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CLIL IN HIGHER EDUCATION: IMPACTS ON STUDENT LEARNING AND PRACTICAL IMPLICATIONS

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Abstract: Although Content and Language Integrated Learning (CLIL) has been increasingly implemented in Indonesian higher education, there is a need for a comprehensive understanding of its impact and effectiveness in university settings, highlighting the need for a systematic review to identify areas for improvement and inform recommendations for better practices. The present research aims to portray the effect of the implementation of CLIL on students' learning at the university level, as well as practical recommendations for CLIL learning in the future. A systematic literature review (SLR) was conducted to investigate CLIL implementation at the university level, covering both its impact on students' learning and future practical applications. This study reviewed 10 journal articles using the DISCAR design, sourced from the Sinta database and published between 2020 and 2025. The findings reveal that CLIL applied at the university level mostly affects students' learning in the aspects of comprehension, learning motivation, 21st century skills, and collaborative work. Based on these findings, the study highlights recommendations for CLIL implementation, including developing balanced CLIL curricula and strengthening lecturers' professional competence. Integrating CLIL into university learning is strongly recommended to equip students with balanced language competence, subject knowledge, and 21st-century skills, aligning with Indonesia's outcome-based education policy.

Keywords: content and language integrated learning (CLIL), higher education, systematic literature review

INTRODUCTION

In today's globalized world, the ability to balance subject knowledge and language competence is crucial for academic and professional success. As the world becomes

increasingly interconnected, individuals need to possess not only in-depth knowledge of their field but also the language skills to communicate effectively with people from diverse backgrounds. As highlighted by Li and Pei (2024), improving language competence to face global competitiveness requires content knowledge acquisition. Higher education institutions (HEIs) are being driven to provide versatile methods of instruction that address the competence growth demands of the approaching future (Kleimola & Leppisaari, 2022), as reality speaks that companies keep arguing that graduates do not qualify for the global market of work and lack some of the fundamental abilities needed to pursue job fulfillment (O'Neill & Short, 2025).

The integration of subject knowledge and language learning is a key aspect of Content and Language Integrated Learning (CLIL), a methodology that has gained significant attention from many educators (Nguyen et al., 2025), like in Southeast Asia (Hu & Gao, 2021), South America and Africa (Farrelly & Wroblewski, 2024). At the university level, CLIL is fundamentally connected to gaining an understanding and practical insight into communication, interculturality, and cross-disciplinary skills (Mestre-Segarra & Ruiz-Garrido, 2022).

CLIL is well known to be advantageous for students' learning development, both in content knowledge of the subjects, embracing comprehension, and achievement (Satayev et al., 2022) and language use, including language skills, self-confidence, and cultural awareness (Macaraeg et al., 2024). In the context of Southeast Asian countries like Malaysia, Indonesia, Vietnam, and Thailand, CLIL has been implemented to equip learners with good communication skills (Le & Nguyen, 2022) to face both academic advancement (Roth & Bogner, 2024) and a professional career (Hu & Gao, 2021). Likewise, CLIL promotes essential skills such as self-image, high encouragement, social, and interpersonal skills (Bekirogulları et al., 2022), which are highly valued in the workforce.

Currently, the Ministry of Higher Education, Science and Technology in Indonesia has issued guidance on higher education curriculum, which mainly refers to outcome-based education, as stipulated by the Regulation of the Minister of Education, Culture, Research, and Technology Number 53 of 2023 on Quality Assurance of Higher Education (2023). This policy emphasizes producing graduates with new literacy skills, including data literacy, technology literacy, and human literacy. To achieve this, universities are expected to reorient their curriculum development to meet the challenges of an era dominated by artificial intelligence. Outcome-based learning is trusted to properly meet the demand (The Directorate of Learning and Student Affairs, 2024). Such an instruction has been confirmed to facilitate students in acquiring the knowledge and competences required to undertake duties in their domain of expertise in the industry (Sukerti et al., 2020).

The alignment of CLIL with Indonesia's outcome-based curriculum presents a promising opportunity to enhance the quality of higher education. By integrating CLIL into the university curriculum, Indonesian universities can potentially improve students' language proficiency and content knowledge while also fostering critical thinking, problem-solving, and collaboration skills as a part of OBE's main purpose (Mitra & Gupta, 2020). This integration is projected to be relevant in Indonesia's diverse cultural and linguistic landscape, where CLIL can be a valuable approach to enhance language proficiency and content knowledge.

As CLIL has been implemented in higher education in many countries (Tai et al., 2025), specifically across Asia (Gilanyi et al., 2023), many studies have investigated the

implementation of CLIL in higher education settings, proving its effectiveness of CLIL in promoting students' learning. For instance, CLIL has the potential to enhance students' content knowledge and language proficiency (Jalal & Nawab, 2022). Additionally, CLIL supports grammar learning in an EFL setting (Azpilicueta-Martínez, 2024) and fosters considerable development in students' receptive and productive knowledge of word form and meaning in terms of content-specific lexis (Vraciu & Marsol, 2023). CLIL also assists lecturers in nurturing students' positive learning attitudes (Lee, 2024).

Despite CLIL's potential effectiveness, its implementation in Indonesian universities faces challenges, including teachers' time management, materials feasibility, and limited exposure to students' productive skills (Norhasanah & Setiawan, 2023). Given these challenges, a comprehensive investigation into CLIL's implementation, effectiveness, and areas for improvement in Indonesian higher education is warranted to enhance its impact.

This study addresses the need for a comprehensive understanding of CLIL's effects in Indonesian higher education through a systematic literature review (SLR) of articles published between 2020 and 2025. By synthesizing recent research, this SLR provides a snapshot of contemporary CLIL practices, trends, and developments in Indonesia. Specifically, the study aims to inform current educational practices and policy decisions by answering two research questions: 1) What are the effects of CLIL on university students' learning in Indonesia? 2) What recommendations are proposed for CLIL-based learning in Indonesian higher education? By examining the findings of recent studies, this SLR offers timely insights into CLIL's potential and identifies recommendations for future implementation in Indonesian universities.

LITERATURE REVIEW

What is CLIL?

CLIL is conceptualized as a progressive and dual-focused instruction that incorporates language and context to enable students to create and develop content knowledge (Cinganotto, 2023). It was first introduced by David Marsh in 1994 (Coyle et al., 2010). CLIL combines teaching content knowledge and language, which is of importance in our global communication (Bentley, 2023). Regarding the combination, CLIL is characterized by: 1) the integration of language and learning content featuring a lesson design in which teachers provide subject matter in a foreign language, and 2) the integration of communication and intercultural comprehension to broaden students' knowledge of cultures through authentic language communication (Hao et al., 2023). Building on this foundation, CLIL's dual focus on content and language enables students to develop a deeper understanding of subject matter while acquiring language skills. This approach can be especially beneficial for students in Indonesia, where English is increasingly important for academic and professional success.

CLIL Benefits

Referring to Bentley (2023), CLIL has five key benefits, covering the following aims: provide new topics in a non-native language, enhance students' language production in curriculum disciplines, promote student performance in core subjects and the targeted language, strengthen the confidence of students in both the target language and their first language, and deliver materials that strengthen early thinking skills. By referring to these aspects, lecturers can generate and create meaningful lessons, with the

emphasis on equipping students with sufficient content knowledge and technical language. When being consistently implemented, CLIL can provide wider benefits, including the acquisition of a second language and learning motivation (Fernández-Costales & Lasagabaster, 2025). By promoting language proficiency, content knowledge, and thinking skills, CLIL can equip students with the competencies required to succeed in an interconnected world.

CLIL Elements

CLIL is constructed by fundamental elements known as content, cognition, communication, and culture (4Cs) (Coyle et al., 2010). Content connects to subject learning; cognition relates to the cognitive level of students' learning; communication centers on the language needed by students to comprehend content, to involve themselves in instructional activities, and to summarize learning; and culture concerns promoting students' understanding of culture learned in their lessons (van Kampen et al., 2020). In practice, each CLIL lesson is designed, built, and applied by incorporating these 4Cs (Erasmus and The European Union, 2022). Referring to the theories, the integration of the 4Cs can help educators develop CLIL curricula that support students' academic, linguistic, and cultural development.

CLIL Implementation in An EFL Setting

Due to its flexibility in providing students with content and language use, CLIL is considered suitable to be applied in many EFL settings. At the university level, CLIL can be offered in several courses, for example, English for Specific Purposes (ESP), to enhance students' receptive skills (Sukisno et al., 2025), and English for Academic Purposes (EAP) to promote students' productive skills (Samad et al., 2025). However, due to students' restricted technical vocabulary, EAP and ESP classes require additional linguistic support (Sahan & Şahan, 2022), such as explicit teaching (Tai et al., 2025), and scaffolding the learning steps (Ertugruloglu et al., 2023).

In the Indonesian context, CLIL is also incorporated with a number of teaching methodologies, such as task-based, project-based, genre-based (Khoiriyah, 2021), and multisensory learning (Sukisno et al., 2025). By the combination, educators can create engaging and interactive learning environments that promote students' language proficiency and content knowledge. Additionally, CLIL's flexibility allows educators to adapt instruction to meet the diverse needs of students (Coyle et al., 2023) and promote contextualized learning. By leveraging CLIL's strengths, lecturers can better prepare students for the demands of academic and professional communication in English.

METHOD

The present research employed a systematic literature review (SLR) in reference to the design proposed by West and Martin (2024), applying the DISCAR (Designing, Including/Excluding, Screening, Coding, Analyzing, and Reporting) design, as this research is conducted qualitatively. The detailed procedure of the DISCAR is adapted from Fromm et al. (2025). This design encompasses critical procedures of conducting SLR studies, from designing to reporting, which signifies its comprehensive and careful coverage of presenting data from several sources. Each step suggested is presented in Table 1.

Table 1. Steps of DISCAR adopted in the research

| Stage | Description |
|---------------------|---|
| Designing | Formulating the research questions, defining the scope |
| Including/excluding | Collecting articles |
| Screening | Applying database filters (e.g., Sinta) |
| Coding | Categorizing the data based on the research questions Coding the data into relevant themes |
| Analyzing | Displaying data in the form of tables and narration Interpreting the data and justifying it to the current relevant research |
| Reporting | Writing the research report |

In the first stage, designing, the researchers formulated two research questions about the effect and recommendations for CLIL instruction at the university level. In the second step, the researchers applied the following inclusion criteria:

1. The research database used is Sinta, the Indonesian national journal indexing (ranging from Sinta 1-6), which is selected for its focus on providing a personalized strategy to reviewing and promoting Indonesian research, taking into account the local setting and priorities. This database selection is due to the full accessibility of relevant and context-specific publications, enabling a nuanced examination of CLIL implementation in the context of Indonesian universities.
2. The articles are categorized into journal articles (proceeding articles are excluded); they are chosen due to careful peer review procedures to ensure the publication and research quality (Chong & Lin, 2024; Harris & Davison, 2020).
3. The articles are published from 2020 to 2025. This timeframe provides recent evidence and insights into CLIL implementation, reflecting the latest developments in the framework.
4. The CLIL implementation concentrates on CLIL at the university level, both for students from the English department and the non-English department. By examining CLIL implementation at the university level, the researchers can gain a deeper understanding of how CLIL affects students' learning outcomes in a specific academic context.

The screening process involved applying specific keywords (CLIL, content and language integrated learning, integrating content and language learning, implementation, higher education, university, and student learning) combined with a publication date filter (2020-2025). An initial set of 19 research articles was identified, which underwent a rigorous screening process based on predefined inclusion criteria. Following a thorough examination, 10 articles met the criteria and were included in the analysis. Each selected article was then used to answer the research questions. The screening results are summarized in Table 2.

Table 2. The results of the screened articles

| Year of Publication | Title | Author |
|---------------------|--|----------|
| 2020 | Content and language integrated learning practice in English for accounting course | Nugroho |
| 2020 | CLIL practice in a maritime English course: EFL students' perception | Simbolon |

| Year of Publication | Title | Author |
|---------------------|--|-------------------|
| 2021 | The impact of project based-CLIL on students' English proficiency | Yufrizal |
| 2022 | Improving students' speaking skills through CLIL in tourist guiding online class | Novitasari et al. |
| 2023 | Implementation of Content and Language Integrated Learning (CLIL) in teaching English for guiding | Adijaya |
| 2023 | The perceptions of tertiary students and lecturers regarding CLIL-based critical reading material employing interactive multimedia | Fitrawati et al. |
| 2023 | The impact of CLIL approach to enhancing university students' speaking and creative thinking skills | Guntur et al. |
| 2023 | Implementation of English for Biology based on CLIL student handbook to improve English proficiency of prospective student Biology teacher | Jufri et al. |
| 2024 | Students' motivation in learning English by using Content Language Integrated Learning (CLIL) approach in Management class Economic Faculty at Muhammadiyah University | Nevia |
| 2024 | Implementing Content and Language Integrated Learning (CLIL) through group discussion in reading comprehension class | Zunaedi et al. |

The 10 selected articles underwent coding analysis, where relevant results were categorized based on research questions focusing on CLIL's effects on student learning and recommended practices. The coding process involved extracting and condensing key sentences into clauses, simplifying phrases through nominalization. Proceeding to the reporting stage, the coded data were then presented in tables, accompanied by narrative interpretations and justifications grounded in the current research.

FINDINGS AND DISCUSSION

Effects of CLIL on University Students' Learning

The results of the analysis on the 10 articles indicate the impacts of CLIL on four aspects, including comprehension, learning motivation, students' 21st-century skills, and collaboration. The summary is presented in Table 3.

Table 3. Impacts of CLIL on students' learning

| CLIL impacts on students' learning | Authors |
|---|---|
| Comprehension of content and technical vocabulary | Zunaedi et al. (2024) Simbolon (2020) Adijaya (2023) Nugroho (2020) Jufri et al. (2023) |
| Learning motivation | Fitrawati et al. (2023) Nevia (2024) Zunaedi et al. (2024) |
| Students' 21 st century skills | Guntur et al. (2023) Novitasari et al. (2022) Fitrawati et al. (2023) |
| Collaborative work | Yufrizal (2021) |

Table 3 demonstrates four aspects of students' learning enhanced by CLIL. Five studies have highlighted the aspect of comprehension (Adijaya, 2023; Jufri et al., 2023; Nugroho, 2020; Simbolon, 2020; Zunaedi et al., 2024) promoted by CLIL. CLIL implementation also proves to strengthen students' motivation (Fitrawati et al., 2023; Nevia, 2024; Zunaedi et al., 2024). CLIL also assists lecturers in fostering students' skills (Fitrawati et al., 2023; Guntur et al., 2023; Novitasari et al., 2022). CLIL is also found to foster collaboration (Yufrizal, 2021).

Comprehension of Content and Subject-Specific Vocabulary

The studies of Adijaya (2023), Jufri et al. (2023), Nugroho (2020), Simbolon (2020), and Zunaedi et al. (2024) have identified that CLIL implementation promotes comprehension and acquisition of technical vocabulary. The materials delivered concentrate on specific content based on the subject they are learning, implying that students have gained cognitive understanding of the content delivered. The findings correspond to a study conducted by Lee (2024), underlining that CLIL can enhance learners' knowledge of the targeted lesson. For subject-specific vocabulary (SSV) or technical term acquisition, CLIL provides adequate exposure for students to learn the targeted language, which then enables them to master new words or terms (Geoghegan, 2024).

In the setting of Indonesian higher education's shift to outcome-based learning, which promotes employability skills (Mitra & Gupta, 2020), CLIL's focus on technical vocabulary acquisition and cognitive understanding can be particularly beneficial. By integrating content and language learning, CLIL helps students develop professional, communication and problem-solving skills required in today's job market. Lecturers can leverage CLIL to foster students' cultural and community understanding (Macaraeg et al., 2024), ultimately enhancing their professional readiness for the modern workplace (Katawazai, 2021). By emphasizing CLIL's key features, lecturers can better prepare students to meet global market expectations and succeed in their future careers.

Learning Motivation

CLIL implementation has been found to improve students' learning motivation, particularly extrinsic motivation (Fitrawati et al., 2023; Nevia, 2024; Zunaedi et al., 2024). When lecturers apply the 4Cs in an engaging and lively environment, providing real-life examples of language use in context, students feel encouraged and motivated to participate in class. This finding is supported by De Smet et al. (2023), who confirm that students exhibit a favorable perception and increased motivation when learning through CLIL.

Building on this, the relevance and applicability of CLIL can further boost students' motivation to learn. By connecting language skills to real-world experiences and career goals, CLIL fosters a sense of purpose and enthusiasm among students (Preksha & Kaur, 2024). Moreover, when lecturers design demand-relevant instructions and activities that align with students' interests, it can lead to sustained motivation and engagement in learning.

Students' 21st Century Skills

This research highlights CLIL's potential in fostering 21st-century skills, including speaking skills, in the academic context (Novitasari et al., 2022), creative thinking (Guntur et al., 2023), critical and analytical thinking, and logical thinking skills

(Fitrawati et al., 2023). By integrating content and technical language, CLIL encourages students to engage in higher-order thinking, selecting, comprehending, applying, and evaluating information. This multifaceted approach yields numerous benefits, enhancing students' skills and contributing to their academic success. Supporting this, previous research confirms CLIL's significant impact on students' skills progress (Pittas & Tompkins, 2024).

Consistent with the findings, CLIL's role in achieving outcome-based curriculum goals becomes increasingly evident. The skills needed for the workforce, such as critical thinking, analytical thinking, and language proficiency, are pivotal for attaining the learning outcomes of OBE. OBE is expected to answer the education challenge in the 21st century to provide students with the required skills and competencies (Rahayu et al., 2021).

Building on this connection between OBE and 21st-century skills, CLIL can play a vital role in developing Indonesian students' skills and competencies. By integrating content and language learning, students can develop the skills required to succeed in an increasingly complex and interconnected world. Research supports this, showing that CLIL improves students' learning outcomes, including language proficiency, communication, and written skills (Hao et al., 2023). To maximize this potential, incorporating required skills into CLIL-based classrooms is essential. Lecturers can integrate these skills into the 4Cs elements and design instructional activities that foster students' talents, ultimately preparing them for the demands of the modern workforce.

Collaborative work

The study of Yufriзал (2021) underlines that CLIL's effective implementation helps improve students' collaborative work in the form of project-based learning. To contextualize the content and relevant language use, lecturers can direct students to work in groups. This is very beneficial because students will have time to exchange ideas and knowledge with their peers. Such collaborative work will also provide them with opportunities to practice their language skills through practicing and discussing with their peers. Supporting this, a study conducted by Wicaksono (2024) suggests that working with peers has significantly impacted students' learning engagement.

This emphasis on collaborative work corresponds with the goals of Indonesia's higher education graduates (Regulation of the Minister of Education, Culture, Research, and Technology Number 53 of 2023 on Quality Assurance of Higher Education, 2023). As a part of the 21st-century skills, learning should be formulated in a collaborative work environment to reach the ability to conquer the Industrial Revolution 5.0 (The Directorate of Learning and Student Affairs, 2024). In CLIL-based classrooms, incorporating group projects and collaborative activities helps Indonesian university students develop the ability to work and communicate effectively with others and improve self-confidence (Macaraeg et al., 2024), as well as share ideas and build on each other's strengths. By working together on projects, students can also develop the 21st-century skills, including problem-solving, leadership, and time management.

Recommendations for CLIL-Based Learning At The University Level

The findings from the 10 articles demonstrate some relevant recommendations for CLIL implementation in higher education institutions, both for policymakers, university management, and educators. The recommendations include several aspects displayed in Table 4.

Table 4. Recommendations for CLIL implementation in higher education institutions

| Recommendations | Authors |
|--|---|
| CLIL-based curricula | Adijaya (2023) |
| Lecturers' professional competence on CLIL | Novitasari et al. (2022) Simbolon (2020) |
| CLIL implementation on critical thinking and collaboration | Guntur et al. (2023) |
| CLIL-based learning materials | Adijaya (2023) Fitrawati et al. (2023) Jufri et al. (2023) Nugroho (2020) Yufrizal (2021) |
| Appropriate learning strategies | Fitrawati et al. (2023) Nevia (2024) Zunaedi et al. (2024) |

Table 4 signifies some recommendations for CLIL implementation. The first is emphasizing the balance of content knowledge and technical language (Adijaya, 2023). The necessity of the balance also applies to lecturers' competence in both areas (Novitasari et al., 2022; Simbolon, 2020). It is also deemed important to implement CLIL in the areas of critical thinking and collaboration (Guntur et al., 2023). Learning materials are also a critical point to highlight by lecturers implementing CLIL (Adijaya, 2023; Fitrawati et al., 2023; Jufri et al., 2023; Nugroho, 2020; Yufrizal, 2021). The last recommendation evolves around choosing interesting CLIL-based learning strategies (Fitrawati et al., 2023; Nevia, 2024; Zunaedi et al., 2024).

CLIL-Based Curricula

The study of Adijaya (2023) emphasizes the necessity to have content and language balance in CLIL curricula. In daily teaching, lecturers sometimes do not plan and execute teaching with an equal proportion between content and language. For example, lecturers frequently load students with language teaching and have a very small proportion of delivering content-specific knowledge. This phenomenon corresponds to the study by Villabona and Cenoz (2022), pointing out that it is not easy for lecturers to have a balance of content and language in a CLIL course.

This challenge is attributed to several factors, for instance, limited time allocation, less relevant learning materials, or problems in lesson plan designs. Achieving CLIL lesson objectives requires lecturers to design syllabi and lesson plans that harmoniously blend content and language. By following meticulous steps from planning to assessment, CLIL classrooms can optimize students' learning outcomes in either content or language. A potential method of combining content and language goals in CLIL instruction is foregrounding the subject/pluriliteracies skills pertinent to the individual CLIL subjects and using them as a roadmap to provide targeted language support and multimodal scaffolding measures (Bacovsky-Novak, 2023). Lecturers' direct involvement during the syllabus development and learning materials preparation is also critical, as it will assist them to upgrade their driving force, identity, and agency as CLIL teachers and material designers, as well as their professional expertise (Banegas et al., 2020).

Teacher Professional Competence on CLIL

The necessity to improve lecturers' professional competence, both in content knowledge and language, is proposed by Novitasari et al. (2022) and Simbolon (2020). Some lecturers might be very proficient in the targeted language, but they might also lack content knowledge. On this account, organizing professional development for CLIL lecturers is necessary. This finding is pertinent to what Nguyen et al. (2025) propose, that professional development is crucial to empower CLIL educators with sufficient understanding and competence before they execute CLIL teaching. CLIL lecturers, whether they identify as subject or language instructors, require professional development programs to advance linguistic proficiency and establish pedagogical competence (Nguyen et al., 2024).

The management of the university can facilitate lecturers by providing them with perpetual opportunities for professional development that emphasize CLIL techniques, content knowledge, and language competency. By empowering lecturers with the necessary skills and knowledge, universities can ensure that students receive high-quality education that prepares them for the workforce. The study of Ventista and Brown (2023) unveils that what lecturers gain from their professional development training leverages students' skills and learning, as they are exposed to opportunities and resources to upgrade their teaching quality and fulfill the necessity of handling students with various needs (Fernandes et al., 2023). Sending lecturers to quality CLIL training, in turn, will play a part in reaching outcome-based objectives in producing competent graduates.

CLIL Implementation on Critical Thinking and Collaboration

Incorporating the CLIL lesson with critical thinking and collaboration is pivotal, as preferred by Guntur et al., (2023). As underlined by The Global Citizen Academy (2021), critical thinking is crucial for people to analyze a case and find solutions, and collaboration is the key to creating effective communication and social skills. By incorporating both skills into CLIL classes, students are expected to analyze and find solutions when dealing with challenges in using language with specific content. Collaboration will be needed when students are presented with group work, for example, in a CLIL-based project. A study conducted by Cruz (2021) has demonstrated that the 4Cs elements of CLIL can assist lecturers in generating activities or materials to promote such skills.

The integration of CLIL with critical thinking and collaboration can enhance students' academic performance and employability. To achieve this, lecturers can design assessments that evaluate students' mastery of content, language, and critical thinking skills, aligning with the outcome-based curriculum's focus on measurable outcomes. Specifically, the outcome-based framework can inform the development of targeted learning activities and assessments in CLIL classes. For instance, CLIL lecturers can adapt assessment frameworks proposed by experts, such as rubrics or matrices centering on subject knowledge and language proficiency (Lo & Leung, 2022) to evaluate student learning outcomes.

CLIL-Based Learning Materials

Adijaya (2023), Fitrawati et al. (2023), Jufri et al. (2023), Nugroho (2020), and Yufriзал (2021) have concerns about CLIL learning materials. CLIL-based learning materials should meet the criteria of content relevance, media selection, good book

organization, suitable learning activities, and acceptable evaluation tools (Jufri et al., 2023). More complex materials should also be incorporated (Nugroho, 2020) to keep elevating students' competence. Combining the learning materials with authentic and non-authentic materials (Simbolon, 2020) will help in enriching students' learning experience. Another important section is the teaching material evaluation (Fitrawati et al., 2023), riveting at reflection for developing better learning resources. Respecting the need for typical CLIL-based materials and strategies, Pimentel-Velázquez (2025) has provided inspiring checklists, embracing the following aspects: lesson plan (including assignments, activities, and academic inquiries), cognitive discourse functions, genres of text, communicative language activities, and interaction. The checklist will allow CLIL instructors to easily choose and prepare appropriate materials and strategies with a balanced proportion of specific content and relevant language use.

Concerning outcome-based implementation at the university level, developing high-quality CLIL-based learning materials is crucial for achieving curriculum goals. Universities can benefit from incorporating authentic and non-authentic materials, as well as complex materials that challenge students and promote competence development. By using checklists and evaluation tools, lecturers can ensure that CLIL materials meet the necessary criteria for content relevance, media selection, and learning activities. Notably, CLIL lecturers should prioritize the 4Cs as key elements to evaluate the CLIL materials (Xin et al., 2025). By doing so, universities can support the success of their outcome-based curriculum, helping students develop the skills and competencies required for success in the workforce and ultimately producing work-ready graduates.

Appropriate Learning Strategies

Appropriate strategies for successful CLIL lessons are underlined by Nevia (2024), Fitrawati et al. (2023), and Zunaedi et al. (2024). Specific strategies will be needed as lecturers will certainly face various challenges and conditions. For instance, lecturers will encounter students with different language proficiency levels, the need to engage students during learning, and the need to improve understanding. Mahan (2022) identifies several strategies that CLIL educators might employ. For material comprehension, scaffolding can be preferred. Another suggested strategy is modelling, which might help students when completing assignments.

In the university outcome-based curriculum, CLIL lecturers can benefit from using strategies like scaffolding and modeling to support students with varying language proficiency levels and learning needs. By tailoring instruction to meet individual student needs, lecturers can promote students' deeper understanding and skill development. This approach aligns with the goals of outcome-based instruction, which emphasizes student-centered learning and competency development (The Directorate of Learning and Student Affairs, 2024). By using effective CLIL strategies, Indonesian universities can better prepare students for the demands of the workforce and support the success of their outcome-based curriculum.

CONCLUSION

The research concludes that the implementation of CLIL at the university level has shown promising effects on students' learning, particularly in enhancing students' comprehension, strengthening learning motivation, building 21st century skills, and promoting collaborative work. CLIL offers great prospects to advance the quality of

education by providing students with a more holistic learning experience, balancing the input of content knowledge and relevant language use. The present research implies that CLIL can be a valuable tool in enhancing university students' learning outcomes.

To successfully implement CLIL, universities are strongly recommended to prioritize developing a balance of content knowledge and technical language in the curriculum, strengthening lecturers' professional competence, focusing on 21st-century skills, developing CLIL-based learning materials, and selecting assistive strategies for students. By implementing these priorities, universities can create an effective learning environment to reinforce students' academic and professional development. Moreover, with the current guidance to adapt outcome-based education into university curriculum, CLIL can serve as a valuable framework for designing curriculum and assessments that align with outcome-based learning, focusing on outcomes and competencies. By leveraging CLIL's emphasis on content and language integration, universities can create a more holistic learning experience that prepares students for the demands of the modern workforce.

While this research provides valuable insights, its scope is limited to 10 Sinta-indexed articles and the Indonesian university setting. Therefore, the findings may not be generalizable to wider contexts. Future research could build on this by investigating CLIL best practices across broader contexts and educational levels, covering planning, execution, and evaluation.

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