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The Validity of an Integrated Model of the Deep Learning Approach in Language Skills Instruction

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Abstract

The study used a Research and Development (R&D) design focusing on the validation phase of educational design research. Three experts in language education and instructional design had been purposively selected as validators. Data were collected using an expert validation questionnaire based on a five-point Likert scale. The instrument evaluated five dimensions of the model: (1) model rationality, (2) clarity and theoretical coherence of model components, (3) construct validity of the instructional syntax and learning procedures, (4) integration of language skills, and (5) representation of deep learning principles. Quantitative data were analysed by using a descriptive statistic tool to determine the mean validity scores, while qualitative feedback from the validators was analysed descriptively to guide model refinement. The findings revealed that the proposed instructional model achieved an overall mean validity score of 96.50%, which falls within the very valid category. In addition to the model, the materials developed using this model were also validated, and the results were highly valid across all measured indicators. The study concluded that the Integrated Deep Learning Model had been theoretically valid and provided a sound pedagogical framework for language skills instruction. The validated model offered a foundation for subsequent studies investigating its practicality and effectiveness in authentic educational settings. The research contributed to instructional design literature by integrating constructivist learning theory, deep learning pedagogy, and integrated language skills instruction into a single validated instructional model that supported meaningful, learner-centred, and technology-enhanced language learning.

Keywords: deep learning; integrated model; language skills;

Introduction

The transformation of education in the twenty-first century has shifted the focus of learning from the acquisition of factual knowledge to the development of higher-order thinking, problem-solving, collaboration, communication, and lifelong learning competencies. This paradigm shift is further accelerated by rapid technological advancement and the increasing integration of artificial intelligence (AI) into educational environments. Consequently,

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educational systems are expected to adopt instructional approaches that promote meaningful learning rather than superficial memorization. Deep learning has therefore emerged as a pedagogical orientation that encourages learners to actively construct knowledge, connect concepts across disciplines, and apply their understanding to authentic situations (Biggs & Tang, 2011; Fullan et al., 2018). Recent systematic reviews further indicate that technology-enhanced pedagogies grounded in constructivism increasingly facilitate deep conceptual learning and learner autonomy in contemporary classrooms.

The growing interest in deep learning pedagogy has also influenced language education. Language learning is no longer viewed merely as mastering grammatical structures or memorizing vocabulary but rather as developing communicative competence through meaningful interaction and authentic language use. Consequently, effective language instruction should facilitate learners in constructing meaning, negotiating ideas, solving communicative problems, and reflecting on their language use. Studies published during the last few years indicate that learning environments integrating inquiry, collaboration, and authentic communication significantly improve language proficiency, learner motivation, and self-regulated learning.

Integrated Language Skills Instruction (ILSI) has become one of the most recommended pedagogical approaches in language education because authentic communication naturally requires simultaneous use of listening, speaking, reading, and writing. Instead of teaching these four language skills separately, integrated instruction enables learners to experience language as a unified communicative system. Previous studies have shown that integrating receptive and productive language skills enhances communicative competence, promotes contextual learning, and improves learners' ability to transfer linguistic knowledge into real-life situations (Richards, 2006; Oxford, 2001). More recent studies further demonstrate that AI-supported integrated language instruction can substantially enhance learners' achievement across multiple language skills when embedded within coherent pedagogical frameworks rather than technology-driven activities alone.

At the same time, the rapid emergence of generative artificial intelligence and intelligent learning technologies has reshaped the landscape of language instruction. AI-powered learning environments provide personalized feedback, adaptive learning pathways, automated language assessment, and opportunities for authentic interaction. Nevertheless, educational researchers consistently argue that technology itself does not improve learning outcomes unless it is embedded within sound instructional design and robust pedagogical principles. Recent reviews conclude that constructivism, cognitive engagement, and collaborative inquiry remain the dominant theoretical foundations for successful AI-enhanced learning environments.

Despite these developments, many language classrooms continue to adopt fragmented instructional practices in which listening, speaking, reading, and writing are taught independently. Such compartmentalized instruction often limits learners' opportunities to develop integrated communicative competence and higher-order thinking. Furthermore, although numerous instructional innovations have incorporated digital technologies or AI-supported learning, relatively few studies have proposed comprehensive instructional models that systematically integrate deep learning principles with all four language skills into a single

pedagogical framework. Existing studies predominantly evaluate instructional effectiveness after implementation rather than examining the conceptual soundness of the instructional model itself.

Within educational research and development (R&D), model validation represents an essential stage before implementation and effectiveness testing. According to instructional design scholars, an educational model should demonstrate theoretical validity, internal consistency, pedagogical relevance, and practical feasibility before being applied in authentic learning environments (Plomp, 2013; Nieveen, 2013). Expert validation evaluates whether the instructional syntax, learning principles, social system, support system, and expected instructional impacts are logically coherent and theoretically justified. Models lacking rigorous validation frequently encounter implementation challenges because inconsistencies between theoretical assumptions and classroom practices remain undetected during the development phase.

Although studies concerning deep learning pedagogy have increased considerably during the past five years, research focusing specifically on the validity of an integrated Deep Learning instructional model for language skills instruction remains scarce. Most existing studies investigate learning outcomes, students' perceptions, motivation, or technology acceptance, whereas the developmental quality of instructional models receives comparatively limited attention. This gap is particularly evident in English language education, where integrated instructional frameworks combining constructivist pedagogy, deep learning principles, and language skills instruction have not yet been systematically validated before field implementation. Therefore, the present study seeks to examine the validity of an Integrated Model of the Deep Learning Approach in

Language Skills Instruction through systematic expert evaluation. Specifically, this study investigates whether the proposed model demonstrates adequate content validity, construct validity, theoretical coherence, instructional consistency, and pedagogical feasibility. Establishing the validity of the model constitutes a crucial foundation for subsequent investigations of its practicality and effectiveness in improving students' integrated language competencies. The findings are expected to contribute not only to instructional design research but also to the growing body of knowledge concerning deep learning pedagogy in language education, particularly in the context of technology-enhanced and competency-based learning environments.

2. Literature Review

2.1 Deep Learning Pedagogy in Contemporary Education

Deep learning has emerged as one of the most influential pedagogical paradigms in contemporary education because it emphasizes conceptual understanding, critical thinking, knowledge integration, and authentic application rather than rote memorization. Biggs and Tang (2011) proposed that deep learning occurs when learners actively seek meaning, connect new ideas with prior knowledge, evaluate evidence critically, and apply concepts to unfamiliar situations. Their theory of constructive alignment further explains that meaningful learning can

only occur when intended learning outcomes, teaching activities, and assessment are coherently aligned.

Recent educational reforms have reinforced the importance of deep learning as an instructional orientation capable of preparing learners for increasingly complex academic, professional, and social environments. Rather than emphasizing the transmission of information, deep learning encourages learners to investigate authentic problems, collaborate with peers, reflect upon their learning processes, and transfer acquired knowledge across contexts. These characteristics are closely associated with twenty-first-century competencies, including creativity, critical thinking, communication, collaboration, and self-directed learning. Recent systematic reviews indicate that deep learning pedagogies are particularly effective when combined with inquiry-based learning, project-based learning, collaborative learning, and reflective practice because these approaches require learners to construct understanding rather than merely reproduce information.

Recent evidence demonstrates that constructivist principles remain central to deep learning in digitally enriched learning environments. A systematic synthesis of fifty reviews on large language models (LLMs) and pedagogy found that constructivism, cognitivism, and connectivism are the three dominant theoretical paradigms underpinning technology-enhanced learning. The review concluded that meaningful learning is achieved when digital technologies function as cognitive scaffolds supporting inquiry, collaboration, metacognition, and learner autonomy instead of simply delivering instructional content.

Similarly, Rochmah and Alifiani (2026) conducted a systematic literature review examining the relationship between deep learning pedagogy and constructivism. Their review concluded that integrating deep learning with constructivist instructional strategies—including project-based learning, problem-based learning, collaborative inquiry, and reflective learning—significantly enhances conceptual understanding, critical thinking, and independent learning. The authors argue that deep learning should not be viewed merely as a teaching strategy but rather as a comprehensive pedagogical philosophy that transforms classroom interaction into an active process of knowledge construction.

Teacher readiness also plays a crucial role in successful implementation of deep learning pedagogy. Recent empirical evidence suggests that effective implementation depends not only on teachers' technological competence but also on their pedagogical knowledge, instructional beliefs, and willingness to facilitate learner-centered instruction. Teachers who adopt inquiry-oriented teaching strategies, authentic assessment, and collaborative classroom practices are more likely to foster deep cognitive engagement than those relying primarily on lecture-based instruction. Educational reforms promoting deep learning therefore require continuous professional development and institutional support to strengthen teachers' pedagogical capacity. Within language education, deep learning provides a particularly relevant pedagogical framework because language learning inherently requires learners to interpret meaning, negotiate communication, construct discourse, and apply linguistic knowledge across authentic social contexts.

Unlike traditional grammar-oriented instruction, deep learning emphasizes communicative

competence, metacognitive awareness, intercultural understanding, and reflective language use. Consequently, language classrooms adopting deep learning principles tend to integrate inquiry, collaboration, authentic communication, and continuous reflection into instructional practice. Recent reviews further indicate that AI-supported language learning environments are most effective when technological innovations are embedded within constructivist pedagogical frameworks rather than functioning as isolated instructional tools.

Despite increasing international attention to deep learning pedagogy, the literature also reveals several important research gaps. First, most studies investigate the effects of deep learning on student achievement, motivation, or engagement rather than examining the design quality of instructional models themselves. Second, existing research frequently focuses on individual instructional strategies, such as project-based learning or inquiry-based learning, without integrating these approaches into a coherent instructional model. Third, relatively few studies have investigated how deep learning principles can be systematically integrated into language skills instruction encompassing listening, speaking, reading, and writing within a unified pedagogical framework. These gaps provide a strong rationale for developing and validating an integrated instructional model that operationalizes deep learning principles for language skills instruction before evaluating its classroom effectiveness.

2.2 Integrated Language Skills Instruction

The teaching of language has gradually evolved from a discrete-skills approach toward an integrated perspective that reflects the authentic nature of communication. Traditional language instruction frequently treated listening, speaking, reading, and writing as separate components of the curriculum, often resulting in fragmented learning experiences and limited transfer of communicative competence. Contemporary theories of second language acquisition, however, argue that language skills develop interdependently because learners simultaneously process, interpret, and produce language in real communicative situations. Consequently, many scholars advocate integrated language skills instruction (ILSI) as a more authentic and cognitively meaningful approach to language learning (Oxford, 2001; Richards, 2006).

The theoretical rationale for integrating language skills originates from communicative language teaching (CLT), task-based language teaching (TBLT), and socio-constructivist learning theory. These perspectives emphasize that language is acquired through purposeful communication rather than isolated practice of grammatical forms. Learners construct linguistic knowledge while interacting with others, negotiating meaning, solving communicative problems, and reflecting upon their experiences. Therefore, effective language instruction should create opportunities for learners to employ listening, speaking, reading, and writing simultaneously within authentic communicative tasks rather than mastering each skill independently (Richards, 2006).

Oxford (2001) argues that language skills are naturally interconnected because authentic communication rarely requires only one language skill at a time. For example, participating in an academic discussion involves reading source materials, listening to others' ideas, speaking to express opinions, and writing reflective summaries. Accordingly, separating these skills during instruction may reduce learners' opportunities to develop communicative competence

holistically. Richards (2006) similarly emphasizes that communicative competence extends beyond grammatical knowledge to include discourse competence, strategic competence, sociolinguistic competence, and pragmatic competence, all of which require the coordinated use of multiple language skills. Recent systematic reviews support this integrated perspective. A comprehensive review of integrated curriculum models in language education concluded that integrating language skills with meaningful content promotes language proficiency, learner engagement, and critical thinking by situating language use within authentic contexts. The review also highlights that successful implementation depends on curriculum alignment, teacher collaboration, and coherent instructional design rather than simply combining classroom activities.

Empirical evidence likewise indicates that integrated instructional approaches enhance learners' communicative performance more effectively than isolated skills instruction. Studies examining content-based instruction (CBI), content and language integrated learning (CLIL), English-medium instruction (EMI), and other integrated pedagogies consistently demonstrate that learners benefit from learning environments where language functions as a medium for meaningful communication and knowledge construction. These approaches improve not only linguistic proficiency but also learners' academic literacy, critical thinking, and disciplinary understanding.

Another significant development concerns the increasing incorporation of translanguaging into integrated language instruction. Rather than restricting learners to exclusive target-language use, pedagogical translanguaging strategically allows multilingual learners to mobilize their entire linguistic repertoire to facilitate comprehension, collaboration, and meaning-making. A recent systematic review reported that translanguaging has shown particularly positive effects on reading and writing development while simultaneously reducing learners' cognitive load during complex language tasks. Nevertheless, the review also emphasizes that successful implementation depends on careful pedagogical planning and stronger empirical evidence across different instructional contexts.

Technological advancement has further transformed integrated language skills instruction. Artificial intelligence, learning analytics, adaptive learning systems, and large language models have created new opportunities for learners to receive personalized feedback, engage in authentic interaction, and practice multiple language skills simultaneously. However, educational researchers consistently argue that technology should function as a pedagogical facilitator rather than an instructional objective. Reviews of AI-supported language education suggest that digital technologies produce meaningful learning outcomes only when embedded within constructivist instructional frameworks that emphasize inquiry, collaboration, reflection, and authentic communication.

The relationship between integrated language instruction and deep learning pedagogy is particularly important. Deep learning encourages learners to establish conceptual connections, synthesize information from multiple sources, solve authentic problems, and transfer knowledge into unfamiliar situations. These characteristics closely correspond with integrated language instruction because meaningful communication inherently requires learners to coordinate receptive and productive language skills while engaging in higher-order cognitive

processes. Rather than memorizing vocabulary or grammatical rules in isolation, learners develop communicative competence through sustained interaction, critical reflection, collaborative inquiry, and authentic language use.

Despite increasing international interest in integrated language skills instruction, several limitations remain evident in the existing literature. First, many empirical studies continue to evaluate isolated instructional innovations or specific teaching strategies rather than proposing comprehensive instructional models that systematically integrate pedagogical theories with language instruction (Lo et al., 2024; Richards & Pun, 2023). Second, although technology-enhanced learning and AI-assisted language education have become increasingly popular, relatively few studies explicitly integrate deep learning principles into an instructional framework encompassing listening, speaking, reading, and writing as an interconnected learning system (Lo et al., 2024; Shehata et al., 2026). Third, developmental studies examining the theoretical validity of integrated instructional models remain scarce, with most educational research emphasizing instructional effectiveness after classroom implementation rather than validating the conceptual soundness of the model during the design stage (Plomp, 2013; Nieveen, 2013). These limitations reveal a significant gap in instructional design research and provide a strong rationale for developing and validating an Integrated Deep Learning Instructional Model for Language Skills Instruction before examining its practicality and effectiveness in authentic educational settings.

2.3 Constructivist Learning Theory as the Foundation of the Integrated Deep Learning Model

Constructivist learning theory has become one of the most influential theoretical foundations in contemporary education because it conceptualizes learning as an active process in which learners construct knowledge through interaction with their environment rather than passively receiving information from teachers (Allen, 2022). Within this perspective, learning occurs when individuals reorganize existing cognitive structures by integrating new experiences into previously acquired knowledge through the complementary processes of assimilation and accommodation. Consequently, meaningful learning is achieved only when learners actively engage in inquiry, reflection, problem-solving, and conceptual reconstruction.

The cognitive constructivist perspective emphasizes that intellectual development depends on learners' active exploration of authentic experiences (Rovegno, & Dolly, 2006). Knowledge is therefore not transmitted directly from teacher to learner but emerges through continuous interaction between prior knowledge and new information. This theoretical perspective strongly supports deep learning pedagogy because both approaches emphasize conceptual understanding, critical thinking, and knowledge transfer rather than memorization. Learners are encouraged to analyze relationships among concepts, evaluate evidence, and construct meaningful interpretations that can be applied to new situations.

Complementing Piaget's cognitive perspective, social constructivist theory argues that learning is fundamentally mediated through language, culture, and social interaction (Alkhudiry, 2022).. The concept of the Zone of Proximal Development (ZPD) explains that learners achieve higher levels of cognitive performance when supported through collaboration with teachers or more

capable peers. Instructional scaffolding therefore becomes essential in facilitating learners' progression from assisted performance toward independent competence. In language education, collaborative dialogue, peer interaction, authentic communication, and teacher guidance create opportunities for learners to negotiate meaning, refine linguistic understanding, and gradually internalize communicative competence. Constructivist thought through discovery learning, proposing that students learn most effectively when they actively investigate problems and discover underlying principles independently. According to Bruner, instruction should encourage curiosity, inquiry, hypothesis testing, and reflection rather than merely presenting information for memorization. Discovery-oriented learning therefore aligns closely with deep learning because both emphasize learners' intellectual engagement and conceptual understanding rather than procedural repetition.

Recent educational research continues to reaffirm the relevance of constructivism in digital and AI-supported learning environments. Systematic reviews published during the last few years indicate that learner-centred instructional design, collaborative inquiry, authentic problem-solving, and reflective learning remain the dominant pedagogical principles underlying successful technology-enhanced learning. Rather than replacing teachers, artificial intelligence functions most effectively as cognitive support that strengthens learners' inquiry processes, metacognitive reflection, and collaborative knowledge construction when embedded within constructivist instructional frameworks (Shehata et al., 2026).

The relationship between constructivism and integrated language skills instruction is particularly significant because language itself functions as both the object and the medium of learning. Learners develop communicative competence not simply by studying grammatical rules but by constructing meaning through interaction, negotiation, interpretation, and reflection. Consequently, integrated language instruction grounded in constructivist principles encourages learners to combine listening, speaking, reading, and writing while solving authentic communicative problems. Such learning environments foster higher-order thinking, learner autonomy, intercultural competence, and self-regulated learning, all of which are central objectives of deep learning pedagogy.

Despite the extensive application of constructivist principles across educational disciplines, relatively few instructional models explicitly integrate constructivist learning theory, deep learning pedagogy, and integrated language skills instruction into a unified conceptual framework. Existing studies frequently examine these theoretical perspectives independently, resulting in fragmented instructional innovations. This theoretical fragmentation highlights the need for a comprehensive instructional model that systematically integrates constructivist learning principles with deep learning pedagogy in order to enhance language skills instruction. The proposed Integrated Deep Learning Model developed in this study seeks to address this theoretical gap by combining these complementary perspectives into a coherent instructional framework.

2.4 Instructional Model Development and Validation

The development of instructional models constitutes a fundamental component of educational innovation because it provides systematic procedures for translating learning theories into

practical classroom implementation. Educational models serve as conceptual frameworks that organize learning objectives, instructional activities, assessment procedures, teacher roles, learner participation, and supporting resources into coherent pedagogical systems. Consequently, the quality of an instructional model directly influences the effectiveness, consistency, and sustainability of educational practice.

Research and Development (R&D) has become one of the most widely adopted methodologies for designing educational innovations because it combines theoretical inquiry with iterative model refinement and empirical evaluation. Among various educational design research frameworks, the models proposed by Plomp (2013) and Nieveen (2013) have gained widespread acceptance in instructional design research. Both scholars emphasize that educational products should undergo three sequential quality evaluations, namely validity, practicality, and effectiveness, before being recommended for large-scale implementation.

Several instructional design scholars have further emphasized that model validation should extend beyond evaluating individual instructional components to include the coherence of the entire instructional system. Joyce, Weil, and Calhoun (2015) argue that instructional models function as integrated systems in which learning syntax, teacher behaviour, learner participation, classroom interaction, and assessment procedures operate interdependently. Therefore, validating isolated components without examining their systemic relationships may overlook important instructional inconsistencies.

Recent educational reforms emphasizing competency-based learning, digital transformation, and artificial intelligence have further strengthened the importance of rigorous instructional model validation. As educational environments become increasingly complex, instructional models must demonstrate theoretical flexibility, technological adaptability, learner-centeredness, and contextual relevance. Consequently, educational researchers increasingly advocate comprehensive validation procedures combining theoretical analysis, expert review, practitioner feedback, and empirical testing to ensure sustainable educational innovation. Although numerous studies have investigated the effectiveness of technology-supported instructional innovations, considerably fewer studies have focused on validating instructional models before implementation, particularly within integrated language skills instruction. Most previous investigations evaluate student achievement after instructional intervention while providing relatively limited evidence regarding the conceptual quality of the instructional model itself. This imbalance suggests that greater attention should be directed toward establishing theoretical validity before examining classroom effectiveness.

Accordingly, the present study positions validity as the first stage of developing an Integrated Deep Learning Model for Language Skills Instruction. Through systematic expert evaluation, the study seeks to determine whether the proposed model demonstrates adequate theoretical consistency, instructional coherence, pedagogical relevance, and conceptual feasibility. Establishing these qualities provides a robust foundation for subsequent investigations examining the practicality and effectiveness of the model in authentic educational contexts.

3. Research Method

3.1 Research Design

This study employed the Research and Development (R&D) methodology with a focus on the validation phase of developing an Integrated Model of the Deep Learning Approach in Language Skills Instruction. The primary objective of this phase was to determine the conceptual and theoretical validity of the proposed instructional model before proceeding to practicality and effectiveness testing.

3.2 Participants

The validation involved three expert validators, selected purposively according to their academic qualifications and professional expertise. Using three validators is considered appropriate in educational design research because expert validation emphasizes the quality and depth of professional judgment rather than statistical representativeness (Nieveen, 2013; Plomp, 2013). Each validator independently assessed every component of the instructional model.

3.3 Research Instrument

The primary research instrument was an expert validation questionnaire developed based on the theoretical characteristics of instructional model development proposed by Joyce, Weil, and Calhoun (2015), Plomp (2013), and Nieveen (2013). The questionnaire was designed to examine the conceptual appropriateness, theoretical consistency, and pedagogical quality of the proposed instructional model. The instrument consisted of five major dimensions. Those are (1) Model Rationality, (2) Clarity of Model Components, (3) Construct Validity: Syntax / Learning Procedures, (4) Integration of Language Skills

The questionnaire employed a five-point Likert scale, allowing validators to indicate the degree to which each statement represented the characteristics of a valid instructional model. Score 5 is strongly Agree, 4 is Agree, 3 is Moderately Agree, 2 is Disagree, and 1 is Strongly Disagree. The five-point Likert scale was selected because it provides sufficient sensitivity for expert judgment while maintaining consistency and ease of interpretation in educational evaluation research.

3.4 Data Analysis

The quantitative data obtained from the validation questionnaire were analysed using descriptive statistics. For each indicator, the mean score was calculated using the following formula: [\bar{X}=\frac{\sum X}{N}], where: (\bar{X}) = mean validation score, (\sum X) = total score assigned by the validators, (N) = total number of ratings. The overall validity score was obtained by averaging all indicator scores. The validity level of the instructional model was interpreted and converted into a percentage value.

4. Results and Discussion

The research results include two essential parts: (1) Validation results of the ‘deep learning integrated English skills’ model and (2) Results of the content validation of the material from

the implementation of the DLA-ILS model.

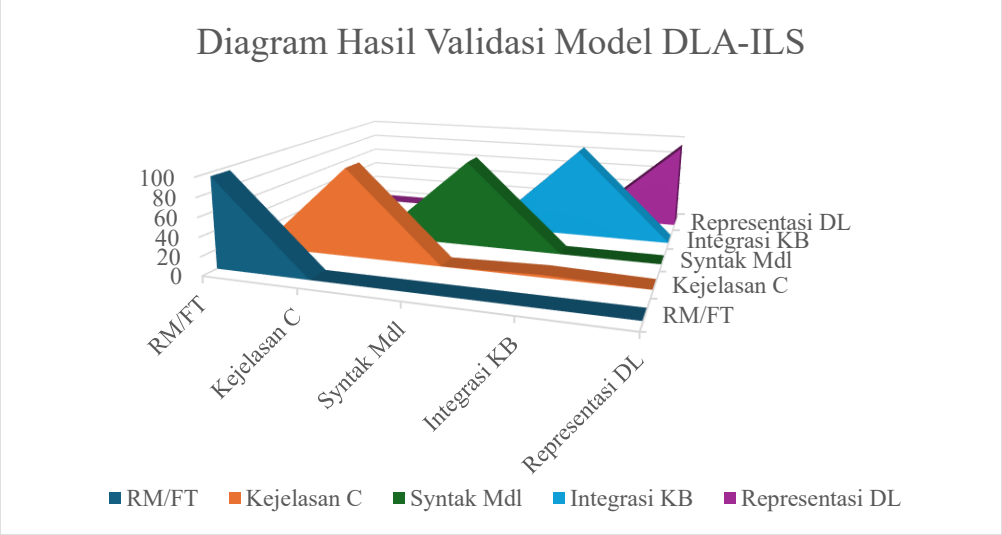
4.1 Validation results of the 'deep learning integrated English skills' model

The developed model has been validated by three experts in education and instruction. The validation results regarding the measured aspects and indicators are presented in Table 1:

Table 1. Validation results of the 'deep learning integrated English skills' model

No	Aspects measured	Validity Level (%)	Category
1	Rasionalitas Model	96	Very Valid
2	Clarity of Model Components are logically and theoretically grounded	96	Very Valid
3	Construct validity: Syntax / Learning Procedures	94	Very Valid
4	Integration of Language Skills	98	Very Valid
5	Representation of Deep Learning Principles	94	Very Valid

The percentage diagram can be seen below:



Learning model validation aims to ensure that the developed model has a strong theoretical foundation (content validity) and a logical relationship between its components (construct validity). According to Nieveen (1999), a learning product is considered valid if it is based on state-of-the-art scientific knowledge and all its components are arranged consistently according to the underlying theoretical framework. Similarly, Plomp (2013) emphasized that validity is one of the main characteristics of a learning model's quality before testing its practicality and effectiveness. Based on this framework, the validation indicators for the Deep Learning Integration with Integrated Language Skills model are explained as follows.

4.1.1 Model Rationality (Theoretical Foundation)

This indicator measures the extent to which the learning model possesses a strong and relevant

theoretical foundation underpinning its development. Aspects evaluated include the model's alignment with language learning theories, constructivism, sociocultural theory, and integrated language skills approaches, as well as "Deep Learning" principles that emphasize meaningful, mindful, and joyful learning. According to Nieveen (1999), content validity is determined by the extent to which a design is developed based on up-to-date theories and research findings. Consequently, a model demonstrating high rationality indicates that each of its components rests on a clear scientific basis that is academically justifiable.

4.1.2 Clarity of Model Components (Logically and Theoretically Grounded)

This indicator assesses the clarity of each constituent component of the model, including learning objectives, instructional syntax, the roles of the lecturer and students, support systems, the learning environment, and the assessment system. Beyond clarity, the relationships between components must be logical and consistent with the theory underpinning the model's development. Plomp (2013) states that the components of an instructional model must be coherently organized to form a mutually supportive system for achieving learning objectives. Consequently, a higher score on this indicator signifies that the model possesses a clear, systematic conceptual structure that is easily understood by users.

4.1.3 Construct Validity of the Syntax or Learning Procedures

This indicator measures the alignment and logical coherence among the stages—or syntax—of the learning process within the model. Validators assess whether each learning phase is systematically organized, maintains continuity, and effectively guides students toward achieving learning objectives in a progressive manner. According to Plomp and Nieveen (2013), construct validity refers to the logical consistency among model components, ensuring that the entire learning procedure accurately represents the theoretical construct being developed. Thus, a valid learning syntax is not merely sequentially organized but also reflects a learning process consistent with the underlying learning theory.

4.1.4 Integration of Language Skills

This indicator assesses the extent to which the model integrates the four language skills—listening, speaking, reading, and writing—into a unified learning process. The assessment focuses on the coherence of learning activities, ensuring that students employ all four skills simultaneously within authentic communication contexts. Oxford (2001) explains that effective language instruction does not teach language skills in isolation but integrates them as they are used in real-world communication. Therefore, this indicator serves as a crucial aspect in evaluating the quality of the developed language learning model.

4.1.5 Representation of Deep Learning Principles

This indicator measures the extent to which the learning model represents the core principles of Deep Learning: meaningful learning, mindful learning, and joyful learning.

- Meaningful learning is demonstrated through learning activities that connect new knowledge with students' existing experiences or knowledge, thereby rendering the learning meaningful.

- Mindful learning is demonstrated through activities that encourage students to think critically, reflectively, and creatively, as well as to evaluate their own learning processes.
- Joyful learning is reflected in a learning atmosphere that is engaging, interactive, and collaborative, and which enhances student motivation, ensuring active engagement throughout the learning process, (Siregar, 2026).

A higher score on this indicator indicates that the learning model has successfully integrated deep learning characteristics that support the development of higher-order thinking skills, creativity, collaboration, communication, and lifelong learning. If all indicators are categorized as valid or very valid based on expert assessment, the learning model is deemed suitable for further practicality and effectiveness testing.

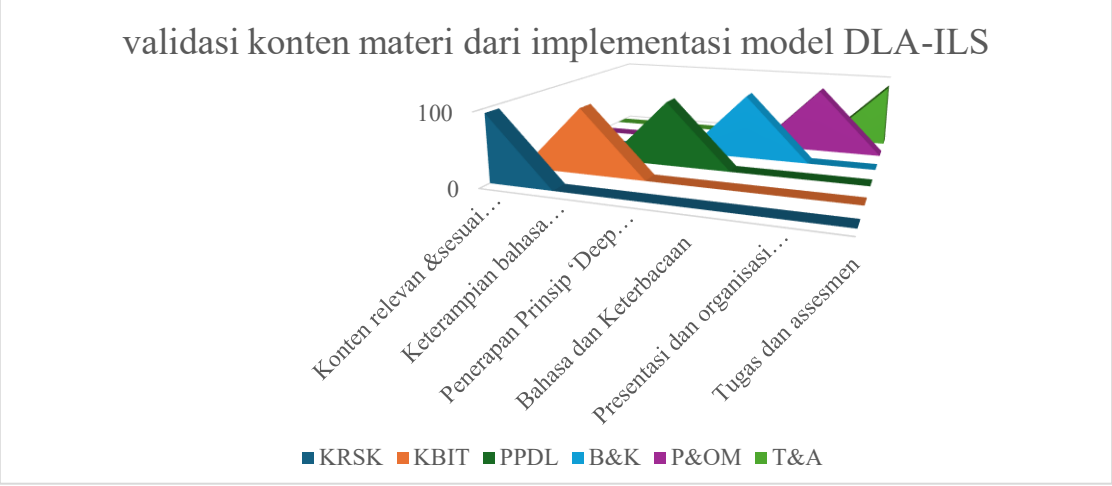
4.2 Results of the content validation of the material from the implementation of the DLA-ILS model

The next research results present the instructional material developed as an implementation of the DLA-ILS model was also validated by three English language teaching experts, and the average scores obtained for each aspect are provided in Table 2 as follows:

Table 2. Results of the content validation of the material from the implementation of the DLA-ILS model.

No	Aspects measured	Validity Level (%)	Category
1	Relevant content & curriculum alignment	94	Very Valid
2	Integrated English language skills	92	Very Valid
3	Application of 'Deep Learning' principles	92	Very Valid
4	Language and readability	92.5	Very Valid
5	Presentation and organization of material	92.5	Very Valid
6	Tasks and assessments	90	Very Valid

The percentages can be seen in the following diagram:



The material validation aspect of the Deep Learning Integration model—combined with Integrated Language Skills—encompasses the following six indicators.

4.2.1. Content Relevance and Curriculum Alignment

This indicator measures the alignment of learning materials with learning outcomes (CPL/CPMK), learning objectives, learner needs, and the prevailing curriculum. Validators assess whether the materials cover the competencies students must master, possess adequate depth and breadth, and remain relevant to scientific advancements and 21st-century needs.

4.2.2 Integrated English Language Skills

This indicator assesses the extent to which the material integrates the four English language skills—listening, speaking, reading, and writing—in a series of learning activities. Assessment focuses on the integration of activities so that students use all four skills simultaneously, as in real-life communication. Oxford (2001) explains that effective language learning does not teach language skills separately, but integrates them within authentic communication contexts. Similarly, Brown (2007) emphasizes that the Integrated Skills approach helps students develop communicative competence more naturally than learning that separates each language skill. A higher score on this indicator indicates that the learning material has developed English language competence in a comprehensive and integrated manner

4.2.3 Application of Deep Learning Principles

This indicator measures the extent to which learning materials implement Deep Learning principles: meaningful learning, mindful learning, and joyful learning. Validators assess whether the materials encourage students to connect new knowledge with prior experiences, engage in critical and reflective thinking, and learn in an environment that is active, collaborative, and enjoyable. Mayer, (2002). states that meaningful learning occurs when new information is linked to the learner's existing knowledge structure. Meanwhile, Langer (2016) explains that mindful learning emphasizes conscious thought, openness to new information, and the ability to view multiple perspectives during the learning process. The principle of joyful learning fosters intrinsic motivation, active engagement, and positive learning experiences, thereby enhancing the quality of learning outcomes. A high score on this indicator indicates that the learning materials reflect the characteristics of deep learning, fostering meaningful and enduring conceptual mastery.

4.2.4 Language and Readability

This indicator assesses the quality of the language used in teaching materials, including clarity of delivery, appropriate use of terminology, appropriateness to the student's ability level, and ease of understanding. Furthermore, the validator assesses the consistency of language use, sentence structure, and grammatical accuracy, ensuring the material is easy to read and understand. According to the National Standards Agency for National Education (BSNP) (2014), the linguistic aspects of teaching materials must meet the principles of being communicative, straightforward, appropriate to the student's developmental level, and using consistent terminology. Good language will improve readability, making it easier for students

to understand the material being studied. Therefore, a high score on this indicator indicates that the teaching materials use language that is effective, communicative, and easy to understand.

4.2.5 Presentation and Organization of Material

This indicator measures the systematic presentation of material, the sequence of concepts, the consistency of format, and the interrelationships between topics within the teaching materials. The validator assesses whether the material is organized logically, starting from basic concepts to more complex ones, thus facilitating students' gradual understanding. According to Dick, Carey, and Carey (2015), systematic presentation of material is an important principle in learning design because it helps students organize information more effectively. Furthermore, Mayer (2021) explains that good material organization can reduce cognitive load, thereby increasing learning effectiveness.

4.2.6 Tasks and Assessment

This indicator evaluates the alignment of tasks and assessments with learning objectives, learning activities, and the competencies to be achieved. Validators assess whether the tasks foster Higher-Order Thinking Skills, integrate the four English language skills, and measure the attainment of Deep Learning principles. According to Biggs and Tang (2011), high-quality assessment must apply the principle of constructive alignment—ensuring coherence among learning outcomes, learning activities, and forms of assessment. Furthermore, Anderson and Krathwohl (2001) emphasize that assessments should measure not only the ability to recall information but also the abilities to understand, apply, analyze, evaluate, and create. Therefore, a high score on this indicator indicates that the developed tasks and assessments align with learning objectives, support the integrated development of language skills, and comprehensively measure the attainment of student competencies.

Conclusion

Based on the expert validation results, both the Deep Learning Approach–Integrated Language Skills (DLA–ILS) model and its instructional materials demonstrated a high level of validity, indicating that they are founded on strong theoretical and logical principles. The model is grounded in established theories of constructivism, sociocultural learning, integrated language skills instruction, and deep learning pedagogy, while its components are organized in a coherent and internally consistent manner. Likewise, the instructional materials are aligned with curriculum objectives, learner needs, and deep learning principles, and are systematically designed to integrate the four English language skills through meaningful learning activities. Overall, the findings confirm that the DLA–ILS model and its supporting materials provide a theoretically sound and logically structured framework for English language instruction, making them appropriate for subsequent practicality and effectiveness testing in authentic educational settings.

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