learning practices.

In summary, research on professional learning communities and differentiated instruction aims to uncover the ways in which collaborative environments contribute to the exchange of best practices among educators. By understanding the dynamics of PLCs and their impact on teacher professional development, educational institutions can leverage these communities to enhance the implementation of differentiated instruction and promote continuous improvement in teaching practices.

14. Teacher Beliefs and Attitudes: Exploring the beliefs, attitudes, and perceptions of teachers regarding differentiated instruction is essential for understanding the factors that either facilitate or hinder its implementation. This research delves into the mindset of educators, identifying key elements that influence their approach to and acceptance of differentiated instruction.

Investigating the beliefs, attitudes, and perceptions of teachers regarding differentiated instruction is a crucial research area that seeks to provide insights into the factors influencing its implementation. This study aims to delve into the mindset of educators, identifying key elements that shape their approach to and acceptance of differentiated instruction.

Understanding the beliefs of teachers is fundamental to uncovering their conceptualization of differentiated instruction. This research may explore teachers' perspectives on the purpose and benefits of differentiation, examining whether they view it as a valuable pedagogical approach for meeting diverse student needs. Identifying the underlying beliefs that guide teachers' practices can shed light on the alignment between their educational philosophy and the principles of differentiated instruction.

Examining teachers' attitudes toward differentiated instruction is another essential aspect of this research. It involves investigating whether educators perceive differentiation as a feasible and effective strategy in their classrooms. Exploring the perceived challenges and rewards associated with implementing differentiation can provide valuable insights into the factors that contribute to or impede its successful adoption.

Moreover, the study may explore the role of professional development in shaping teachers' beliefs and attitudes toward differentiated instruction. Analyzing the impact of training programs, workshops, or ongoing support on educators' perceptions can inform strategies for enhancing teacher readiness and fostering a positive attitude toward differentiation.

The research may also investigate how teachers' personal experiences and contextual factors influence their beliefs about differentiated instruction. Exploring whether educators' beliefs are shaped by their own educational backgrounds, teaching experiences, or the specific characteristics of their students can contribute to a nuanced understanding of the individual and contextual factors at play.

Furthermore, the study may examine the relationship between teachers' beliefs and their instructional practices. Investigating whether teachers who hold positive attitudes toward differentiated instruction are more likely to implement its strategies in the classroom can provide evidence of the interplay between beliefs and actions.

In summary, research on teacher beliefs and attitudes toward differentiated instruction aims to uncover the cognitive and affective dimensions that shape educators' approach to this pedagogical approach. By understanding teachers' perspectives, institutions and policymakers can develop targeted strategies to enhance teacher readiness, provide tailored professional development, and foster a positive culture around differentiated instruction.

15. Global Perspectives: Comparing differentiated instruction practices in English classrooms across different countries aims to identify cross-cultural variations and best practices. This global perspective contributes to a broader understanding of effective teaching methods, considering cultural nuances and diverse educational contexts worldwide.

Examining differentiated instruction practices in English classrooms across different countries is a research area that seeks to identify cross-cultural variations and best practices. This global perspective contributes to a broader understanding of effective teaching methods, considering cultural nuances and diverse educational contexts worldwide.

This research may involve a comparative analysis of how differentiated instruction is conceptualized and implemented in English language teaching across various countries. Exploring differences in educational philosophies, cultural expectations, and pedagogical

traditions can provide valuable insights into the factors that shape the adoption and adaptation of differentiated instruction on a global scale.

Understanding the impact of cultural factors on the implementation of differentiated instruction is a key focus of this research. It may explore how cultural values, beliefs, and norms influence teachers' approaches to differentiation and how students from different cultural backgrounds respond to varied instructional strategies. Identifying common challenges and successful approaches across diverse cultural contexts can contribute to the development of culturally responsive differentiated instruction practices.

Moreover, the study may investigate the role of educational policies in different countries in promoting or hindering the adoption of differentiated instruction. Analyzing policy frameworks related to curriculum design, teacher training, and assessment practices can highlight the systemic factors that impact the global landscape of differentiated instruction.

Exploring the experiences of English language teachers and students in different countries can offer rich qualitative data on the effectiveness and challenges of implementing differentiated instruction. Interviews, surveys, and classroom observations can provide firsthand perspectives on the cultural considerations that educators navigate when applying differentiated instructional strategies.

Additionally, this research may contribute to the development of guidelines or recommendations for international collaboration in the field of differentiated instruction. Identifying common principles and adaptable practices that transcend cultural boundaries can

foster a global community of educators committed to enhancing student learning through differentiated instruction.

In summary, the research on global perspectives of differentiated instruction in English classrooms aims to bridge cultural gaps and promote a comprehensive understanding of effective teaching methods. By recognizing and learning from diverse practices worldwide, educators and policymakers can refine their approaches and contribute to the global advancement of differentiated instruction in English language education.

Each of these research areas contributes to a comprehensive understanding of differentiated instruction in English classrooms, addressing various facets that impact its implementation, effectiveness, and sustainability. Researchers exploring these topics play a crucial role in advancing educational practices and ensuring that differentiated instruction meets the diverse needs of both teachers and students.

These research recommendations can contribute to a deeper understanding of differentiated instruction in English education, provide insights into best practices, and guide the development of effective teacher training programs and policies.

Conclusions

The overarching aim of this study was to explore the understanding and application of differentiated learner-centered strategies among English teacher trainers and trainees in Rwanda. The goal was to generate valuable insights that can inform instructional practices and address the current gap in the existing body of literature. The study discovered the following;

The exploration of differentiated instruction within the realm of English teacher trainers and trainees reveals a tapestry of perceptions that is intricate and diverse. Interviews conducted to fathom the concept's definition uncovered a lack of unanimity among participants. While a singular and universally accepted definition remains elusive, a prevailing understanding emerges: differentiated instruction entails the adaptation of teaching methods to cater to the unique and varied needs of learners. This nuanced understanding, although subject to interpretation, aligns with the overarching consensus within educational research.

Upon delving into the survey responses, a discernible trend manifests—a substantial majority of participants not only demonstrate familiarity with differentiated instruction but also exhibit a positive perception of its potential impact. This alignment with existing literature underscores a shared belief in the efficacy of differentiated instruction as a pedagogical approach capable of enriching the educational experience and fostering improved learning outcomes. The positivity reflected in these perceptions serves as a foundational element for the potential widespread adoption of differentiated instruction.

However, the study unravels a notable paradox—the significant gap between positive attitudes and actual implementation in the teaching practice of respondents. Despite the expressed positivity, a considerable portion of participants admits to not incorporating differentiated instruction in their teaching methodologies. The reasons behind this implementation gap are multifaceted, encompassing perceived difficulties in implementation, a lack of training opportunities, and constraints in capacity. The study probes deeper into the psychological barriers faced by educators, revealing apprehensions about their competency in

effectively executing differentiated instruction and a palpable fear of potential student underperformance in standardized assessments.

These revelations underline the imperative need for targeted training and comprehensive support mechanisms. Such interventions must not only address the technical facets of differentiated instruction but also confront the underlying concerns and hesitations harbored by educators. The study advocates for a strategic approach to professional development, one that not only imparts the necessary technical skills but also cultivates confidence and efficacy among English teacher trainers and trainees in applying differentiated instructional strategies. Such an approach aims to bridge the gap between positive perceptions and practical implementation, facilitating a seamless integration of differentiated instruction into everyday teaching practices.

In summary, the study presents a rich panorama of perceptions surrounding differentiated instruction among English teacher trainers and trainees. It calls for a holistic understanding and approach to professional development, acknowledging the multifaceted nature of the challenges faced and aiming to empower educators to confidently and effectively apply differentiated instructional strategies in their classrooms.

Implementation of differentiation

The researcher examined the implications of the findings related to differentiation in education, focusing on four key indicators: the learning environment, content, process, and product. In the learning environment, the study revealed a lack of differentiation, with traditional lecture-based teaching methods prevailing. Students expressed dissatisfaction with this approach, indicating that it doesn't cater to diverse learning styles and leaves some students behind. The

study emphasizes the importance of creating a psychologically safe and diverse learning environment to accommodate various student needs and preferences.

Regarding content differentiation, educators were relatively effective in modifying how content is accessed but faced challenges in providing adequate materials and diverse reading levels. Recommendations include using diagnostic tests to tailor content to students' abilities and providing a range of resources and reading materials to address different reading levels and interests. For product differentiation, the study highlighted the importance of differentiated assessments that provide specific feedback, address diverse student needs, and explore alternative assessment methods. Teachers can collaborate with students to develop assessments that align with their understanding of learning objectives and individual needs. Recommendations include offering choices for assessments and flexible working arrangements, particularly for English language learners.

In the differentiation of the learning process, the study revealed that many educators relied on limited assessment tools and teaching strategies. While some used various methods, there is room for improvement in diversifying teaching approaches and providing choices in learning activities and assessments. Professional development and resources can help educators expand their toolkit of instructional methods.

Each facet offers insights into the current state of differentiation and presents a roadmap for enhancing pedagogical practices. In scrutinizing the learning environment, the study unveils a prevalent absence of differentiation, with traditional lecture-based teaching methods taking precedence. Student feedback indicated dissatisfaction, emphasizing that this approach fails to cater to diverse learning styles, leading to some students being left behind. The study

underscores the imperative need for a paradigm shift towards creating a psychologically safe and diverse learning environment. This shift acknowledges and accommodates various student needs and preferences, fostering an inclusive atmosphere conducive to effective learning.

Turning attention to content differentiation, educators demonstrated relative effectiveness in modifying how content is accessed. However, challenges surfaced in providing adequate materials and addressing diverse reading levels. The study advocates for the integration of diagnostic tests to tailor content to students' abilities and recommends a diversified range of resources and reading materials. This approach ensures a more comprehensive and inclusive content delivery that resonates with different reading levels and individual interests.

In the realm of product differentiation, the study emphasizes the paramount importance of differentiated assessments that offer specific feedback and address diverse student needs. Collaboration between teachers and students in developing assessments is highlighted as a key strategy. Recommendations include providing choices for assessments and flexible working arrangements, particularly for English language learners. This approach not only acknowledges individual learning styles but also aligns assessments with students' understanding of learning objectives.

Addressing the differentiation of the learning process, the study brings to light the reliance of many educators on limited assessment tools and teaching strategies. While some variation exists, there is ample room for improvement in diversifying teaching approaches and offering choices in learning activities and assessments. The study suggests that professional

development and resource allocation can empower educators to expand their toolkit of instructional methods, fostering a more dynamic and engaging learning process.

In the context of communication, the study unveils the common practice of code-switching among educators—switching between languages during communication. This phenomenon, prevalent in various situations, reflects the multilingual and multicultural nature of communication environments. Respondents employ code-switching to ensure effective and clear communication in diverse social and professional contexts. This linguistic adaptability signifies the need for acknowledging and embracing linguistic diversity as an integral aspect of effective communication within educational settings.

In essence, the study not only illuminates the current landscape of differentiation in education but also charts a course forward. It calls for a holistic transformation, emphasizing the need for diverse learning environments, inclusive content delivery, differentiated assessments, varied teaching approaches, and the acknowledgment of linguistic diversity in communication—an integrated approach that holds the potential to elevate the educational experience for all stakeholders involved.

Challenges Faced in the Implementation of Differentiated Instruction

The study identified several challenges that teachers face when trying to implement differentiated instruction. The major obstacles highlighted include time constraints, inadequate resources, lack of teacher capacity, and a lack of detailed information.

Time constraints are a significant concern, as planning and delivering differentiated instruction can be time-consuming, especially when teachers are required to cover a substantial

amount of content within a set timeframe. To address the time constraints, it's essential to streamline the planning process while ensuring that teachers receive adequate support for implementing differentiation effectively. One solution is to provide teachers with professional development opportunities focused on efficient planning and incorporation of differentiation. Collaborative planning among educators can also help reduce the planning burden while creating materials and strategies that benefit all students.

Inadequate resources, including textbooks, teaching materials, and technology, can restrict teachers' ability to provide differentiated instruction. To address this challenge, schools must allocate funds for the acquisition of diverse instructional materials, both physical and digital. Additionally, encouraging teachers to share resources, best practices, and lesson plans can alleviate the burden of resource scarcity. Teacher training programs should include modules on locating, adapting, and creating materials that support differentiation.

Another significant challenge is the lack of teacher capacity in effectively implementing differentiated instruction. It's vital to provide ongoing professional development and support to build teachers' self-efficacy and competence in this area. This training can encompass diverse learning needs, pedagogical approaches, and assessment strategies. Ultimately, teachers should be equipped with versatile skills to handle the complexities of differentiation effectively.

Insufficient information and guidance on differentiation, particularly from school administrators, also contribute to the challenges faced by teachers. Administrative support is crucial for the successful implementation of differentiated instruction. By fostering a culture of support and endorsement of differentiated strategies, schools can overcome issues related to resource allocation, teacher training, and workload distribution.

In summary, while teachers generally have positive perceptions of differentiated instruction, there are significant challenges to its effective implementation. Addressing these challenges through improved planning, resource allocation, teacher training, and administrative support can help promote more inclusive and learner-centered instructional practices.

Possible Next Steps

Research Needs

While the present research has cast a spotlight on the perceptions and application of differentiated instruction among English teacher trainers and trainees, it concurrently acts as a catalyst for further inquiry. The insights garnered from this study not only answer initial queries but also beckon the research community to delve into unexplored territories. As we navigate the landscape of education, several avenues emerge as promising areas for future research endeavors.

- 1. Learner-Centered Pedagogy:* The study hints at the transformative potential of learner-centered pedagogy. To deepen our understanding, future research could delve into the nuances of learner preferences, the impact of student involvement in curriculum design, and the role of teacher-student collaboration in shaping an effective learner-centered educational environment.
- 2. Further Exploration of Differentiated Instruction:* While this study scratches the surface of differentiated instruction, there's room for in-depth exploration. Future research can investigate the efficacy of specific differentiation strategies, the role of technology in enhancing differentiation, and the longitudinal effects of differentiated instruction on student outcomes.

3. ***Personalized Learning:*** The concept of personalized learning aligns closely with differentiated instruction. Exploring how personalized learning approaches, tailored to individual student needs, influence academic achievement and engagement could be a rich area for investigation.

4. ***Teacher Professional Development:*** The study emphasizes how crucial it is to provide efficient professional development in order to close the gap between the widespread acceptance of differentiated instruction and its practical application. Future studies might concentrate on creating and assessing professional development initiatives that provide teachers the knowledge and assurance to easily integrate varied teaching methods.

5. ***Cross-Cultural Perspectives:*** The study highlights how crucial it is to take contextual and cultural aspects into account when implementing individualized instruction. Subsequent studies may adopt a comparative methodology to investigate the ways in which diversified instruction approaches differ in various cultural and educational environments worldwide.

6. ***Long-Term Impact on Student Outcomes:*** Although the study recognizes that differentiated instruction leads to better learning outcomes, more research on the long-term impacts on academic achievement, motivation, and retention of students could yield insightful information for educators and legislators.

In essence, the current research not only adds to the existing body of knowledge but also acts as a springboard for future investigations. By venturing into these unexplored realms, researchers can contribute to the ongoing evolution of educational practices, ensuring that they remain responsive to the dynamic needs of learners and educators alike.

Stakeholder Responsibilities

The study emphasizes the pressing need for a collective effort from various stakeholders within the education system, including educators, policy makers, school leaders, parents, and students, to fully embrace innovative pedagogical approaches such as differentiated instruction. This collective embrace is crucial for creating a transformative educational environment that fosters improved learning experiences and outcomes for all students.

An essential part of this transformational process is played by educators. They can adapt their teaching strategies to the various learning demands of their pupils by incorporating differentiated instruction into their methods. This personalized approach fosters diversity in the classroom in addition to improving understanding. Teachers should be supported and given opportunities for ongoing professional development so they can refine their abilities to carry out differentiated instruction successfully. Peer-learning sessions, seminars, and workshops can enable educators to investigate cutting-edge pedagogies, guaranteeing that each student receives a customized education based on their individual needs and strengths.

Policy makers, on the other hand, play a vital role in shaping the educational landscape. They can support differentiated instruction by allocating resources, both financial and material, to schools, ensuring that educators have access to a wide array of teaching materials and tools. Additionally, they can implement policies that promote smaller class sizes, allowing teachers to provide individualized attention to students. By investing in teacher training programs focused on differentiated instruction, policy makers can foster an environment where innovative pedagogy becomes a fundamental aspect of the educational system.

Principals and other administrators are examples of school leaders who are important figures in educational institutions. Their active support and promotion of varied instruction can foster a culture in schools that promotes variety in education. School administrators have the power to support teachers' professional growth, promote teamwork among educators, and supply the tools needed to successfully execute varied instruction. Through the creation of an atmosphere that supports creative teaching practices, school administrators can motivate teachers and students to participate in the learning process on a deeper level.

Furthermore, the involvement of parents and students is essential in creating a holistic learning experience. Parents can be encouraged to actively participate in their child's education, understanding the benefits of differentiated instruction and supporting its implementation at home. Open communication between teachers and parents can ensure that the tailored learning strategies used in the classroom are reinforced at home, creating a seamless educational experience for the student.

Students, too, play an active role in their learning journey. Embracing differentiated instruction means recognizing and appreciating one's own learning style and preferences. Students can actively communicate their needs, learning preferences, and challenges to their teachers, enabling educators to tailor instruction effectively. Encouraging a growth mindset among students, where they understand that learning is a dynamic and personalized process, can further enhance their engagement and motivation in the classroom.

In conclusion, the widespread acceptance and implementation of innovative pedagogical approaches like differentiated instruction require a concerted effort from educators, policy makers, school leaders, parents, and students. By working collaboratively, these stakeholders can

create an educational environment that values diversity, supports individualized learning, and ultimately enhances the overall learning experiences and outcomes for students across the board.

Overall Conclusion

To recap, teachers generally exhibit positive attitudes toward differentiated instruction but often lack a nuanced understanding of its practical application, highlighting broader issues related to teacher capacity building and professional support within educational institutions. There is a need to reimagine teacher training and capacity building to address the misalignment in practice and effectively equip teachers with the requisite skills for the reality of the 21st century classroom. The study also underscores the substantial challenges hindering the effective implementation of differentiated instruction. It is imperative to address these challenges through enhanced planning, resource allocation, teacher training, and administrative support to foster more inclusive and learner-centered instructional practices.

To move forward, the study calls for collective efforts from various stakeholders within the education system. This includes educators, policy makers, school leaders, parents, and students. Educators are encouraged to integrate differentiated instruction into their teaching methodologies, with continuous professional development opportunities provided. Policy makers are urged to allocate resources and implement policies that support differentiated instruction. School leaders should actively endorse innovative teaching methods and provide necessary resources. Parents can participate in their child's education, while students are encouraged to engage with their own learning preferences.

In conclusion, a collaborative approach from all stakeholders is essential to ensure the widespread acceptance and implementation of differentiated instruction, fostering a learning

environment that values diversity and enhances learning experiences and outcomes for all students.

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APPENDICES

Appendix A: Survey

Dear respondent,

You are invited to complete the following questionnaire which aims at examining

"Differentiated Learner-Centered Strategies in Second Language Teaching Contexts: Delving into Teacher Trainers' and Trainees' Perspectives and Practices in Rwanda."

The questionnaire should only take 15 minutes to complete and it includes 40 questions.

Your responses are anonymous and will not be identified with you in any way. By participating in this survey, you are indicating that you understand that your responses are anonymous and will not be identified with you in any way. You may skip any question that you find intrusive or offensive, but it will help me if you respond to as many questions as you feel comfortable with.

You have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In this case, the data collected will be deleted.

Please complete all questions and make sure you follow the instructions for each question.

The investigator will explain to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask him/her any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

Risks and Benefits:

The risk of this study is that you may feel uncomfortable with the survey or interview questions. The possible benefits of this study include but are not limited to: a positive impact on student learning as the trainer enhances his knowledge of differentiation practices. Teacher self-efficacy in teaching and meeting the needs of all learners in the classroom will increase as their knowledge of differentiated instruction strategies increases.

Confidentiality and Data Storage:

Participants' confidentiality will be preserved throughout the study with a numbering system for the surveys and the interviews associated with that survey. The data that will be collected for this study will be both digital and hard copy data. The self-made PIN Number on all data submitted is meant for the researcher to maintain the participant's confidentiality, but still, be able to track changes during the study. Any electronic data collected from surveys will only be accessible by the researcher through a password-protected computer. Hard copies of surveys and interviews will be stored in a locked filing cabinet at the researcher's home office and will be discarded after five years, once the study is completed.

Involvement:

Your participation will include the amount of time it takes to complete the survey, interview and observation. The project will conclude on December 2023.

Data Usage:

The results of the study will be used to complete a research project as part of the researcher's doctoral program at UNICAF University.

Participant's Rights:

I have read and discussed the Research Description with the researcher, and I have had the opportunity to ask questions about the purposes and procedures of this study.

My participation in this research is voluntary. I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status or other entitlements.

The researcher may withdraw me from the research at his/her professional discretion. If during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue to participate, the investigator will provide this information to me.

Any information derived from the research project that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.

If at any time I have any questions regarding the research or my participation, I can contact the investigator, who will answer my questions.

The investigator's phone number is +250786399633. If at any time I have comments or concerns regarding the conduct of the research or questions about my rights as a research subject, I should contact UNICAF University through i.papadopoulos@unicaf.org.

I have received a copy of the Research Description and this Participant's Rights Document.

I, hereby, consent to participate in the study ☒ I do not consent to participate in the study ☐

SECTION A: Demographic Profile of Respondents

Please provide your personal and professional information according to the scaling system provided by ticking one of the given answers below (").

1. Gender

a) Male ☐ b) Female ☐ c) Other ☒ d) Prefer not to mention ☒

2. Status at the university:

a) Trainee ☒ b) Trainee ☒

3. Age group

☒

☒

- a) 18-24 years **D** b) 25-34 years c) 35-44 years
 d) 45-54 years **D** e) 55 years and above **D**

4. Level of education

- 1) Diploma **D** 2) Bachelors **D** 3) Masters **D**
 4) Ph.D. **D**

5. Experience in teaching

- 1) 0-1 year **D** 2) 1-5 years **D** 3) 5 and above **D**

SECTION B: Perception on Differentiated Instruction

Please tick (-./) the number that corresponds to your level of agreement or conformity to the statements below.

Scale: 1.Strongly Disagree 2. Disagree 3.Undecided 4. Agree 5.Strongly Agree.

B. Statement	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
B1. I know what differentiated instruction is.					
B2. I have ever implemented it in my class					
B3. Differentiated instruction improves learning outcomes					
B4. Students learn better when teachers apply differentiated instruction					
BS. I understand how to implement differentiated instruction					

B6. It is easy to implement differentiated instruction.
B7. My university offers professional development training sessions to help teachers differentiate instructions
B8. Differentiation cannot be applied to the teaching syllabus of the courses.
B9. Differentiation cannot be applied to the assessment practices of the trainees.
B10. Differentiation is an example of personalized teaching.

SECTION C: Perception on Differentiated Instruction

Please tick (;/) the number that corresponds to your level of agreement or conformity to the statements below.

Scale: 1. Strongly Disagree 2. Disagree 3. Undecided 4. Agree 5. Strongly Agree.

C. THE PHYSICAL ENVIRONMENT IN MY CLASSROOM	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
C1. Presents an inviting, relaxed environment for learning.					
C2. Provides comfortable desks and work areas.					
C3. Contains individual, designated personal spaces for					

extra books and other items.					
C4. Is designed for quick and easy groupings of tables and chairs.					
C5. Is arranged for teacher and student movement during work sessions.					
C6. Provides work areas for individual needs, including knowledge/ability levels.					
C7. Reflects current content or skills through student displays and artifacts.					
D THE ASSESSMENTS IN THIS COURSE	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
D1. Use a variety of ongoing assessment tools such as checklists, surveys, and anecdotal records.					
D2. A variety of formative (ongoing) assessments are used to determine what students know, understand, and are able to do.					
D3. I use conversations (e.g., oral assessments, whole-group discussions, student-led conferences)					
D4. I use observations (e.g., labs, performances, audio-visual presentations)					
D5. I vary the products (e.g., individual assignments, group projects, portfolios, pencil and paper tests, quizzes, or assignments)					

D6. I apply assessment information to guide instruction.					
D7. I address academic , emotional, social and physical student needs.					
D8. I provide time for students to actively process information.					
D9. I give specific feedback to individuals and/or small groups.					
E. THE STUDENTS IN MY CLASS	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
E1. Exhibit on-task behavior while working alone.					
E2. Work effectively in small groups.					
E3. Work on their individual knowledge or ability levels.					
E4. Use materials/resources on the student's own level of success.					
E5. Feel respected and emotionally safe.					
E6. Have multiple options for learning					
E7. Use self-discipline.					
F. CONTENT & TEACHING MATERIALS	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
F1. Include a variety of reading levels that are related to the subject or topic.					
F2. Materials are diversified ie videos, audios, texts, PPTs etc					
F3. Are accessible to students.					

F4. Content is scaffolded into smaller digestible chunks that are logically organized					
F5. Support the standards and topic.					
F6. Are age-appropriate.					
F7. Are up-to-date.					
F8. Are available in an adequate number for the class size.					
F9. Include appropriate reference sources and materials.					
G. INSTRUCTIONAL STRATEGIES	Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
G1. Use a variety of assessment tools before, during, and after learning.					
G2. Use a variety of instructional strategies and activities to teach standards.					
G3. My strategies meet the diverse needs of learners.					
G5. I apply strategies that engage students in various flexible grouping designs.					
G6. Use centers and/or stations for individual and small-group instruction.					
G7. I engage students through projects and/or problem-solving activities.					
G8. I present students with choices in learning activities, assessments and forms of					

 submission.

SECTION D: Differentiation in Communication within the Training

Please tick (.../) the box that corresponds to your level of agreement or conformity to the statements below.

Scale: 1 Very often, 2 Sometimes, 3 Almost Never / Never.

During the training, I use other languages than English	1 Very often	2 Sometimes	3 Almost Never / Never
When I start talking to a student/colleague			
When I end a discussion			
When I want to say differently what I have already said			
When I want to correct something I have said			
When I want to be more understood			
When I want to talk about something			
When I want to take time to think of something and say it in English			
When I want to ask something			
When I ask for help			
When I ask for clarifications			
When I ask for someone else's comments			
When I use body movements to express myself			
When I apologize for something			
When I thank someone for something			
When I feel that I am not perceived			
When I do not have enough time to process an idea and respond			
When I get angry with something or someone			
When I'm happy			
When I'm surprised			
Other (explain)			
I use other languages, besides English, in the training	Very often	Sometimes	Almost Never / Never
When I do not understand some words			
When I do not understand grammar			
When I answer questions from the trainer/students			
When I help students/colleagues in an activity			
When we discuss a topic in class			

When we discuss a language issue in class			
When we do group activities			
When we bring our ideas and thoughts before the activities			
When we oreoare some activities /exercises			
Other. ...			

Appendix B: Interview Questions for English Teacher Trainers

Dear respondent,

You are invited to participate in this interview that aims at examining

"Differentiated Learner-Centered Strategies in Second Language Teaching Contexts : Delving into Teacher Trainers' and Trainees' Perspectives and Practices in Rwanda."

The interview should only take 45 minutes to complete and it includes 9 questions.

Your responses *are* anonymous and will not be identified with you in any way.

By participating in this survey, you are indicating that you understand that your responses are anonymous and will not be identified with you in any way. You may skip any question that you find intrusive or offensive, but it will help me if you respond to as many questions as you feel comfortable with.

You have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In this case, the data collected will be deleted.

Please complete all questions and make sure you follow the instructions for each question.

I would like to start by explaining to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask me any questions you have to help you understand the project.

Do you consent to participate in this interview?

I consent to participate in the study ☐ I do not consent to participate in the study ☐

Instructions: The researcher will read each question, please answer the following questions:

(Responses are voluntary and will be kept confidential)

1. Which Courses do you teach?
2. How long have you been teaching?
3. How long have you been teaching at your university?
4. Briefly describe what differentiated instruction is to you as a trainer.
5. Have you used differentiated instruction in your classroom? How did you use it?
6. Describe how you usually differentiate the content, process, product and learning environment.
7. In your opinion, do you think your university is providing opportunities of training on how to differentiate instruction? (Pre-service and/or in-service)
8. In your opinion, does the use of differentiated instruction help "all" students?
9. What challenges are you facing in implementing differentiated instruction?

Appendix C: Interview Questions for English Teacher Trainees

Dear respondent,

You are invited to participate in this interview that aims at examining

"Differentiated Learner-Centered Strategies in Second Language Teaching Contexts: Delving into Teacher Trainers' and Trainees' Perspectives and Practices in Rwanda."

The interview should only take 45 minutes to complete and it includes 9 questions.

Your responses are anonymous and will not be identified with you in any way.

By participating in this survey, you are indicating that you understand that your responses are anonymous and will not be identified with you in any way. You may skip any question that you find intrusive or offensive, but it will help me if you respond to as many questions as you feel comfortable with.

You have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In this case, the data collected will be deleted.

I would like to start by explaining to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask me any questions you have to help you understand the project.

Do you consent to participate in this interview?

I consent to participate in the study ☐ I do not consent to participate in the study ☐

Instructions: The researcher will read each question, please answer the following questions:

(Responses are voluntary and will be kept confidential)

1. Which Courses are you currently studying?
2. Do you have any teaching experience?
3. Briefly describe what differentiated instruction is to you as a teacher.
4. Do your teachers implement it? How do they implement it?
5. How are your classroom activities designed for the courses you are studying?
6. In your opinion, do you think your university is doing a good job of training you on how to differentiate instruction? (pre-service and/or in-service)
7. In your opinion, does the use of differentiated instruction help "all" students?
8. Does using differentiated instruction make teaching concepts easier or more difficult?
9. What challenges are you facing in implementing differentiated instruction?

Appendix D: Investigator's Verification of Explanation

I certify that I have carefully explained the purpose and nature of this research to _____ (participant's name) in age-appropriate language. He/She has had the opportunity to discuss it with me in detail. I have answered all his/her questions and he/she provided the affirmative agreement (i.e. assent) to participate in this research.

Investigator's Signature: _____

Name: Christine Osae _____

Date: _____

Appendix E: informed Consent Form



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D

Informed Consent Form

Part 1: Debriefing of Participants

Student's Name: Akinyi Christine Osae

Student's E-mail Address: christine.osae@yahoo.com

Student ID #: R902D7671961

Supervisor's Name: Dr. Isaak Papadopoulos

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: PhD Doctorate of Philosophy

Research Project Title: "Differentiated Learner-Centered Strategies in Second Language Teaching Contexts: Delving into Teacher Trainers' and Trainees' Perspectives and Practices in Rwanda."

Date: 08-Mar-2023

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

This study is aimed at establishing the English teacher trainers' and trainees' perspectives on "differentiation" and investigating how they are implementing it as part of the learner-centered strategies. The study seeks to 1. Investigate English teacher trainers and trainees' perceptions of differentiated learner-centered practices. 2. Establish the methods of differentiation practiced by English teacher trainers and trainees and 3. Identify the challenges faced in the implementation of differentiated instruction.

The study will be significant in the following ways: 1. Add to the body of knowledge about instructional practices like differentiation. 2. Help the Rwanda Board of Education and the Ministry of Education to understand how teachers of language perceive differentiation, the challenges faced during implementation and the possible solution. 3. Will be a reference point (to language educators) on issues with the implementation of differentiation and how to address the challenges that arise from it.

The above named Student is committed in ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I, Akinyi Christine Osae, ensure that all information stated above is true and that all conditions have been met.

Student's Signature: _____



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Informed Consent Form

Part 2: Certificate of Consent

This section is mandatory and should to be signed by the participant(s)

Student's Name: Akinyi Christine Osae

Student's E-mail Address: christine.osae@yahoo.com

Student ID#: R1902D7671961

Supervisor's Name: Dr. Isaak Papadopoulos

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: PhD Doctorate of Philosophy

Research Project Title: "Differentiated Learner-Centered Strategies in Second Language Teaching Contexts: Delving into Teacher Trainers' and Trainees' Perspectives and Practices in Rwanda."

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

Participant's Print name: _____

Participant's Signature: _____

Date: _____

If the Participant is illiterate:

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had an opportunity to ask questions. I confirm that the aforementioned individual has given consent freely.

Witness's Print name: _____

Witness's Signature: _____

Date _____

Appendix F: UREC's Decision



UREC Decision, Version 2.0

Unicaf University, Research Ethics Committee Decision

Student's Name: Akinyi Christine Osae

Student's ID #: R190207671961

Supervisor's Name: Dr Isaak Papadopoulos

Program of Study: UU-DOC-900-3-ZM

Offer ID /Group ID: 055882G62757

Dissertation Stage: DS3

Research Project Title:

"Differentiated Learner-Centered Strategies in Second Language Teaching Contexts: Delving into Teacher Trainers' and Trainees' Perspectives and Practices in Rwanda."

Comments: No comments.

Decision*: A. Approved without revision or comments

Date: 20 Apr 2023

*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

Appendix G: Gatekeeper Letter



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D

Gatekeeper letter

Address: Adventist University Of Central Africa

Date: 08-Mar-2023

Subject: Doctoral Research

Dear Sir,

I am a doctoral student at Unicaf University Zambia.

As part of my degree I am carrying out a study on "Differentiated Learner-Centered Strategies in Second Language Teaching contexts: Delving Into Teacher Trainers and Trainees' Perspectives and Practices in Rwanda."

I am writing to inquire whether you would permit me to recruit participants from your institution for this research. Subject to approval by Unicaf Research Ethics Committee (UREC), this study will be using surveys and focus group interviews to collect data from English teacher trainers and trainees within your institution.

The study is aimed at establishing the English teacher trainers' and trainees' perspectives of "differentiation" and how they are implementing it as part of the learner-centered strategies in the second language teaching context. The study will be guided by the following specific objectives: 1) Investigate English teacher trainers and trainees' perception of differentiated learner-centered practices. 2) Establish the methods of differentiation practiced by English teacher trainers and trainees and 3) Identify the challenges they are facing in the implementation of differentiated instruction.

I need your help with sending an introductory e-mail on my behalf to all the English teacher trainers and trainees, and to allow me to recruit participants on your premises. The study will take place from the 1st of April to the 30th of May.

Thank you in advance for your time and for your consideration of this project. Please let me know if you require any further information or need any further clarifications.

Yours Sincerely,

Student's Name: Akinyi Christine Osae

Student's E-mail: christine.o5ae@yahoo.com

Student's Address and Telephone: +250786399633

Supervisor's Title and Name: Dr. Isaak Papadopoulos

Supervisor's Position: Assistant Professor of Applied Linguistics and Language Teaching

Supervisor's E-mail: ipapadopoulos@unicaf.org