



The Implementation of Differentiated German Language Learning based on CLIL in Indonesia

Dewi Kartika Ardiyani*, Dudy Syafruddin, Edy Hidayat, Primardiana Hermilia Wijayati, Rofi'ah

German Language Education Study Program, Faculty of Letters, State University of Malang, Malang, East Java 65145, Indonesia

Article Info

Article history:

Received 06 November 2024

Revised 06 February 2025

Accepted 21 March 2025

Available online 01 September 2026

Keywords:

CLIL,

differentiated learning,

German for foreign learner

Abstract

This study aims to identify key considerations for German language teachers in Indonesia in implementing differentiated German language learning through the Content and Language Integrated Learning (CLIL) method based on the platform *Kinderuniversität* to achieve the Sustainable Development Goals (SDGs). This research was conducted at Universitas Negeri Malang with 19 teachers as representatives of German Language teachers from the whole of Indonesia as research studies. This qualitative study used a descriptive method supported by quantitative data. The instrument used was the teacher's questionnaire and the document of the lesson plan that they made during the studies (through a workshop). Based on the results of the study, it can be learned that there are several aspects that need to be considered in implementing differentiated learning, including asking each student about their favorite themes, giving students the opportunity to choose their own learning methods and strategies, offering assistance to weak students, using media to stimulate the use of all senses, providing additional tasks for fast learners, providing alternative tasks that are easier and more difficult, providing additional time for slow learners, and using project assignments in German language learning so that each student can contribute what they have mastered. By considering these things, differentiated learning can be implemented. Through differentiated instruction with the CLIL method, students are given various choices based on their individual preferences and needs. Thus, German language learning can accommodate student differences and improve the quality of learning.

© 2026 Kasetsart University.

* Corresponding author.

E-mail address: dewi.kartika.fs@um.ac.id (Ardiyani, D. K.).

<https://doi.org/10.34044/j.kjss.2026.47.3.38>

2452–3151/© 2026 Kasetsart University.

Introduction

Education is a fundamental right and plays an important role in human life. Therefore, education is one of the 17 points to be achieved in the Sustainable Development Goals (SDGs) program declared by many UN member countries, including Indonesia, as stated in Presidential Decree Nr. 59 of 2017 (Bappenas, 2023). Related to the SDGs program, improving the quality of education is the core of many studies conducted by academics in order to keep up with the times and achieve a better life (Bappenas, 2023; Nurfatimah et al., 2022; Pribadi, 2017; Safitri et al., 2022). Various learning innovations in various contexts have been developed, including in the context of learning foreign languages, including German.

German is one of the languages that occupies an important role in the world, so that the language is considered needing to be mastered for various academic knowledge and for technological expert facilities. In Indonesia, German is one of the foreign languages that is quite widely studied both in schools and universities. However, since German has different language roots from Indonesian, and Germany is geographically located far from Indonesia, a number of problems arise in learning German, such as speaking anxiety, lack of grammar mastery, difficult German pronunciation, and lack of vocabulary (Ardiyani & Rofiah, 2021) with various background languages and culture that are often an obstacle to successful learning

CLIL is a learning approach that integrates material (content) and the language. CLIL combines language and content approaches, where a second or foreign language is not only used as a language in learning instruction but also as a very important tool for building knowledge (Amiroh et al., 2020; Dafouz et al., 2010; Goethe.de, 2023b; Graham et al., 2018; Kamumu, 2020; Lasagabaster & Doiz, 2016; Yufriзал, 2020). In the context of foreign language learning, CLIL not only raises the expectations of success in language learning but also develops the learner's abilities and discourse in general (Goethe.de, 2023a).

CLIL in learning has been widely researched and applied in various countries. Gruber (2017) implemented CLIL at an Austrian primary school, where the students' mother tongue is German. The findings from this study suggest that students enjoy their English/CLIL lesson and hold largely positive attitudes towards English. In Russian, Fedotova and Shi (2022) stated that CLIL is considered promising, and it can be used as an effective

tool for teaching foreign language. Hurajová (2019) from Slovakia, and Lialikhova (2021) from Norway found that CLIL plays an important role in a bilingual classroom. In addition, Goris (2019) investigated the use of CLIL in EFL across The Netherlands, Germany and Italy, and the result shows that CLIL classes had better performance. All those studies mentioned prove that CLIL is effective to be used in foreign language classes e.g. English as foreign language class. Research on CLIL has been conducted by many researchers in various subjects in Indonesia. Research by Amiroh et al. (2020), Kamumu (2020), and Putera and Setianingsih (2017), applied the CLIL approach in mathematics using English, while Mutiah applied CLIL to Indonesian subjects through elective material (Amiroh et al., 2020; Mutiah, 2020; Putera & Setianingsih, 2017). All those studies have a positive impact on learning. Meanwhile, Ardiyani et al. (2023) found that the implementation of CLIL in German has been proven to improve the mastery of material and the didactic methodological competence of German language teachers. In this study, CLIL was still in the context of German in general, while this article focuses on differentiated German language learning based on CLIL. In this context, teachers can already apply CLIL. However, this can be quite challenging, especially in heterogeneous groups.

To overcome the heterogeneous conditions of students, teachers need to prepare before the implementation of differentiated learning. Through this differentiation, learning offers various choices that are based on student differences and are oriented towards students' initial differences. Apart from the possibility of differentiation in social forms, in the scope of learning content or according to the interests of students, it can also be done through the selection of teaching materials and media used

Research on differentiation learning has been conducted by several experts. According to Ardiyani et al., differentiated German language learning is needed because Indonesia has very heterogeneous students (Ardiyani et al., 2023). Differentiated learning is thought to be effective in achieving learning success with class characters that have heterogeneous students

Methodology

This qualitative study used a descriptive method supported by quantitative data. It was conducted at Universitas Negeri Malang with 19 teachers as representatives for Indonesian German Language

teachers. The teachers involved in this research are teachers who are members of the Indonesian German Language Teachers Association (IGBJI) who have attended former CLIL workshop (at other meetings and other context), so, they have former knowledge about CLIL. They were teachers with a language level of B1 (CEFR), so they could minimize language errors in the lesson plans they prepared. The instrument used was the teacher's questionnaire results and the learning plan document that they made during the studies (through a workshop).

In the preliminary research, teachers had made a learning plan using CLIL method. In this study, they were learning the concept of differentiated German language learning and how to combine it with CLIL method through the workshop that was held by the researchers. Then they filled out a questionnaire which contains factors that teachers need to pay attention to applying differentiated German Language learning. Then they made a lesson plan for differentiated German language learning through CLIL method based on the online platform *Kinderuniversität*. The lesson plan must meet the specified criteria, namely, it must be in German and include the following information: *Thema* (theme), *Zeitdauer* (learning duration), *Ziel* (learning objectives), *Quelle* (sources), *Methode* (methods), *Medien* (media), and *Schritte* (learning steps). After the data were collected, data analysis was carried out, which was the final stage to add the objectives of this study. In order to be able to conduct an in-depth analysis of the quality of the lesson plans prepared by teachers, researchers and collaborators analyzed the results of each validation in order to provide assessments and suggestions to teachers for improving the lesson plans in the future.

Settings of the Study

In a meeting held on July 27, 2024, a workshop was conducted on preparing a lesson plan for differentiated German language learning through CLIL based on the *Kinderuni* platform at the German Language Department, Faculty of Letters, State University of Malang. In this workshop, participants had to prepare a Differentiated CLIL-based learning plan consisting of 5 main themes. The preparation of this theme was carried out by considering several important factors, such as suitability with the material on the *Kinderuniversität* platform, relevance to the target group (high school students in grades X-XII), and the language level of students at level A1 according to the CEFR (Common European Framework of Reference for Languages). The target

group in this learning plan is high school students in grades X to XII. At this level, students are generally at a stage of intellectual and language development that allows them to apply complex concepts in learning. However, considering that their language level is at level A1 (CEFR), the themes chosen are designed to ensure that the language used in the material is easy to understand and appropriate to students' abilities.

Results and Discussion

The themes and materials used in differentiated learning based on CLIL should be related to the themes and materials available on the *Kinderuniversität* platform, which is the main platform for implementing CLIL-based learning. This platform provides various interactive learning resources, which are designed to support the CLIL approach by providing content that combines language and subject matter. CLIL combines the language and content approaches, where the second language or foreign language is not only used as a language in learning instructions but also as a very important tool for building knowledge (Amiroh et al., 2020; Ardiyani et al., 2023; Dafouz et al., 2010; Goethe.de, 2023b; Graham et al., 2018; Kamumu, 2020; Lasagabaster & Doiz, 2016; Yufriзал, 2020). The CLIL approach is based on three defining aspects (Goethe.de, 2023a). First, the empirical-experimental approach in many subjects, especially natural sciences, which is very important in the process of mastering a foreign language and leads to a learning method by analogy; The second is learning a foreign language in a real-world context with content that can be used directly; And third, the capacity to reinforce the language for actual events and situations can be thoroughly clarified.

As an example, was the following theme named "Das Wasser auf der Welt" (The water in the world). An example of the material can be seen in [Figure 1](#).

This theme discusses various scientific aspects of water that are closely related to daily life, starting from the importance of water for life, the different states of water (liquid, solid, gas), the origin of water, to the process of water evaporating from the sea to form clouds and rain. This theme aligns with the theme in the Faculty of Nature in *Kinderuni*, namely, Regentropfen (Raindrops). An example of the themes available on the *Kinderuniversität* platform can be seen in [Figure 2](#).

The themes are not only fits to the materials in *Kinderuni*, but also consider students' interests and the relevance of the context in everyday life. This is done

DAS WASSER AUF DER WELT

Ohne Wasser gibt es kein Leben auf der Erde. In Deutschland regnet es viel. Deshalb gibt es hier fast immer genug Wasser. In anderen Ländern regnet es nicht so viel. Dort ist das Wasser knapp.



Figure 1 Example of material on the theme of water in the world (Lingonetz.de, 2017)



Figure 2 Example of themes in the platform Kinderuniversität

so that students can be more involved and motivated in the learning process. This is in accordance with the concept of differentiated learning. Differentiated learning is learning that creates diverse classes by giving students the opportunity to obtain materials, process ideas, and improve the learning outcomes of each student, so that

learning activities can be more effective (Ardiyani, Hidayat, et al., 2023; Funk et al., 2014; Kamal, 2021; Loibl & Leuders, 2021; Wischer, 2008). Differentiated learning is an adaptation of the German didactic methodic concept, *Binnendifferenzierung* (internal differentiation), which refers to forms and variations of learning (e.g.,

exercises, assignments, texts, strategies, etc.), which take into account learning objectives, needs, abilities, language level, and type of learner

To prepare differentiated CLIL settings for heterogeneous groups, it is necessary to pay attention to factors related to differentiated learning. These points were mentioned during the workshop, then the same aspects were distributed in the questionnaire to ensure that teachers pay attention to the workshop material and can organize differentiated German language learning properly.

The results of the questionnaire regarding the important factors for implementing differentiated learning are presented in Figure 3.

The aspects that need to be considered based on the result of the questionnaire in implementing differentiated learning are as follows:

Eliciting Students' Preferred Themes

Eliciting from each student their preferred theme is one way to find out each individual's preferences. Two-way communication can foster a positive relationship between teachers and students. This is in accordance with one of the objectives of differentiated learning, namely, establishing a strong and harmonious relationship between teachers and students (Leisen, 1999). In addition, this also aims to meet one of students' needs according to

Tomlinson et al., namely, students' interest, readiness, and learning profile (Tomlinson et al., 2003).

Eliciting students' preferred themes can also mean providing students with the opportunity to choose subjects they are interested in. In this context, students can select to complete German language assignments in areas such as physics, biology, mathematics, technology, or geography, according to their individual interests. Therefore, teachers must be prepared with German-language materials related to these fields. An example of German language material and an assignment in the field of physics is presented in Figure 4.

Student interest can be a supporting factor in increasing student motivation to actively participate in learning. To consider students' interest in designing learning aims to (1) help students to realize the suitability between learning interests and the chosen school, (2) show the relationship and relevance between all learning, (3) use skills or ideas that are familiar to students as a bridge for students to learn skills or ideas that are not yet familiar, and (4) increase student learning motivation. This is also in accordance with the objectives of differentiated learning, namely, increasing student motivation and learning outcomes (Leisen, 1999). Of the 19 teachers who completed the questionnaire, most (52.6 %) had given students the opportunity to choose themes according to their interests while 47.4 percent of the teachers stated that they were ready to do so in the next lesson. Several

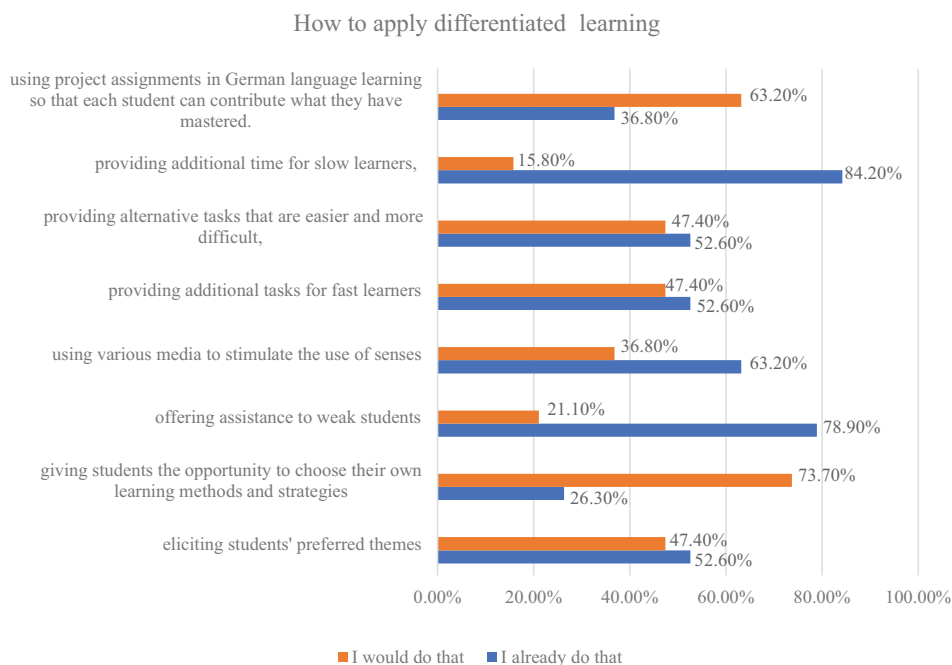


Figure 3 The important factors to implement differentiated learning

 **PHYSIK**

WASSER IST FEST, FLÜSSIG, GASFÖRMIG

Wasser ist flüssig. Wenn das Wasser gefriert, ist es fest. Dann ist es Eis. Wenn das Wasser verdunstet, ist es gasförmig und ist in der Luft. Dann ist es Wasserdampf. Wasser kommt also in drei verschiedenen Zuständen vor. Diese Zustände nennt man „Aggregatzustände“.

WASSER HAT VERSCHIEDENE NAMEN



1. Frage: Wie nennt man Wasser, wenn es fest ist?
Festes Wasser nennt man



2. Frage: Wie heißt das Wasser, wenn es flüssig ist?
Flüssiges Wasser nennt man



3. Frage: Wie nennt man Wasser, wenn es gasförmig ist?
Gasförmiges Wasser nennt man

Figure 4 Example of German language material and assignment in the subject of physics (Lingonetz.de, 2017)

factors contribute to teachers not offering students the option to choose themes, including the limited resources available to teachers and the requirement to align topics with the curriculum established by the school or the government.

Giving Students the opportunity to Choose Their Own Learning Methods and Strategies

As the theme, teachers should give students the opportunity to choose their own learning methods and strategies. This way, students could measure their abilities and choose what they like. It could support students to be more independent and confident.

This is in accordance with the objectives of differentiated learning, namely, helping students learn according to their abilities (Leisen, 1999). Besides, it could improve their motivation and learning performance, establish strong and harmonious relationships between teachers and students, and train students' independence and activeness in participating in learning (Leisen, 1999). There were still a few teachers who were giving students the opportunity to choose their own learning methods and strategies. 26.3 percent of teachers already do that while 73.7 percent were ready to do that in the future. In a standardized method, the learning outcomes could vary, which may affect the overall effectiveness of the lessons. It is understandable if it is not easy to give this opportunity to students because it could be varied and teachers could have difficulty controlling them. However,

by giving them this opportunity, it can enhance students' independence and support differentiated learning, which is believed to be effective in learning foreign languages

Offering assistance to weak students

As effective educators, it is essential to provide assistance whenever students encounter difficulties in their learning process.. Helping students in a proper way could increase their learning motivation as well as their performance. Besides, it also could build a strong and harmonic relationship between teacher and students. Apart from feeling helped, students would feel safe, comfortable and accepted with their weaknesses. This is in line with the objectives of differentiated learning (Leisen, 1999). Most teachers (78.9 %) were already offering assistance to weak students. They are trying their best to give attention to students' needs, such as their readiness and students' learning profile (Tomlinson et al., 2003). The rest of the teachers (21.1 %) are willing to do the same thing in the future. A key factor that prevents teachers from providing assistance to students with weaker abilities is the limited time available. Weak students often require extended periods to complete assignments, making it challenging for teachers to address all the issues these students face within the designated time frame. Furthermore, teachers may not fully recognize the difficulties of these students unless they actively communicate their challenges. Additionally, teachers are often under pressure to complete a topic and transition to the next materials, which can lead to

the assumption that students with weaker abilities have grasped the material, resulting in the continuation of the lesson without further support.

Using media to stimulate the use of all senses

Using media to stimulate the use of all senses aims to optimize learning. The use of media as well as technology in foreign language learning is considered to be effective to support learning needs and improve students ability as well as performance (Hadijah et al., 2020; Hikmah, 2019; Kodrle & Savchenko, 2021). Media could also provide wider access and opportunities for students in building their own knowledge (Hikmah, 2019). As many as 63.2 percent of teachers have provided various media to stimulate the use of all senses, while 36.8 percent are willing to use them in the future. Media can build a positive atmosphere in the class and tend to be fun for students. Thus, the use of media in differentiated learning can help students to learn according to their abilities and increase their motivation and learning performance (Leisen, 1999). A small number of teachers (36.8 %) do not provide various types of media to stimulate the use of all senses due to the limited media available at schools. Some schools lack complete facilities, which requires teachers to teach with the resources at their disposal. However, there are also teachers who are somewhat less active, and even when adequate facilities are available, they do not utilize them. Additionally, the limitation of time remains a significant issue for teachers in incorporating a variety of media into their lessons.

Providing Additional Tasks for Fast Learners

For fast learners, teachers should provide additional tasks to fill the space while they are waiting for the other students and to sharpen their knowledge and language skills. Adding more tasks for fast learners can help them to learn according to their own pace (Leisen, 1999). Such is related to students' learning readiness (Tomlinson et al., 2003). Students' learning readiness is related to the capacity to learn new material. If students are given an assignment that takes into account the level of learning readiness that is adjusted to a suitable and supportive learning environment, students will be able to master the learning material.

An example of an additional task designed for fast learners is presented in Figure 5.

Once they complete their primary assignment, they are given an additional task to research specific information. They scan a barcode that links to a video and then select the correct answer based on the content of the

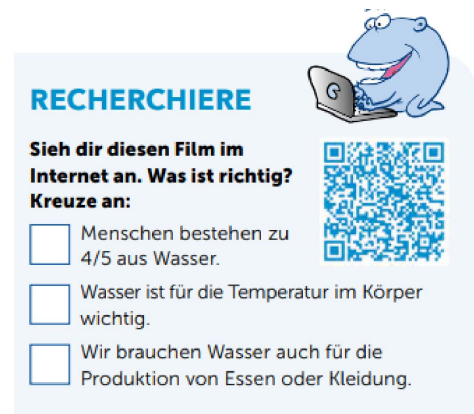


Figure 5 Example of additional task for fast learners (Lingonetz.de, 2017)

video.

Providing additional tasks for fast learners can increase learning motivation and student performance because students would feel validated and appreciated that they are doing a great job and can do more. It also can train students' independence and activeness in participating in learning. This is in line with the objectives of differentiated learning itself (Leisen, 1999). To this point, 47.4 percent teachers have done that, while 52.6 percent teachers would like to do that in the future. There are various reasons why teachers have not yet provided additional tasks for fast learners. Teachers may feel that adding additional tasks for fast learners would require extra time for planning and monitoring. The time required to develop, assign, and assess additional tasks could be seen as an obstacle, especially if the curriculum is already packed or there are multiple responsibilities in managing a class. Some teachers may feel restricted by a rigid curriculum or the need to follow a set pace. If the curriculum does not allow for flexibility, teachers may be unable to create additional tasks for fast learners without deviating from the prescribed content or timeline. In addition, learners may become disengaged or bored if they are constantly given extra tasks. There is also the possibility that teachers worry about the potential for frustration if students are given extra tasks that are not aligned with their interests.

Providing Alternative Tasks that are Easier and More Difficult

As well as providing additional tasks for fast learners, providing alternative tasks that are easier and more difficult could help students to learn at their own pace. It

supports the objectives of differentiated learning to help students learn according to their ability (Leisen, 1999). The fast learners can do more tasks that are even more difficult. It is an alternative. Meanwhile, the slow learners can choose the tasks that are easier so that they can learn step by step. It could however enhance their confidence. An example of an alternative task with a lower level of difficulty is presented in Figure 6.

The alternative task above is relatively easier for learners, as it requires students to read a text and identify items that could contaminate water. The text and pre-established categories assist the students, and the language requirements focus primarily on vocabulary. In contrast, a more difficult alternative task is presented in Figure 7.

This task asks students to share their ideas or opinions on how to conserve water. Although the task may seem brief, it is more challenging due to the need for students to present their opinions in a detailed manner, incorporating more complex language structures.

Those alternative tasks could also increase students' motivation and their learning performance. It also could train students to be more independent and active to

participate in learning. Such is in accordance with the objectives of differentiated learning, as stated by Leisen, that differentiated learning increases motivation and learning performance as well as trains students' independence and activeness in learning (Leisen, 1999).

From 19 teachers, 52.6 percent already provide alternative tasks that are easier and more difficult, while 47.45 would like to do it in the future. One common barrier for teachers is the limited time available within the curriculum. Creating, designing, and implementing tasks of varying difficulty requires additional preparation and may be perceived as too time-consuming. Teachers often have to balance the demands of covering the prescribed curriculum, which can make providing differentiated tasks a lower priority. Teachers may feel constrained by a rigid curriculum that does not provide flexibility to create alternative tasks. Standardized testing, pacing guides, and the need to meet specific learning outcomes could prevent them from diversifying their approach to assigning tasks. Developing alternative tasks that cater to varying levels of difficulty may require additional resources, such as technology, instructional materials, or support. If these resources are unavailable or limited

SCHMUTZIGES WASSER

Deine Hände sind schmutzig. Du wäschst sie mit Wasser. Danach ist das Wasser schmutzig. Das schmutzige Wasser nennt man „Abwasser“. Das Abwasser kommt in eine Kläranlage. In der Kläranlage wird das Abwasser sauber.

Bei dir **zu Hause** gibt es zum Beispiel beim Kochen, Spülen und Waschen Abwasser. Auch in der **Landwirtschaft** und **Industrie** verschmutzen Chemikalien, Dünger und Öl das Wasser. Das ist für alle schlecht, für Menschen, Tiere, Pflanzen und für die Umwelt.

Diese Dinge verschmutzen das Wasser.

Schreibe die Wörter aus dem Text in die Tabelle.

Zu Hause	Landwirtschaft	Industrie
SEIFE		

Figure 6 Example of alternative easier task (Lingonetz.de, 2017)

DEINE IDEEN

Wie kannst du Wasser sparen? Hast du eine Idee?

Du kannst auch das Arbeitsblatt zum Wassersparen bearbeiten.

Figure 7 Example of alternative more difficult task (Lingonetz.de, 2017)

in their schools, teachers might not feel they can create or manage differentiated tasks effectively. In addition, teachers might be unsure about how to assess and evaluate tasks that vary in difficulty. Designing fair and consistent evaluation criteria for a range of tasks might seem complicated, especially if there is no established framework or rubric for evaluating students working at different levels.

Providing Additional Time for Slow Learners

Additional time means something for slow learners. Providing additional time gives students time to absorb knowledge and gives them the opportunity to perform

at their best. And as the aims of differentiated learning, it helps students to increase motivation and learning performance and train students' independence and activeness in learning (Leisen, 1999).

It is also related to the students' need in learning according to Tomlinson et al., e.g., learning readiness (Tomlinson et al., 2003). Teachers should give slow learners more time, so that they are ready to face the new material. If they are not ready, learning could be less effective because they are not supported to absorb the previous material. Almost all teachers (84.2 %) provide additional time for slow learners already, while a few teachers (15.8 %) would do the same in the future. In the context of differentiated German language learning based on CLIL in Indonesia, several factors may explain why a small percentage of teachers (15.8 %) did not provide additional time for slow learners. One factor is that teachers often face strict time limitations within the curriculum, especially when teaching subjects like German language. The need to meet specific learning outcomes within a set timeframe can make it difficult for teachers to allocate extra time for slow learners, even if they recognize its potential benefits. Additionally, teachers in large classes may struggle to offer individualized support, such as providing additional time, as managing the progress of students at different paces can be overwhelming.

Moreover, some teachers may adhere to traditional teaching models where all students are expected to learn at the same pace. Cultural or institutional expectations in certain educational settings may prioritize uniformity, making teachers reluctant to provide extra time for slow learners. Furthermore, teachers may perceive that their slow learners are coping well with the standard allotted time or may assume that providing extra time will not significantly affect learning outcomes. As a result, they might view additional time as unnecessary, believing that students should simply adapt to the regular pace. Lastly, teachers might prioritize offering extra support through additional resources, guidance, or differentiated tasks rather than providing extra time. They may believe that other forms of support, such as targeted tutoring or one-on-one attention, are more effective for helping slow learners.

Using Project Assignments so that Each Student can Contribute What They Have Mastered

In order for each student to contribute to the material they have mastered, teachers should provide project-based assignments. In this assignment, the various puzzles owned by students can be arranged and collected

into a complete knowledge. The use of project-based learning models is one of the effective methods used by teachers to improve learning outcomes and student creativity in schools (Gao et al., 2024; Rizkasari et al., 2022). In addition, the role of teachers and students in project-based learning emphasizes student-centered learning and teachers have a role as tutors who provide resources, support, and advice to students (Gao et al., 2024; Guo et al., 2020; Howard, 2002; Markula & Aksela, 2022; Rizkasari et al., 2022; Thomas, 2000) while the control group used conventional Presentation, Practice, Production (PPP).

The use of project assignments supports the objectives of differentiated learning, e.g. helping students to learn according to their abilities and trains them to be more independent as well as more active in participating in the learning (Leisen, 1999). To consider this kind of assignment, teachers would focus their attention on each student. It is in line with the need of students for differentiated learning according to Tomlinson, e.g., students' learning profile (Tomlinson et al., 2003). Several factors related to students' learning profiles include language, culture, learning style, family background, and health. Mapping students' learning needs based on learning profiles aims to provide students with the opportunity to learn efficiently and naturally. As shown in Figure 8, project assignments can be used to support differentiated learning.

For this project task, students are asked to observe the water content in cucumbers. They are instructed to cut the cucumber and measure its weight. The cucumber is left for several days until it dries, and then its weight is measured again once it is dry. This procedure enables students to calculate the water content of the cucumber in grams. Through this process, students might learn more independently and actively, even if they are doing the task at home.

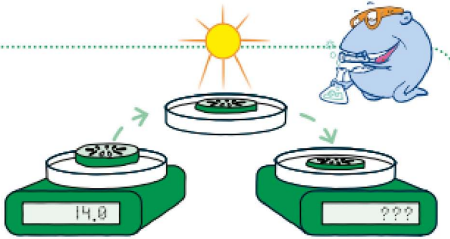
In this study, 73.7 percent of teachers express a willingness to incorporate project assignments in the future, while 36.8 percent of teachers are already using this type of assignment. The majority of teachers who do not use project-based assignments cite several factors, including: (1) Time and resource constraints: Project assignments typically require more time for planning, implementation, and assessment compared to traditional teaching methods. Teachers may feel overwhelmed by time limitations within an already dense curriculum. Additionally, the resources needed for projects, such as supplementary materials or supporting technology, may not be readily available or accessible to many schools in Indonesia. (2) Lack of experience or training: Teachers

EXPERIMENT 1

WIE VIEL WASSER IST IN EINER GURKE?

Man kann messen, wie viel Wasser in der Gurke ist. Führe das Experiment durch, wie es im Protokoll beschrieben ist.

So schreibst du das Protokoll für das Experiment:



PROTOKOLL		Unser Beispiel
Titel des Experiments	Darum geht es in deinem Experiment	WASSER IN LEBENSMITTELN
Name	Wer macht das Experiment?	Name: _____
Beginn und Ende	Wann und wie lange führst du das Experiment durch?	Beginn: Datum _____ Uhrzeit _____ Ende: Datum _____ Uhrzeit _____
Versuchsfrage	Was willst du untersuchen?	WIE VIEL WASSER IST IN EINER GURKENSCHNITZ?
Das Material	Welche Materialien brauchst du?	1 SCHEIBE GURKE
Instrumente und Geräte	Welche Hilfsmittel brauchst du?	1 WAAGE
Durchführung	Wie führst du den Versuch durch? Beschreibe genau, was du tust.	1. VON DER GURKE EINE SCHEIBE ABSCHNEIDEN. 2. DIE GURKENSCHNITZ WIEGEN. 3. DIE GURKENSCHNITZ TROCKNEN LASSEN. 4. DIE TROCKENE GURKENSCHNITZ WIEGEN. 5. DAS GEWICHT NOTIEREN. 6. DIE DIFFERENZ BERECHNEN.
Beobachtung	Was beobachtest du?	DAS GEWICHT VOR DEM TROCKNEN: _____ DAS GEWICHT NACH DEM TROCKNEN: _____
Ergebnis	Was ist das Ergebnis?	IN DER GURKE WAREN _____ GRAMM WASSER.

Figure 8 Example of project assignment on the theme of “Water” (Lingonetz.de, 2017)

who are unfamiliar with the Project-Based Learning (PBL) model may lack the confidence or necessary skills to implement it effectively. With 73.7 percent of teachers expressing reluctance to use project-based assignments, this could be attributed to a lack of comprehensive training or the absence of specialized training modules to support project-based teaching, particularly in the context of German language learning. (3) Challenges in managing heterogeneous classes: In CLIL, where students exhibit varying levels of ability, managing a classroom with project-based learning can be particularly challenging. Some teachers may feel that the diverse needs of students make it difficult to apply project assignments effectively, especially without clear, structured support or guidance.

Those are the key considerations for teachers in implementing differentiated German language learning through CLIL. By considering these aspects, teachers are able to prepare differentiated German language learning through CLIL which is proven through a lesson plan. An example of a lesson plan developed by a group of teachers during the workshop is presented in Figure 9.

By considering those aspects, teachers could apply

differentiated learning so that learning becomes more effective and of high quality. As stated by Ardiyani et al. (2023) differentiated learning is thought to be effective in achieving learning success with class characters that have heterogeneous students.

LESSON PLAN	
RAYA, FESYA, NURUL KINDERUNIVERSITÄT	
Thema	Fireflies (animals)
Level	A1
Duration	(2×45 Minutes) 90 Minutes
Learning's Objective	
Learners understand simple information from a video, learn new important vocabulary about animals and can then form simple sentences about fireflies or other animals.	

Figure 9 Front view example of a CLIL-based differentiated learning plan from workshop

This study result aligns with previous research on the successful implementation of CLIL across various countries, particularly in addressing diverse student needs. In Austria, Gruber (2017) demonstrated that CLIL effectively engaged primary school students in English lessons, showing how integrating content and language can cater to different learner levels. While the differentiation in Gruber's study was more implicit, it highlights the potential for CLIL to accommodate varying language proficiency levels. Similarly, Fedotova and Shi (2022) in Russia emphasized CLIL's effectiveness in foreign language teaching but did not explore the explicit application of differentiation within CLIL. In Indonesia, studies by Amiroh et al. (2020) and Kamumu (2020) explored CLIL in subjects such as mathematics, revealing positive learning outcomes, though they did not focus on content differentiation. This study, focusing on differentiated German language learning through CLIL in Indonesia, extends these findings by explicitly addressing the intersection of CLIL and differentiation. As highlighted by Ardiyani et al. (2023), Indonesian classrooms are highly heterogeneous, and this study aligns with their work by emphasizing how differentiated CLIL can effectively address such diversity. By tailoring content and language instruction to students' varying academic abilities and interests, this study contributes to the growing body of research on the combination of differentiated learning and CLIL, which enhances both language acquisition and content mastery in diverse educational settings.

Conclusion

A good teacher is one who carefully considers the various factors that influence the success of learning. Such a teacher not only addresses the general factors but also takes into account the diverse needs and characteristics of each student. Differentiated German language learning through the Content and Language Integrated Learning (CLIL) method is a pedagogical approach that effectively accommodates the diverse needs and heterogeneity of students by combining language and content instruction. By understanding the key factors necessary for its successful implementation, differentiated learning can be optimized. This approach enables German language instruction to address the specific needs and preferences of individual students within heterogeneous classrooms, thereby enhancing the overall quality of German language education in high schools across Indonesia. In turn, this contributes to the broader effort of achieving the

Sustainable Development Goals (SDGs), particularly in improving the quality of education.

To improve the implementation of CLIL in Indonesian schools, stakeholders can take several actionable steps. These include designing comprehensive training modules for teachers by developing a series of professional development workshops focused on enhancing teachers' abilities to integrate content and language in the context of differentiated learning. Additionally, stakeholders should create a clear, adaptable framework for lesson plan that can be customized to meet the diverse needs of students, ensuring that content is accessible to all learners. Furthermore, it is essential to implement systems for collecting regular, structured feedback from students on CLIL lessons, which will inform and improve teaching practices. By following these steps, stakeholders can ensure that differentiated German language learning through CLIL remains effective, sustainable, and well-supported within Indonesia's education system.

Conflict of Interest

The authors declare that there is no conflict of interest.

Funding

This study was funded by Universitas Negeri Malang (State University of Malang), Indonesia, through Grant No. 3.4.93/UN32/KP/2024.

References

- Amiroh, B., Ginting, D., & Fortunasari, C. (2020). Penerapan content and language integrated learning (CLIL) pada pelajaran matematika di tingkat pendidikan dasar di Indonesia. *Klausa (Kajian Linguistik, Pembelajaran Bahasa, dan Sastra)*, 4(2), 119–128. <https://doi.org/10.33479/klausa.v4i02.334>
- Ardiyani, D. K., Hidayat, E., Wijayati, P. H., & Rofiah. (2023). *Binnendifferenzierung in German language learning: A challenge for teachers* (pp. 75–80). Proceedings of the International Seminar on Language, Education, and Culture 2022. https://doi.org/10.2991/978-2-38476-038-1_9
- Ardiyani, D. K., & Rofiah. (2021). *Learners' German speaking difficulties: A case study in Indonesia* (pp. 51–56). Proceedings of the International Seminar on Language, Education, and Culture 2021. <https://doi.org/10.2991/assehr.k.211212.010>
- Ardiyani, D. K., & Rofiah. (2022). The evaluation of exam preparation for reading skills by Indonesian DaF-Teachers. *Nusantara Science and Technology Proceedings*, 2022, 37–43. <https://doi.org/10.11594/nstp.2022.1905>

- Ardiyani, D. K., Syafruddin, D., Hidayat, E., Wijayanti, P. H., & Rofiah. (2023). Implementasi CLIL dalam pembelajaran bahasa Jerman di SMA sebagai upaya pencapaian SDGs. *Jurnal Pendidikan Dan Pengabdian Masyarakat*, 6(4), 328–335. <https://doi.org/10.29303/jppm.v6i4.6081>
- Ardiyani, D. K., Wijayanti, P. H., Hidayat, E., & Afifah, L. (2022). Pelatihan bahasa Jerman tingkat A2 standar kemampuan berbahasa Eropa (CEFR) secara daring bagi Guru-Guru Bahasa Jerman se-Jawa Timur. *Jurnal Pendidikan Dan Pengabdian Masyarakat*, 5(1), 8–11. <https://doi.org/10.29303/jppm.v5i1.3111>
- Bappenas. (2023). *SDGs*. <https://sdgs.bappenas.go.id>
- Dafouz, E., Llinares, A., & Morton, T. (2010). Clil across contexts: A scaffolding framework for CLIL teacher education. *Viewz: Vienna English Working Papers*, 19(3), 12–20. https://www.researchgate.net/publication/269464750_CLIL_across_contexts_A_scaffolding_framework_for_CLIL_teacher_education
- Fedotova, N., & Shi, J. (2022). Content and language integrated learning (CLIL) in foreign language teaching methodology. *Journal of Pedagogical Innovations*, 65(1), 38–48. <https://doi.org/10.15293/1812-9463.2201.05>
- Funk, H., Kuhn, C., Skiba, D., Spaniel-Waise, D., & Wicke, R. E. (2014). *DLL 04: Aufgaben, Übungen, Interaktion: Buch Mit Videos: Klett Sprachen*. Klett. <https://www.klett-sprachen.de/dll-04-aufgaben-uebungen-interaktion/t-1/9783126069687?srsltid=afmboopq50n0w98t8i6zkxuqagss7smjz2xcngwbrtftjtjchy3k5tmp>
- Gao, H., Hashim, H., & Md Yunus, M. (2024). The effect of project-based learning (PBL) class model on Chinese undergraduates' argumentative writing performance. *Cogent Education*, 11(1), 2396715. <https://doi.org/10.1080/2331186x.2024.2396715>
- Goethe.de. (2023a). *Leitfaden: Mint und clil im daf unterricht*. <https://www.goethe.de/de/spr/unt/kum/clg.html>
- Goethe.de. (2023b). *Kinderuniversität*. <https://kinderuni.goethe.de>
- Goris, J. A. (2019). *Content and language integrated learning in english as a foreign language: A European perspective*. Behavioural Science Institute, Radboud University Nijmegen: Nijmegen.
- Graham, K. M., Choi, Y., Davoodi, A., Razmeh, S., & Dixon, L. Q. (2018). Language and content outcomes of Clil and Emi: A systematic review. *Latin American Journal of Content & Language Integrated Learning*, 11(1), 19–38. <https://doi.org/10.5294/lacil.2018.11.1.2>
- Gruber, M. (2017). PrimA-CLIL: Multiple stakeholders' perceptions of CLIL and its implementation at the primary school level in Austria. *International Journal for Research in Educational Studies*, 3(8), 23–45. <https://gnpublication.org/index.php/es/article/view/205/197>
- Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, 102, 101586. <https://doi.org/10.1016/j.ijer.2020.101586>
- Hadijah, S., Marhamah, M., & Shalawati, S. (2020). Interactive and educative learning media in English language teaching at senior high schools. *Al-Ishlah: Jurnal Pendidikan*, 12(2), 304–315. <https://doi.org/10.35445/alishlah.v12i2.202>
- Hafdarani, H. (2011). Pengajaran keterampilan membaca dengan konsep “Binnendifferenzierung.” *Allemania*, 1(1), 64–72. <https://ejournal.upi.edu/index.php/allemania/article/view/57668>
- Hikmah, D. (2019). Media for language teaching and learning in digital era. *International Journal of English Education and Linguistics*, 1(2), 36–41. <https://doi.org/10.33650/ijoeel.v1i2.963>
- Howard, J. (2002). Technology-enhanced project-based learning in teacher education: Addressing the goals of transfer. *Journal of Technology and Teacher Education*, 10(3), 343–364. <https://www.learnlib.org/primary/p/15139/>
- Hurajová, A. (2019). Contribution of CLIL methodology to the development of bilingualism and bilingual language competence of Slovak secondary-school students. *European Journal of Educational Research*, 8(4), 905–919. <https://doi.org/10.12973/eu-jer.8.4.905>
- Julaikah, D. I. (2015). *Binnendifferenzierung dalam pembelajaran menyimak bahasa Jerman* [Internal differentiation in German language listening comprehension on instruction] (pp. 474–479). Surabaya, Universitas Negeri Surabaya. [in Indonesian]
- Kalista, F. C., & Rosyidah, R. (2020). Bahasa guru dalam pembelajaran bahasa Jerman di SMA. *Prosodi*, 14, 119–130. <https://doi.org/10.21107/prosodi.v14i2.8763>
- Kamal, S. (2021). Implementasi pembelajaran berdiferensiasi dalam upaya meningkatkan aktivitas dan hasil belajar matematika siswa kelas XI MIPA SMA negeri 8 Barabai. *Jurnal Pembelajaran Dan Pendidikan*, 1(1), 89–100. https://www.researchgate.net/publication/356368083_Implementasi_Pembelajaran_Berdiferensiasi_dalam_Upaya_Meningkatkan_Aktivitas_dan_Hasil_Belajar_Matematika_Siswa_kelas_XI_MIPA_SMA_Negeri_8_Barabai_oleh_Syamsir_Kamal
- Kamumu, N. (2020). Implementasi content and language integrated learning (CLIL) dalam pembelajaran bahasa lintas kurikulum. *Prosiding Seminar Nasional Pendidikan*, 2, 750–757. <https://prosiding.unma.ac.id/index.php/semnaskip/article/view/370>
- Kodrlé, S., & Savchenko, A. (2021). Digital educational media in foreign language teaching and learning. *E3s Web of Conferences*, 273, 12018. <https://doi.org/10.1051/e3sconf/202127312018>
- Lasagabaster, D., & Doiz, A. (2016). CLIL students' perceptions of their language learning process: Delving into self-perceived improvement and instructional preferences. *Language Awareness*, 25(1–2), 110–126. <https://doi.org/10.1080/09658416.2015.1122019>
- Legutke, M., & Scharf, M. (2012). *DLL 01: Lehrkompetenz und unterrichtsgestaltung: Buch mit dvd: Klett Sprachen*. <https://www.klett-sprachen.de/dll-01-lehrkompetenz-und-unterrichtsgestaltung/t-1/9783126065221?srsltid=afmboop0vqifvxnqatqhrqieccr0lgwg6lgavlsne98mihdoyreth>
- Leisen, J. (1999). *Methodenhandbuch deutschsprachiger fachunterricht*. Varus. <https://www.deutsch-am-arbeitsplatz.de/fuer-den-unterricht/integriertes-fach-und-sprachlernen/methodenhandbuch-dfu>
- Lialikhova, D. (2021). The impact of a short-term CLIL intervention project on Norwegian different ability ninth graders' oral development. *International Journal of Bilingual Education and Bilingualism*, 24(5), 671–692. <https://doi.org/10.1080/13670050.2018.1509055>
- Lingonetz.de. (2017). *Lingo macht Mint*. Eduversum: Wiesbaden. <https://www.lingonetz.de/mint-magazin>
- Loibl, K., & Leuders, T. (2021). Strategien der Binnendifferenzierung. *Pädagogik*, 1, 39–45. <https://doi.org/10.3262/PAED2101039>
- Markula, A., & Aksela, M. (2022). The key characteristics of project-based learning: How teachers implement projects in K-12 science education. *Disciplinary and Interdisciplinary Science Education Research*, 4(1), 2. <https://doi.org/10.1186/s43031-021-00042-x>
- Mumpuniarti, Mahabbati, A., & Handoyo, R. R. (2023). *Diferensiasi pembelajaran (Pengelolaan pembelajaran untuk siswa yang beragam)*. Uny Press.
- Mutiah, A. (2020). Pendekatan content and language integrated learning (CLIL) dalam pembelajaran bahasa Indonesia di sekolah menengah kejuruan (SMK): Belajar berbahasa melalui materi peminatan. *Fkip E-Proceeding*, 2020, 1–16.
- Nurfatimah, S. A., Hasna, S., & Rostika, D. (2022). Membangun kualitas pendidikan di Indonesia dalam mewujudkan program sustainable development goals (SDGs). *Jurnal Basicedu*, 6(4), 6145–6154. <https://doi.org/10.31004/basicedu.v6i4.3183>
- Pribadi, R. E. (2017). Implementasi sustainable development goals (SDGs) dalam meningkatkan kualitas pendidikan di Papua. *E-Journal Ilmu Hubungan Internasional*, 5(3), 917–932. [https://ejournal.hi.fisip-unmul.ac.id/site/wp-content/uploads/2017/08/eJournal%20Roy%20Eka%20Pribadi%20\(08-11-17-01-04-46\).pdf](https://ejournal.hi.fisip-unmul.ac.id/site/wp-content/uploads/2017/08/eJournal%20Roy%20Eka%20Pribadi%20(08-11-17-01-04-46).pdf)

- Putera, S. Z. A., & Setianingsih, R. (2017). Penerapan pendekatan content and language integrated learning (CLIL) pada materi lingkaran di Kelas VIII SMP. *Mathedunesa*, 3(6), 79–87. <https://ejournal.unesa.ac.id/index.php/mathedunesa/article/view/21744>
- Rizkasari, E., Rahman, I. H., & Aji, P. T. (2022). Penerapan Model Pembelajaran Project Based Learning Untuk Meningkatkan Hasil Belajar Dan Kreativitas Peserta Didik. *Jurnal Pendidikan Tambusai*, 6(2), 14514–14520. <https://doi.org/10.31004/jptam.v6i2.4726>
- Safitri, A. O., Yuniarti, V. D., & Rostika, D. (2022). Upaya Peningkatan Pendidikan Berkualitas di Indonesia: Analisis Pencapaian Sustainable Development Goals (SDGs). *Jurnal Basicedu*, 6(4), 7096–7106. <https://doi.org/10.31004/basicedu.v6i4.3296>
- Schwerdtfeger, I. C. (2001). *Gruppenarbeit und innere differenzierung*. Langenscheidt.
- Thomas, J. W. (2000). *A review of research on project-based learning*. Autodesk Foundation. <https://www.semanticscholar.org/paper/a-review-of-research-on-project-based-learning-thomas/556a3e15b4cf-e31588cff520206fcf764a413c25>
- Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A., & Reynolds, T. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 27(2–3), 119–145. <https://doi.org/10.1177/016235320302700203>
- Wijayati, P. H., Rofiah, R., & Ayub, A. F. M. (2018). “My lecturer’s expressionless face kills me!” An evaluation of learning process of German language class in Indonesia. *Reid: Research and Evaluation in Education*, 4(2), 94–104. <https://doi.org/10.21831/reid.v4i2.22466>
- Wischer, B. (2008). Binnendifferenzierung ist ein Wort für das schlechte Gewissen des Lehrers. *Erziehung & Unterricht*, 158(9–10), 714–722. <https://www.fachportal-paedagogik.de/literatur/vollanzeige.html?FId=2968206>
- Yufriyati, H. (2020). Aplikasi content language integrated learning (CLIL) berbasis proyek terhadap peningkatan kemampuan berbahasa inggris mahasiswa. *Aksara: Jurnal Bahasa dan Sastra*, 21(2), 169–184. <https://jurnal.fkip.unila.ac.id/index.php/aksara/article/view/21257>