

Santa R Sihombing | Dumaris E Sitalahi | Devi Triana
Yolanda Jesica Sitanggang | Yena Jorena Sembiring
Rani Puspa Sari | Mutiara Angelica Sinaga | Dhea Natasya Sitepu
Sonya Lauri Situmeang | Tessaria Simorangkir
Rotua Sinta Marito Pakpahan | Monika Natalina Silaban
Angel Lamtama Sihalohe | Jonathan Hartodes Purba



INSTRUCTIONAL DESIGN MODELS FOR EDUCATIONAL PRACTICE



Editor:
Dumaris E Sitalahi
Devi Triana
Yolanda Jesica Sitanggang

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Santa R Sihombing, Dumaris E Silalahi,
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Authors:

Santa R Sihombing, Dumaris E Silalahi,
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Mutiara Angelica Sinaga, Dhea Natasya Sitepu
Sonya Lauri Situmeang, Tessaria Simorangkir
Rotua Sinta Marito Pakpahan, Monika Natalina Silaban
Angel Lamtama Sihaloho, Jonathan Hartodes Purba

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Devi Triana
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Perumahan Mitra Utama Residence 3 Blok A no 1, Sawahan, Tempel,
Kec. Gatak, Kabupaten Sukoharjo, Jawa Tengah 57557

email: tahtaliterasimedia@gmail.com

website: <http://store.tahtamedia.co.id/>

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PREFACE

Instructional Design Models for Educational Practice is an academic work that explores the essential relationship between instructional theories and their application in educational settings. As authors and prospective educators, the authors compiled this book to offer a thoughtful examination of various instructional design and teaching models that play a vital role in shaping meaningful learning experiences.

This book reflects the authors' deep engagement with instructional theories and their practical relevance in real classroom contexts. Each model presented in this compilation is discussed systematically, covering its theoretical foundation, instructional syntax, teacher and student roles, as well as its strengths and limitations. Through this structured approach, the authors aim to present not only a comprehensive understanding of instructional concepts but also a meaningful evaluation that can benefit both novice and experienced educators.

In today's rapidly evolving educational landscape, the ability to design, adapt, and evaluate instructional models has become an essential competence for teachers. This book, therefore, represents the authors' effort to bridge theoretical knowledge with pedagogical practice in a way that is both accessible and insightful.

The authors hope this work serves as a valuable reference for students, educators, and anyone interested in instructional design and educational development. May it inspire thoughtful teaching and continuous learning for all who read it.

TABLE OF CONTENTS

PREFACE.....	iv
TABLE OF CONTENTS.....	v
CHAPTER 1	1
THE INSTRUCTIONAL MATERIAL DEVELOPMENT	1
Santa Regina Sihombing and Dumaris E Silalahi.....	1
University of HKBP Nommensen Pematangsiantar	1
A. Introduction	1
B. Conceptual Foundations Of Instructional Materials Development	2
C. Developmental Stages Model of Instructional Materials	3
D. Models of Instructional Materials Development.....	4
E. Implementation and Impact of Instructional Materials Development	5
F. Conclusion.....	5
References.....	6
WRITER’S PROFILE.....	7
CHAPTER 2	8
FLIPPED CLASSROOM MODEL	8
Devi Triana	8
University of HKBP Nommensen Pematangsiantar	8
A. Introduction	8
B. The Definition of Flipped Classroom	9
C. The Characteristics of Flipped Classroom	10
D. Target Student	12
E. Media for Flipped Classroom	12
F. The Syntax of Flipped Classroom	13
G. The Advantages and Disadvantages of Flipped Classroom	18
H. The Integration of Flipped Classrom and Problem-Based Learning (F-PBL).....	20
References.....	25
WRITER’S PROFILE.....	28

CHAPTER 3	29
PROBLEM-BASED LEARNING (PBL).....	29
Yolanda Jesica Sitanggang	29
University of HKBP Nommensen Pematangsiantar	29
A. Introduction	29
B. Definition of Problem-Based Learning.....	30
C. Characteristics of Problem-Based Learning.....	32
D. Syntax of Problem-Based Learning.....	35
E. Media Selection in Problem-Based Learning	39
F. Target Learners of Problem-Based Learning.....	42
G. Strengths of Problem-Based Learning.....	44
H. Weaknesses of Problem-Based Learning.....	47
References.....	51
WRITER’S PROFILE.....	53
CHAPTER 4	54
DISCOVERY LEARNING TEACHING MODEL	54
Yena Jorena Sembiring.....	54
University of HKBP Nommensen Pematangsiantar	54
A. Introduction	54
B. The Definition of Discovery Learning Model	55
C. The Characteristics of Discovery Learning Model	55
D. Target Studentof Discovery Learning Model	56
E. Media for Discovery Learning Model	57
F. The Syntax of Discovery Learning Model.....	59
G. The Advantages and Disadvantages of Discovery LearningModel..	62
H. The Integration of Discovery Learning with Project-Based Learning (PjBL).....	65
References.....	68
WRITER’S PROFILE.....	70

CHAPTER 5	71
PROJECT-BASED LEARNING (PjBL).....	71
Rani Puspa Sari.....	71
University of HKBP Nommensen Pematangsiantar	71
A. Introduction	71
B. The Definiton of Project-Based Learning	72
C. Characteristics of Project-Based Learning.....	74
D. Target Student	76
E. The Syntax of Project-Based Learning	77
F. The Advantages and Disadvantages of Project-Based Learning	80
G. The Integration of Project-Based Learning (PjBL) and Problem Based Learning (PBL).....	82
References.....	84
WRITER’S PROFILE.....	86
CHAPTER 6	87
DIRECT INSTRUCTION TEACHING MODEL	87
Mutiara Angelica Sinaga	87
University of HKBP Nommensen Pematangsiantar	87
A. Introduction	87
B. The Definition of Direct Instruction Model	89
C. The Characteristics of Direct Instruction Model.....	90
D. Strengths and Weakness of Direct Instruction Model.....	91
E. Target Student of Direct Instruction Model	94
F. The Media for Direct Instruction Model.....	94
G. The Syntax of Direct Instruction Model	95
H. The Integration of Direct Instruction with Communicative Learning Teaching.....	99
References.....	103
WRITER’S PROFILE.....	105

CHAPTER 7	106
INQUARY-BASED LEARNING	106
Dhea Natasya Sitepu	106
University of HKBP Nommensen Pematangsiantar	106
A. Introduction	106
B. Definition of Inquiry Learning.....	107
C. Charachteristics of Inquiry Based Learning.....	107
D. Syntax of Inquiry Based Learning	108
E. Types of Inquiry-Based Learning	110
F. Levels of Inquiry Learning	111
G. Combination of Inquiry-Based Learning– Discovery-Based Learning	112
References.....	115
WRITER’S PROFILE.....	116
CHAPTER 8	117
CONTEXTUAL AND TEACHING LEARNING	117
Sonya Lauri Situmeang.....	117
University of HKBP Nommensen Pematangsiantar	117
A. Introduction	117
B. Theories Underlying Contextual Teaching and Learning (CTL) ...	120
C. Charasteristics Of Contextual Teaching and Learning.....	122
D. Syntax of Contextual Teaching and Learning.....	124
E. Strengths and Weaknesses of Contextual Teaching and Learning	(CTL)
F. Combination of Contextual Teaching and Learning (CTL), Inquiry-	130
Based Learning (IBL), and Problem-Based Learning (PBL)	132
References.....	139
WRITER’S PROFILE.....	141
CHAPTER 9	142
COMMUNICATIVE LANGUAGE TEACHING	142
Tessaria Simorangkir.....	142
University of HKBP Nommensen Pematangsiantar	142
A. Introduction	142
B. Definition of Communicative Language Teaching.....	143

C. Characteristics of Communicative Language Teaching.....	144
D. Syntax of Communicative Language Teaching.	146
E. The Teacher and Students Behaviour in CLT.....	147
F. Media for Communicative Language Teaching Claassroom.	149
G. Strength of Communicative Language Teaching.....	155
H. Weakness of Communicative Language Teaching.	157
References.....	158
WRITER’S PROFILE.....	160
CHAPTER 10	161
CONTENT-BASED INSTRUCTION.....	161
Rotua Sinta Marito Pakpahan.....	161
University of HKBP Nommensen Pematangsiantar	161
A. Introduction	161
B. The Definiton of Content-Based Instruction.....	162
C. The Characteristics of Content-BasedInstruction	163
D. Target Students of Content-Based Instruction	165
E. Media for Content-Based Instruction.....	167
F. The Syntax of Content-Based Instruction.....	169
G. Advantages and Disanvantages of Content-Based Instrustion	171
H. The Integration of CBI and PBL.....	173
References.....	176
WRITER’S PROFILE.....	178
CHAPTER 11	179
QUANTUM LEARNING TEACHING MODEL	179
Monika Natalina Silaban	179
University of HKBP Nommensen Pematangsiantar	179
A. Introduction	179
B. Definition of the Quantum Teaching Model.....	181
C. Characteristics Quantum Teaching	181
D. Syantax of Quantum Teaching (TANDUR) in English Language Learning	183
E. Media Selection in Quantum Learning	185
F. Target Learners of Problem – Based Learning	186
G. Strengths of Quantum Learning.....	188

H. Weaknessess of Quantum Learning.....	189
I. Integration of Quantum Leraning with Contextual Teaching and Learning (CTL).....	190
References.....	197
WRITER’S PROFILE.....	198
CHAPTER 12	199
PROJECT-BASED LEARNING IN ENGLISH LANGUAGE	
TEACHING.....	199
Angel Lamtama Sihaloho	199
University of HKBP Nommensen Pematangsiantar	199
A. Introduction.....	199
B. Theoretical Foundations of Project-Based Learning.....	200
C. Syntax of Project-Based Learning	200
D. Practical Implementation of PBL in English Classroom.....	201
E. Advantages and Disadvantages of Project-Based Learning.....	202
F. Integration of Project-Based Learning with Other Learning Models.....	202
G. Conclusion.....	203
References.....	204
WRITER’S PROFILE.....	205
CHAPTER 13	206
COOPERATIVE LEARNING.....	206
Jonathan Hartodes Purba.....	206
University ofHKBP Nommensen Pematangsiantar	206
A. Introduction	206
B. Definition of Cooperative Learning.....	206
C. Characteristics of Cooperative Learning.....	207
D. Instructional Media in Cooperative Learning	208
E. Target Students of Cooperative Learning	209
F. Strengths of Cooperative Learning	210
G. Weaknesses of Cooperative Learning.....	211
H. Syntax of Cooperative Learning	212
References.....	214
WRITER’S PROFILE.....	215

CHAPTER 1

THE INSTRUCTIONAL MATERIAL DEVELOPMENT

Santa Regina Sihombing and Dumaris E Silalahi
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

Instructional Materials Development constitutes a systematic, research-driven, and iterative process aimed at designing, developing, validating, implementing, and evaluating instructional resources to ensure the effective attainment of educational objectives. In contemporary educational paradigms, instructional materials are no longer perceived merely as supplementary classroom tools; rather, they function as strategic pedagogical instruments that significantly influence instructional quality, learner engagement, conceptual understanding, and overall academic achievement.

The rapid transformation of education in the twenty-first century characterized by technological integration, competency-based curricula, learner-centered approaches, and global educational standards demands the development of instructional materials that are responsive, contextualized, and pedagogically sound. Consequently, instructional materials must be grounded in systematic needs analysis, aligned with curriculum standards, adapted to learners' characteristics, and validated through empirical procedures.

Empirical evidence strongly supports the significance of systematic instructional materials development. Mashun et al. (2023) demonstrate that web-based instructional material management models contribute substantially to enhancing teachers' professional competence. Sari et al. (2020) report that inquiry-based instructional materials promote active knowledge construction and higher-order thinking skills. Indrawati et al. (2021) find that the process-genre approach significantly improves students' academic writing proficiency. Furthermore, Arizal et al. (2023) confirm that technology-

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WRITER'S PROFILE



Santa Regina Sihombing is affiliated with the English Education Study Program at Universitas HKBP Nommensen Pematangsiantar. She is currently engaged in her academic studies with a strong interest in English language teaching and learning. During her study, she has been actively involved in classroom activities, teaching practice, and academic projects related to instructional materials development and language skills improvement. She is interested in developing creative and effective teaching materials to support students' learning, especially in reading and writing skills. As a developing educator, she is motivated to continue learning and improving her competence in pedagogy and classroom management. She hopes to contribute positively to the field of education through dedication, continuous learning, and practical teaching experience..Email: msregina597@gmail.com

CHAPTER 2

FLIPPED CLASSROOM MODEL

Devi Triana

University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

In the era of Society 5.0, the integration of technology in learning is no longer a novelty, but rather a necessity that must be implemented in education. It began with COVID-19, which sparked the idea of blended learning, combining technology into the teaching and learning process, leading to the emergence of various technology-integrated learning models, one of which is the Flipped Classroom, which is part of blended learning.

The Flipped classroom is a student-centered learning model that reverses the conventional sequence of learning activities. This model, whose practical development and popularization are widely attributed to Jonathan Bergmann and Aaron Sams around 2007, represents a significant shift in pedagogical dynamics (Jancaríková et al., 2024). In this model, students are first asked to independently study new material outside the classroom, usually through pre-recorded learning videos or digital learning resources. Meanwhile, the classroom is intended as a space for discussion and collaborative learning, fully aimed at creating an active and collaborative learning experience so that students can apply the concepts they have understood with the guidance and direction of the teacher. This model transforms traditional learning into a more interactive method by moving theoretical instruction outside the classroom and utilizing class time for discussion and problem-solving activities (Annajmi&Kuswandi, 2024).

The objectives of the flipped classroom learning model are to: (1) Build self-regulated learning by giving students full control over the pace and rhythm of their learning outside the classroom (Zimmerman, 2002; Wijayanto et al., 2022). (2) Develop critical thinking skills through analytical challenges, evaluation, and solution creation during class sessions (Tamrin&Masykuri, 2024; Azwar et al., 2023). (3) Foster responsibility and intrinsic motivation

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WRITER'S PROFILE



Devi Triana was born on June 28, 2005. She is affiliated with the English Education Study Program at Universitas HKBP Nommensen Pematangsiantar. During her academic work, she has done microteaching and also taught English as a private tutor. These experiences helped her learn more about real classroom situations and made her interested in 21st-century teaching approaches. She is also interested in literacy and literature. She enjoys reading literary works and thinking about how they can be used in language teaching. In the future, she hopes to keep learning and growing as a teacher and a writer, and to contribute to education in simple but meaningful ways.

E-mail : devitrianaagara2005@gmail.com

CHAPTER 3

PROBLEM-BASED LEARNING (PBL)

Yolanda Jesica Sitanggang
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

Education in the 21st century demands learners who are capable of solving complex, real-life problems creatively and collaboratively. Traditional teacher-centered approaches that merely transfer knowledge are no longer sufficient to meet these needs. Instead, modern education systems emphasize learning processes that engage students in inquiry, problem-solving, and critical reflection. In Indonesia, the *Kurikulum Merdeka* encourages teachers to implement learning models that promote student independence, collaboration, and higher-order thinking skills (Kemendikbudristek, 2022). Among the various innovative learning models, Problem-Based Learning (PBL) has become one of the most relevant approaches to develop students' analytical and creative abilities in line with the goals of *Profil Pelajar Pancasila*.

Problem-Based Learning is an instructional approach where learning begins with a real or simulated problem that students must analyze and solve collaboratively. According to Hmelo-Silver and Barrows (2021), PBL provides authentic learning experiences by placing students in situations similar to those they may encounter in real life. This method encourages learners to identify what they already know, determine what they need to learn, and discover solutions through investigation and reasoning. In contrast to conventional teaching, which prioritizes memorization, PBL emphasizes understanding, inquiry, and application. The result is a classroom environment that fosters autonomy, teamwork, and lifelong learning skills — competencies that are essential in the era of digital transformation and global challenges (Rahmawati & Kurniawan, 2023).

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WRITER'S PROFILE



Yolanda Jesica Sitanggang is affiliated with the English Education Study Program at Universitas HKBP Nommensen Pematangsiantar. During her academic work, she has been learning about English language teaching and lesson planning, which have helped her understand how to teach English effectively in real classroom situations. She is interested in learning and teaching English. She enjoys finding simple ways to make learning more interesting. In the future, she hopes to improve her

skills as a teacher and writer and to contribute to education. Email: yolandasitanggang2004@gmail.com

CHAPTER 4

DISCOVERY LEARNING TEACHING MODEL

Yena Jorena Sembiring
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

Education in the 21st century requires innovative teaching approaches that do not only focus on delivering knowledge but also on developing students' critical thinking, creativity, collaboration, and problem-solving skills. In today's rapidly changing world, learners must be prepared to face complex challenges through meaningful and independent learning experiences.

One instructional model that supports this goal is Discovery Learning. In this model, students are not passive recipients of information; instead, they actively construct knowledge through exploration, inquiry, experimentation, and reflection. Teachers function as facilitators who guide students to discover concepts independently rather than directly providing explanations (Rahmawati & Hidayat, 2023).

In the Indonesian educational context, Discovery Learning is strongly aligned with the Merdeka Curriculum, which emphasizes student-centered learning, deep understanding, and creativity (Kemendikbud, 2022). Through activities such as observing, hypothesizing, testing, and concluding, students develop autonomy and higher-order thinking skills. Previous studies have also shown that Discovery Learning improves engagement, motivation, and problem-solving abilities (Sari & Puspita, 2021; Putri & Kurniawan, 2024).

Therefore, this chapter discusses Discovery Learning as a teaching model, including its definition, characteristics, syntax, media selection, target learners, strengths, and weaknesses. The discussion aims to provide a comprehensive understanding of how Discovery Learning can be effectively implemented in modern classrooms.

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WRITER'S PROFILE



Yena Jorena Sembiring is affiliated with the English Education Study Program at Universitas HKBP Nommensen Pematangsiantar. She began her academic journey in 2023 and is actively developing her competence in the fields of language teaching, linguistics, and educational research. As a committed developing educator, she actively participates in academic activities to enhance her knowledge and skills, particularly in teaching methodology, instructional material development, and language

assessment. In addition to completing various academic works, she has also published research in academic journals. She is passionate about improving her academic writing, research abilities, and teaching skills as preparation for her future career in education.

.Email: yenajorena@gmail.com

CHAPTER 5

PROJECT-BASED LEARNING (PJBL)

Rani Puspa Sari
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

In the era of 21st-century education, the paradigm of teaching and learning has shifted significantly from traditional teacher-centered instruction to student-centered learning approaches. This transformation is driven by the demand for learners who are not only knowledgeable but also capable of critical thinking, problem-solving, collaboration, creativity, and communication. Consequently, innovative learning models have been developed to address these needs, one of which is Project-Based Learning (PjBL).

Project-Based Learning is an instructional approach that engages students in exploring real-world problems and challenges through extended projects. Unlike conventional learning methods that focus on memorization and teacher explanation, PjBL emphasizes active learning, inquiry, and the construction of knowledge through experience. Students are encouraged to investigate authentic issues, collaborate with peers, and produce meaningful products that demonstrate their understanding.

In the field of Instructional Material Development (IMED), PjBL plays a significant role in designing learning materials that are contextual, interactive, and learner-centered. Instructional materials developed using PjBL principles are not limited to textbooks or modules but also include project guidelines, worksheets, assessment rubrics, and reflection tools. These materials serve as scaffolding to guide students throughout the project process and ensure that learning objectives are achieved.

Furthermore, PjBL aligns with constructivist learning theory, which posits that learners actively construct knowledge through interaction with their environment and social contexts. Through project activities, students engage in exploration, discussion, and reflection, which facilitate deeper

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WRITER'S PROFILE



Rani Puspa Sari is affiliated with the English Education Study Program at Universitas HKBP Nommensen Pematangsiantar. During her academic work, she has been learning about English language teaching and lesson planning, which have helped her understand how to teach English effectively in real classroom situations. She is interested in English learning and teaching, especially in finding simple and creative ways to make lessons more engaging for students. In the future, she hopes to improve her skills as a teacher and academic writer and to contribute to the development of education. Email: ranipuspa566@gmail.com

CHAPTER 6

DIRECT INSTRUCTION TEACHING MODEL

Mutiara Angelica Sinaga
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

The evaluation and development of instructional materials constitute a central component in contemporary educational practice. In the last decade, increasing attention has been directed toward ensuring that teaching materials are not only curriculum-aligned but also pedagogically sound and evidence-based. Within English language teaching (ELT), instructional materials must support the development of both declarative knowledge (e.g., grammar rules, vocabulary) and procedural knowledge (e.g., language production skills), requiring structured and research-informed teaching approaches. Therefore, the selection of an appropriate instructional model becomes a fundamental consideration in material development.

One instructional approach that continues to demonstrate empirical relevance is Direct Instruction (DI). Recent studies in educational research highlight that structured, explicit teaching significantly improves student achievement, particularly in foundational skills and concept mastery (Rolf & Slocum, 2021; Slocum & Rolf, 2021; Gusmaneli et al., 2024). DI is characterized by clearly stated objectives, systematic modeling, guided practice, continuous monitoring, and immediate corrective feedback. These features position DI as a model that ensures clarity of instruction and minimizes misconceptions during initial learning phases.

The theoretical grounding of DI can be traced to behavioral and cognitive learning principles that emphasize scaffolding, explicit explanation, and incremental progression of content. Contemporary discussions influenced by Barak Rosenshine's instructional principles continue to reinforce the importance of breaking content into small steps, checking for understanding,

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WRITER'S PROFILE



Mutiara Angelica Sinaga is affiliated with the English Education Study Program, Faculty of Teacher Training and Education (FKIP), Universitas HKBP Nommensen Pematangsiantar. She began her academic journey in 2023 and is currently focusing on developing her academic and professional skills in language teaching, linguistics, and educational research. As an enthusiastic and dedicated developing educator, she actively engages in academic activities that support the development of language literacy, academic writing skills, and an understanding of teaching methodologies. She is currently working on her first academic work and aims to build a strong foundation for future scholarly publications. She is committed to continuously improving her academic writing, research abilities, and teaching skills in preparation for a professional career in English language education. Email: mutiaraangelicasinaga@.com

CHAPTER 7

INQUARY-BASED LEARNING

Dhea Natasya Sitepu
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

Education is the fundamental foundation for shaping individuals and advancing civilization. In the 21st century, education is no longer limited to transferring knowledge but must also develop critical thinking, creativity, collaboration, and problem-solving skills. To meet these complex demands, appropriate learning strategies are essential.

One of the most relevant approaches is inquiry-based learning. This strategy places students at the center of the learning process and encourages them to ask questions, investigate problems, analyze evidence, and draw conclusions. Through inquiry, students develop higher-order thinking skills, intrinsic motivation, independence, and collaboration abilities—competencies that are crucial in today’s rapidly changing and information-rich world.

Inquiry-based learning is rooted in constructivist theory developed by figures such as Jean Piaget and Lev Vygotsky, who emphasized that learners actively construct knowledge through experience and social interaction. It is also influenced by discovery learning introduced by Jerome Bruner, which highlights the importance of learning through exploration and discovery.

In the Indonesian context, inquiry-based learning aligns with the principles of the Kurikulum Merdeka, which promotes student-centered learning and the development of independent, creative, and critical learners. Therefore, implementing inquiry-based learning is not merely an alternative method but a necessity to improve the quality of education and prepare students to face future challenges.

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WRITER'S PROFILE



Dhea Natasya Sitepu was born in Sinaksak on November 16, 2004. She began her elementary education at SD Negeri 106846 Balua, continued her studies at SMP Swasta Mars Pematangsiantar, and completed her senior high school education at SMA Negeri 5 Pematangsiantar. Currently, she is affiliated with the English Education Study Program, Faculty of Teacher Training and Education, at Universitas HKBP Nommensen. Her strong interest in education, particularly in English language teaching and school-based learning, has encouraged her to actively engage in academic writing and participate in various scholarly activities. This book was written as the author's contribution to the field of education and as an effort to share the knowledge and experiences she has gained throughout her academic journey. Email: dhean323@gmail.com

CHAPTER 8

CONTEXTUAL AND TEACHING LEARNING

Sonya Lauri Situmeang
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

The transformation of education in the twenty-first century requires more than curriculum reform; it requires a fundamental reorientation of how learning itself is conceptualized. For decades, instructional practices in many educational settings have been dominated by transmission-based paradigms in which teachers serve as the primary source of knowledge and students function as passive recipients. Such approaches, while efficient for content delivery, often fail to cultivate deep understanding, critical thinking, and meaningful application.

In contemporary educational discourse, learning is increasingly understood as an active, constructive, and socially mediated process. Students are no longer viewed as empty vessels to be filled with information, but as individuals who interpret, negotiate, and internalize knowledge through interaction with their environment. Within this evolving paradigm, instructional models must move beyond rote memorization toward authentic engagement.

The Contextual Teaching and Learning (CTL) model emerges as a response to this pedagogical shift. It offers a framework that situates academic content within meaningful real-world contexts, enabling learners to connect theoretical knowledge with lived experience. Rather than isolating concepts from practical application, CTL integrates cognition, experience, and reflection into a unified learning process.

Philosophically, CTL reflects the progressive educational vision articulated by John Dewey, who emphasized that education must be grounded in experience and social reality. Dewey argued that meaningful learning

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WRITER'S PROFILE



Sonya Lauri Situmeang was born in North Tapanuli on August 24, 2004. She is affiliated with the English Education Study Program, Faculty of Teacher Training and Education, at Universitas HKBP Nommensen Pematangsiantar. She completed her primary education at SD Negeri 173161 Siantar Naipospos, continued her junior secondary education at SMP Negeri 4 Adiankoting, and finished her senior secondary education at SMA Negeri 2 Tarutung. The author has a strong interest in English language teaching and actively develops her skills through academic activities and educational training. This book is written as the author's contribution to the field of education and is expected to serve as a useful reference for students and educators in understanding contextual English language learning. Email : Sonyalauri24@gmail.com.

CHAPTER 9

COMMUNICATIVE LANGUAGE TEACHING

Tessaria Simorangkir
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

Language learning is one of the essential aspects of education, especially in today's era of globalization where communication skills across cultures are highly demanded. Along with the development of theories and practices in language education, various approaches have been introduced to improve the effectiveness of teaching and learning. One widely used and still relevant approach is Communicative Language Teaching (CLT).

Communicative Language Teaching emerged as a response to the limitations of traditional approaches that focused too much on memorizing grammatical structures and sentence patterns. CLT introduced a new orientation by emphasizing communicative competence as the main goal of language learning. This approach not only teaches learners how to construct sentences correctly but also how to use language appropriately and effectively in real-life communication.

CLT is characterized by its learner-centered orientation, the use of authentic materials, meaning-based activities, and collaborative interaction through discussions, group work, role plays, and other communicative tasks. With these characteristics, CLT creates an active, dynamic, and contextual learning atmosphere that motivates students to develop their language skills.

In addition to its strengths—such as fostering motivation, promoting learner autonomy, and integrating the four language skills (listening, speaking, reading, and writing)—CLT also presents some challenges. For instance, it requires more preparation time from teachers and can be difficult to implement in large classes or in settings with limited resources.

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WRITER'S PROFILE



Tessaria Simorangkir was born in Pematangsiantar, June 9, 2005. During her academic work, she has been learning about English language teaching and lesson planning, which have helped her understand how to teach English effectively in real classroom situations and learn how to create or make an interesting lesson process during the learning process. She is interested in learning and teaching English. She enjoys finding simple ways to make learning more interesting and joyful. In the future, she hopes she can improve her skills as an English teacher and writer and to contribute to education.

CHAPTER 10

CONTENT-BASED INSTRUCTION

Rotua Sinta Marito Pakpahan
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

In the contemporary era of English language education, there is a growing demand for instructional approaches that move beyond teaching language as isolated grammar and vocabulary. Learners today are expected not only to master linguistic forms but also to use English meaningfully in academic and real-life contexts. This pedagogical shift has encouraged educators to adopt integrative approaches that connect language learning with subject matter learning (Richards & Rodgers, 2014; Stoller, 2004). One of the most influential approaches responding to this need is Content-Based Instruction (CBI).

Content-Based Instruction emphasizes learning language through meaningful subject matter rather than through decontextualized language drills. In this approach, English functions as the medium through which students acquire new knowledge while simultaneously developing communicative competence (Brinton et al., 2003; Snow, 2001). Research in second language acquisition consistently shows that language is acquired more effectively when learners engage in cognitively demanding and meaningful tasks embedded in authentic contexts (Krashen, 1985; Lightbown & Spada, 2021; Nation, 2022). Therefore, CBI offers a pedagogical framework that supports both language development and academic learning in an integrated manner.

The theoretical foundation of CBI is closely related to communicative language teaching and constructivist learning theory. From a communicative perspective, language is best learned through purposeful use in meaningful interaction (Richards, 2006; Larsen-Freeman & Anderson, 2013). Meanwhile, constructivist theory emphasizes that learners actively construct knowledge through engagement with content and social interaction (Vygotsky, 1978;

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WRITER'S PROFILE



Rotua Sinta Marito Pakpahan was born in Pakkat on December 15, 2000. She is affiliated with the Faculty of Teacher Training and Education, Universitas HKBP Nommensen Pematangsiantar. She completed her primary education at SD SWT RK St. Maria Pakkat, continued her junior secondary education at SMP SWT RK St. Maria Pakkat, and finished her senior secondary education at SMA SWT RK St. Maria Pakkat. The author has a strong interest in English language teaching and educational development. She actively seeks to

enhance her academic competence through various learning experiences and scholarly activities. This book is written as her contribution to the field of education and is expected to serve as a useful reference for students and educators in understanding contextual English language learning. Email: rotuasintamp.15@gmail.com.

CHAPTER 11

QUANTUM LEARNING TEACHING MODEL

Monika Natalina Silaban
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

In the 21st century, education has shifted from a teacher-centered paradigm toward a learner-centered approach that emphasizes active participation, creativity, and meaningful learning experiences. This transformation reflects the demand for innovative teaching models that can accommodate students' cognitive, emotional, and social needs. One such model that embodies this holistic vision is the Quantum Learning Model, which integrates the principles of psychology, neuroscience, and pedagogy to create a dynamic and joyful learning environment.

According to Bobbi DePorter and Mike Hernacki (2010), Quantum Learning is “the orchestration of learning,” meaning the deliberate arrangement of all learning elements—including the physical environment, teacher attitudes, strategies, and student engagement—to maximize learning outcomes. It transforms traditional classrooms into spaces where students not only acquire knowledge but also develop motivation, confidence, and a love for learning. Similarly, DePorter, Reardon, and Singer-Nourie (1999) describe Quantum Learning as a synthesis of effective teaching methods that combine accelerated learning, suggestopedia, and neurolinguistic programming (NLP) to enhance comprehension and memory retention.

Hernacki (2003) further explains that Quantum Learning is based on the belief that every learner has unlimited potential that can be unlocked through positive interaction and emotionally supportive learning experiences. This approach emphasizes that learning is not only an intellectual activity but also an emotional and social process where attitude, environment, and motivation

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WRITER'S PROFILE



Monika Natalina Silaban is affiliated with the English Education Study Program at Universitas HKBP Nommensen. She began her academic journey in 2023 and has been actively developing her competence in the areas of language teaching, linguistics, and educational research. As a dedicated developing educator who aspires to become a professional English educator, she consistently engages in academic activities to broaden her knowledge and sharpen her skills, particularly in teaching methodology, instructional material development, and language assessment. Throughout her academic work, she has completed various academic papers and participated in research projects that contribute to her academic growth. She is highly motivated to improve her academic writing, research capabilities, and classroom teaching skills as preparation for her future career in the field of education.

Email: monikanatalinasilabanppbiuhkbp@gmail.com

CHAPTER 12

PROJECT-BASED LEARNING IN ENGLISH LANGUAGE TEACHING

Angel Lamtama Sihaloho
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

In the contemporary landscape of English language education, instructional approaches are increasingly required to promote not only linguistic competence but also critical thinking, collaboration, creativity, and problem-solving skills. The transformation of educational paradigms in the 21st century demands learning models that are student-centered, inquiry-driven, and contextually meaningful. One instructional model that responds effectively to these demands is Project-Based Learning (PBL).

Project-Based Learning is an instructional approach in which students gain knowledge and skills by working over an extended period to investigate and respond to authentic, engaging, and complex questions or challenges. Unlike traditional instruction that focuses primarily on content transmission, PBL emphasizes active exploration, collaboration, and the creation of meaningful products (Thomas, 2000; Bell, 2010). In English language teaching, PBL enables learners to use the target language as a tool for communication, research, and presentation, thereby integrating language skills with real-world application.

From a theoretical perspective, PBL is rooted in constructivist learning theory, which posits that learners actively construct knowledge through experience and social interaction (Vygotsky, 1978). It is also closely aligned with communicative language teaching principles that emphasize meaningful language use and authentic interaction (Richards, 2006). Through projects, students do not merely learn about language structures; they apply English in authentic contexts, fostering deeper understanding and long-term retention.

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WRITER'S PROFILE



Angel Lamtama Sihaloho was born in Pematangsiantar on August 5, 2005. She is affiliated with the Faculty of Teacher Training and Education, HKBP Nommensen University, Pematangsiantar. She completed her elementary education at SD SWT RK 3 Pematangsiantar, continued her junior high education at SMP SWT RK 3 Pematangsiantar, and completed her senior high education at SMAN 6 Pematangsiantar. The author has a strong interest in English teaching and educational development. She

actively strives to improve her academic competency through various learning experiences and scientific activities. This book is written as her contribution to the field of education and is expected to be a useful reference for students and educators in understanding contextual English learning. E-mail : angelsihaloho264@gmail.com

CHAPTER 13

COOPERATIVE LEARNING

Jonathan Hartodes Purba
University of HKBP Nommensen Pematangsiantar

A. INTRODUCTION

Cooperative Learning has been widely studied and applied in educational settings for its positive impact on student achievement, social interaction, and engagement. In the past decade, many researchers have shown that Cooperative Learning is a key instructional strategy that fosters collaboration, improves academic performance, and enhances communication and problem-solving skills among learners.

According to Johnson, Johnson, and Holubec (2013), Cooperative Learning is more than just students working in groups—it involves structured interdependence and accountability where students actively help each other learn. Although the foundational theory goes back earlier, contemporary research continues to support its effectiveness across different age groups and subjects.

Recent empirical studies also highlight its benefits in modern classrooms. For example, in a systematic review, researchers found that Cooperative Learning significantly improved students' academic outcomes, motivation, and social skills compared to traditional methods.

B. DEFINITION OF COOPERATIVE LEARNING

Cooperative learning is a structured instructional approach that organizes students into small groups in which they work together toward common goals and are mutually accountable for learning outcomes. In cooperative learning, students help one another understand concepts and complete tasks, promoting both academic achievement and social interaction.

According to Gillies and Boyle (2016), cooperative learning is not simply group work, but involves specific features such as positive interdependence,

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WRITER'S PROFILE



Jonatan Hartodes Purba was born in P. Sidempuan on August 27, 2005. He is affiliated with the English Education Study Programme, Faculty of Teacher Education and Training, HKBP Nommensen University, Pematangsiantar. He completed his primary education at HKBP Batu Opat Siantar Private Primary School, continued his secondary education at HKBP Batu Opat Siantar Private Junior High School, and completed his secondary education at Siantar 1 Public Senior High School. The author has a strong interest in English language teaching and actively develops his skills through academic activities and educational training. This book was written as the author's contribution to the field of education and is intended to serve as a useful reference for students and educators in understanding contextual English language learning. Email. jonatanpurba469@gmail.com.

INSTRUCTIONAL DESIGN MODELS FOR EDUCATIONAL PRACTICE

Instructional Design Models for Educational Practice is an academic work developed as part of the Instructional Material Evaluation and Development course. As authors and prospective educators, we compiled this book to explore and critically analyze various instructional design and teaching models that play an essential role in educational practice.

This book reflects our academic engagement with instructional theories and their practical applications in real classroom contexts. Each model presented in this compilation is discussed systematically, including its theoretical foundation, instructional syntax, teacher and student roles, as well as its strengths and limitations. Through this structured approach, we aim to demonstrate not only our understanding of instructional concepts but also our ability to evaluate and organize them meaningfully.

In the rapidly evolving educational landscape, the ability to design and evaluate instructional models is a fundamental competence for future teachers. Therefore, this book represents our effort to connect theoretical knowledge with pedagogical practice.

We hope that this work will serve as a useful reference for students, educators, and anyone interested in instructional design and educational development.



IKAPI

CV. Tahta Media Group
Surakarta, Jawa Tengah
Web : www.tahtamedia.com
Ig : [tahtamedia](https://www.instagram.com/tahtamedia)
Telp/WA : +62 896 5427 3996

