



EXPLORING MULTIMODALITY IN A STUDENT SELF-DIRECTED LEARNING UNIT TO FACILITATE DIFFERENTIATED LEARNING

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Abstract:

This study aims to explore multimodal elements in a Student Self-Directed Learning Unit (UKBM) to facilitate differentiated learning. Using a qualitative research design to explore various multimodal elements—such as text, images, audio, video, and interactive elements—and analyze how those elements can facilitate different student needs. It was found that multimodal elements used in a Student Self-Directed Learning Unit (UKBM) can facilitate different learning styles, readiness levels, and interests of students. Overall, this study focuses on the use of multimodal elements in a Student Self-Directed Learning Unit (UKBM) to accommodate different student needs in learning English.

Keywords: *Differentiated Learning, Multimodality, Student Self-Directed Learning*

1. INTRODUCTION

In the world of education, there are currently many significant changes and improvements to provide the best service for students. The use of the concept of multimodality in learning is one of the innovations that was initiated and has begun to be implemented in many educational environments in Indonesia. Based on the theory of Kress (2010), multimodality is the application of everyday concepts to convey information through the use of more than one method of communication or expression. Meanwhile, in the context of the world of education, Kress's multimodality theory can be interpreted as the application of the concept of a learning process that is created specifically by utilizing various media or modes—such as text, images, videos, and audio—to deliver learning material to students.

This concept of multimodality is relevant in the world of 21st-century education, where various forms of communication complement each other (Cope & Kalantzis, 2009). By applying the concept of multimodality, students can process, search for, and receive information from various perspectives and media, which will help them engage and learn according to their own needs and preferences. The use of the multimodality concept in learning is not only intended to facilitate student understanding but also to utilize the stimulation of various sensory modalities (human senses) that play a role in the learning process (Jewitt, 2008). For instance, the sense of sight for visual students, the sense of hearing for auditory students, and body movement for kinesthetic students. So, the use of multimodality offers to involve students' senses more in the learning process to create an interesting learning experience, and students can choose the way of learning that best suits their learning style.

Multimodality is also an essential aspect of the curriculum currently implemented in Indonesia, which is the Merdeka Curriculum framework. According to the Indonesian Ministry of Education and Culture (Kemendikbud, 2022), the Merdeka Curriculum prioritizes student-centered learning, which encourages a more personal approach, thus requiring learning instruments or designs that are in accordance with the characteristics of the school and its students. In addition, this curriculum also



emphasizes freedom and flexibility (Kemendikbud, 2022), which can allow schools and teachers to design learning processes and teaching materials that are appropriate to the context and needs of students. This freedom and flexibility are certainly important to support a differentiated learning approach.

As explained by Tomlinson (2001), differentiated learning is a learning approach that aims to provide learning experiences that are tailored to students' needs, interests, and readiness. Apart from that, Tomlinson (2001) also said that differentiated learning is a learning approach that focuses on—learning content, learning process, and learning products—which are tailored to all the differences that each student has—such as differences in learning styles, needs, and interests. This differentiated learning approach has the same goals as the Merdeka Curriculum framework, which is to provide the best role for students through learning that is designed to meet the various learning needs of students. Therefore, it can encourage educators to strive for the complete freedom they have to innovate in implementing the most appropriate methods and strategies for students as well as creating and developing various learning materials that suit each student's abilities. Thus, students can obtain more effective and inclusive learning.

According to the research results of Suherman et al. (2021), differentiated learning provides teachers with lots of access to various learning techniques, such as project-based learning, inquiry-based learning, and learning by utilizing multimodal elements—such as visuals, audio, video, and interactive activities—to facilitate students' conditions and needs. One example that is widely circulated in Indonesia's educational institutions is the use of student learning resources, which are usually called Student Independent Learning Units (UKBM), as a means of implementing differentiated learning approaches and the Independent Curriculum. Prasetyo (2019) explains that the student self-directed learning unit (UKBM) is a learning resource consisting of a series of learning materials specifically designed by teachers with the aim of actively involving students in their own learning process. This statement is also reinforced by the Ministry of Education and Culture Regulation (Kemendikbud, 2022), which states that student self-directed learning units (UKBM) are books or student-independent learning units created by each school institution and teachers to facilitate learning materials according to individual needs of the student. Therefore, it can undoubtedly enable students to control their learning journey and encourage their independence and self-regulation based on their learning styles, interests, and needs.

The student self-directed learning unit (UKBM) is designed by applying the concept of multimodality in the form of various multimodal elements. The content of the learning materials in this unit utilizes a mix of several multimodal elements, such as text, video, images, audio, games, and interactive activities (Tomlinson, 2001). Additionally, multimodal elements play an important role in the learning process to facilitate differentiated learning, as they can address the student's learning styles, interests, and readiness levels (Mayer, 2009). For instance, students with visual learner criteria will be able to focus on materials such as images, animations, diagrams, and videos. Students who are more dominant in auditory abilities can engage more effectively and understand the material easily through audio presentations, podcasts, music, or discussions. Meanwhile, students who have a kinesthetic learning style or are passionate about active movement will be able to be involved in the materials from hands-on activities that allow them to explore concepts or theories through real-world



applications. Therefore, serving learning materials in different ways through these multimodal elements will make it easier for students to understand the subject matter and allow students to access and process learning content in several ways.

On the other hand, although there has been a widespread perception of the benefits of using multimodal concepts through multimodal elements applied in the learning process, there is still limited research that examines the use of multimodal elements in the student self-directed learning unit (UKBM). Most previous studies refer to the discussion of multimodal theory in general or its application in other learning contexts. Therefore, to fill the gap in the research literature related to the use of multimodal elements in the student self-directed learning unit (UKBM), this study aims to explore how multimodal elements in a student self-directed learning unit (UKBM) can facilitate differentiated learning. By focusing on the multimodal elements present in the student self-directed learning unit (UKBM), this study seeks to understand and interpret how these multimodal elements can be used to support the diverse learning needs of the students. The results of this study are expected to contribute to the academic world regarding best educational practices in Indonesia and can be a guide for other schools that seek to implement similar processes in the learning process to improve student learning outcomes and meet students' diverse learning needs.

Research Questions:

1. What are the multimodal elements in a Student Self-Directed Learning Unit?
2. How are those multimodal elements used in a Student Self-Directed Learning Unit to facilitate differentiated learning?

2. METHOD

This research uses a qualitative research design to explore the multimodal elements contained in the student self-directed learning unit (UKBM) and find out how these elements can facilitate differentiated learning. As defined by Creswell (2014), qualitative research is research that aims to analyze in depth a problem. This qualitative research design was chosen because it allows the researcher the flexibility to understand and interpret the findings about how various multimodal elements in the student self-directed learning unit (UKBM) are used to meet the needs of different students. The researcher collects and analyzes data using content analysis. According to Krippendorff (2004), content analysis is a systematic research method that makes it possible to interpret the meaning of research in depth by analyzing and identifying existing information and data, both in the form of text, media, messages, and symbols. The content analysis method was used by the researcher because it is very relevant to this research, which, of course, allows the researcher to identify, analyze, and interpret various multimodal elements—such as text, images, videos, and interactive activities—contained in the student self-directed learning unit (UKBM). In addition, the process of collecting and analyzing data in the student's independent learning unit is carried out without the need for interviews or observations. In this way, the researcher can make accurate and precise conclusions from the findings by highlighting the various multimodal elements that exist in the student self-directed learning unit (UKBM) and how these multimodal elements are used to facilitate differentiation learning.

3. FINDING AND DISCUSSION

The findings of this research through content analysis show that various multimodal elements used in a Student Self-Directed Learning Unit (UKBM) play an important role in facilitating differentiated learning. The researcher found that there are many multimodal elements used to present materials in a Student Self-Directed Learning Unit (UKBM), such as the use of multimodal elements found in the sub-topics Simple Present Tense, Present Continuous Tense, Comparison Degree, Simple Past Tense, Recount Text, Short Message, Notice, and Message of the Song. The multimodal elements found in the sub-topics above are text, images, audio, video, and interactive activities. These multimodal elements are used in a Student Self-Directed Learning Unit (UKBM) to create different ways for students to learn the materials provided in accordance with the differentiated learning approach proposed by Tomlinson (2001), which facilitates learning styles: visual (V), auditory (A), and kinesthetic (K), as well as various levels of readiness: high achievement (HA), medium achievement (M), low achievement (LA), and student interests.

In addition, the researcher used an analysis table as an instrument to identify and explore multimodal elements in the Student Self-Directed Learning Unit (UKBM) during data collection. The analysis table instrument contains several columns to classify multimodal elements in a Student Self-Directed Learning Unit (UKBM)—such as text, images, audio, and interactive activities—as well as columns that function to categorize each multimodal element in facilitating differentiated learning. The following table shows the details of these multimodal elements.

Table 3.1. Multimodal Elements

No.	Multimodal Elements	Expression in the Student Self-Directed Learning Unit	Purpose/Indication	Target of Differentiation						Topic /Page	
				Style			Readiness				Interest
				V	A	K	HA	M	LA		
1.	Picture/ Image, Video, and Text	Pictures of daily activities (e.g., feeding animals) provide visual support to help students understand actions in real life.	Helps visualize actions in daily life	√						Students who like the image-based activity in daily life	Simple present tense and continuous tense/ page 3, 15, 16
2.	Audio and Video	Audio dialogue about jobs and students should answer questions based on stories they listen to through short audio stories, as well as there	Develops listening comprehension		√		√			Students who are interested in music, audio recordings, and listening	Simple present tense, continuous tense, recount text and



		is a song listening activity where students are asked to listen to the song and fill in the missing lyrics by looking for the song's message.								g to sound	message of the song/ page 7, 17, 53, 77
3.	Interactive Activity	Role play and student speaking practice through dialogue, games involving collecting and descriptions of comparisons, games to find the notices around the school	Supports practical application of language skills			√		√		Students interested in learning through practice the dialogue and interactions between people	Simple present tense, past tense, continuous tense, recount text, comparison degree, short message and notice / page 10, 18,21, 34,44

From the table above, it can be seen that each multimodal element serves a specific purpose in supporting the differentiated learning process. As stated by Tomlinson (2001), differentiated learning is designed to provide learning experiences that are tailored to students' learning styles, readiness, and interests. This concept aligns with the multiple intelligences theory proposed by Howard Gardner (1983), which states that people have different types of intelligence, which means they need different learning approaches. For instance, students with a visual learning style find it easier to understand information or learning materials through text, pictures, and visual representations. In this Student Self-Directed Learning Unit (UKBM), visual elements such as pictures of daily activities (e.g., feeding animals) are used in topics like the Simple Present Tense and Present Continuous Tense on pages 3, 15, and 16. These visual elements serve as a pedagogical tool for visual learners to understand grammar concepts through visual representations of daily activities, which enhance students' understanding of the two tenses. In accordance with the findings of Mayer (2005), students with a visual learning style are better able to process information through visual stimuli. By presenting grammatical structures in a visually appealing way, these



elements capture the attention of visual learners and help them understand how these tenses work in everyday situations so that they can connect daily activities with the grammar structures they are learning. Additionally, using pictures as visual elements in this Student Self-Directed Learning Unit (UKBM) can stimulate students' imagination and creativity, making them feel more emotionally connected to the material being learned. Pictures provide clear visual examples, allowing students to see how something works or how a particular situation happens. Pictures can also make learning more interesting and enjoyable so students are more motivated to learn and actively engage in the classroom. Therefore, it can facilitate students with a visual learning style to more effectively understand the use of the Simple Present Tense and Present Continuous Tense.

In addition, students with an audio-learning style are students who understand information or learning materials more easily through listening. Therefore, they can benefit from listening exercises through audio or sound. By using multimodal audio elements, the Student Self-Directed Learning Unit (UKBM) not only serves language skills but also stimulates students' interest in language learning through media that are more creative and relevant to their daily lives. This audio multimodal element can be found in the Student Self-Directed Learning Unit (UKBM) on pages 7, 17, 53, and 77, which cover the topics of Simple Present Tense, Present Continuous Tense, Recount Text, and Messages in Songs. These sections include activities where students answer questions based on stories they listen to through short audio stories. There is also a song listening activity, where students are asked to listen to the song and fill in the missing lyrics by looking for the song's message. All of this helps auditory learners by improving their listening skills and understanding of conversations and stories. According to Clark and Mayer (2011), using multimedia like audio effectively enhances the learning process of students with auditory learning styles. Through listening, they can take in information that suits their way of learning. It also helps them hear the correct pronunciation, intonation, and rhythm of the language. In this way, students learn to recognize voice tone, expression, and context, which helps them understand the deeper meaning of the text.

There are also students with kinesthetic learning styles who typically engage in role-playing and hands-on activities. Kinesthetic learners understand the material better through physical activity and interaction with objects or activities. As stated by Dunn and Dunn (1978), knowledge acquisition through kinesthetic learning requires hands-on experience to improve understanding. This means that kinesthetic learners are not just about learning theories but also from practical experience. Activities designed for kinesthetic learners are those that provide opportunities to connect the theories they learn with real-world experiences, increasing the relevance of their learning. By engaging in practical tasks, students can see how abstract concepts, such as grammar rules or language structures, are applied in everyday situations. This connection between theory and practice facilitates students' comprehension of the rationale behind learning specific material and how it can be helpful in their daily lives.



In this Student Self-Directed Learning Unit (UKBM), the multimodal elements for kinesthetic learning style are spread over several topics or chapters, such as Simple Present Tense, Past Tense, Continuous Tense, Degree Comparison, and Short Message and Notice, which can be found on pages 10, 18, 21, 34, 44, and 66. For example, on Simple Present Tense, Past Tense, and Continuous Tense, there are simple game activities such as role-playing in pairs to practice a dialogue in front of the class and a verb-finding game. Those activities aim to support the practical application of language skills and improve students' speaking and presentation skills. By participating in hands-on tasks, such as role-playing or games, these students can better understand complex concepts through direct experience rather than just theoretical instruction. This active engagement makes learning more fun and interactive and reinforces the material in a way that aligns with their natural learning style. It also aligns with Dewey's (1938) idea of experiential learning, where students understand and remember more when participating in practical tasks that reflect real-life experiences. Therefore, through activities like this, students who prefer to learn through physical actions can be actively involved in learning, which helps strengthen their understanding of the subject matter.

Furthermore, on the topic of Comparison Degree, students are invited to participate in a group game to find and identify appropriate comparison sentences with the provided texts, which encourages collaborative learning. Even so, in the Short Message and Notice topic, students take part in a game where they search for notices (written announcements or signs) around the school environment. As Gardner's (1983) kinesthetic learning theory states, this game activity aims to improve students' learning skills through direct practice, thus creating a more real learning experience. By doing this activity, kinesthetic students can strengthen their understanding of the material being taught and more easily connect theory with practice. In accordance with Vygotsky's (1978) theory, play activities are the right media for learning because they allow students to practice their cognitive skills in a more relaxed atmosphere, where students can be more creative in learning without feeling bored. This game activity certainly not only provides variation in the learning process but also provides opportunities for students to learn in a more enjoyable and interactive way. Therefore, multimodal elements in the form of game activities can foster students' interest and motivation to learn and provide an interesting experience.

The purpose of the multimodal elements in a Student Self-Directed Learning Unit (UKBM) is also to facilitate students' levels of readiness in understanding the learning materials. As categorized by Tomlinson (2001), student readiness can be divided into three levels: High Achievers (HA), Medium Achievers (M), and Low Achievers (LA). These categories of student readiness are used to adjust students in processing the given multimodal elements, as well as how their learning styles and interests affect their understanding, for students with a high level of readiness (HA) will be given more complex tasks designed to help them develop advanced language skills. For example, in the Student Independent Learning Unit on pages 77–79, HA students are assigned to analyze song lyrics and write complete sentences that can strengthen their language



skills. As a result, this not only improves their speaking and writing skills but also improves their listening skills as they process information from various audio sources.

On the other hand, students with low readiness (LA) will get different tasks according to their lower abilities compared to HA students. For students with low readiness (LA), simplified materials are provided to build their basic understanding, such as the use of multimodal elements in the form of visual elements (pictures or illustrations) in a Student Self-Directed Learning Unit (UKBM) to present learning material information in a simpler and easier to understand way. For example, on the topic of Simple Present Tense and Present Continuous Tense, on pages 3, 15, and 16, there are pictures showing material about daily activities that can make it easier for LA students to understand the material. Meanwhile, students with moderate readiness (M) are given tasks that are easy to manage but still a little complex and adjusted to their needs, such as the material presented on the topic of Simple Past Tense and Comparison Degree on pages 34 and 44 of the Student Self-Directed Learning Unit (UKBM), by providing a game activity to find verbs through pictures/posters in the school environment. Through this activity, students can strengthen their understanding of the material and improve their memory by combining multimodal elements in the form of visuals and interactive activities.

In facilitating student interests, the multimodal elements used in a Student Self-Directed Learning Unit (UKBM) are also adjusted to the type of interest they have. As Dewey (1913) said, student interest is an intrinsic motivation that comes from the student's identity to encourage them to be involved in learning activities. If the learning process is connected to student interests, they will be more involved and motivated to learn. Therefore, the Student Self-Directed Learning Unit (UKBM) provides various interesting content using a combination of multimodal elements, such as analyzing song lyrics through music or audio used for students who tend to be interested in listening, using multimodal elements in the form of images and videos for students who are interested in watching or seeing material in complex shapes and colors or doing physical activities and games for students who prefer to explore themselves to move their bodies to improve their understanding of the material and practice language theory. Therefore, through the use of a combination of multimodal elements in a Student Self-Directed Learning Unit (UKBM), the learning process becomes more interesting and facilitates student interests so that it can encourage students to be more active and involved in the learning process.

Overall, the findings and analysis of this study indicate that the use of multimodal elements in a Student Self-Directed Learning Unit (UKBM) can facilitate differentiated learning. Some of the multimodal elements presented in a Student Self-Directed Learning Unit (UKBM) can accommodate various learning styles, levels of readiness, and interests of students in learning English, such as the use of visual elements, audio, and interactive activities or direct practice used to present materials through images/videos, audio/songs or even through games. Furthermore, multimodal elements in a Student Self-Directed Learning Unit (UKBM) can also facilitate various levels of student readiness—high achievement, medium achievement, low achievement—and



student interests. Therefore, using multimodal elements in a Student Self-Directed Learning Unit (UKBM) is important to help present learning materials that are more interesting, meaningful, effective, and in accordance with the various needs of each student.

4. CONCLUSION

In conclusion, differentiated learning that accommodates students' needs can be facilitated using the multimodal elements in a Student Self-Directed Learning Unit (UKBM). The use of multimodal elements combined with materials in a Student Self-Directed Learning Unit (UKBM), such as images, audio, video, and interactive activities, not only enriches students' learning experiences but can also provide variations in the delivery of materials. Through visual elements, it can support visual learners; for audio elements, it can benefit auditory learners; and through game activities, it can support learning for kinesthetic learners. Therefore, utilizing various multimodal elements in a Student Self-Directed Learning Unit (UKBM) provides broader access for students to understand the material according to their respective needs and characteristics. It also helps students understand English material more relevantly and interestingly.

The researcher realizes that this study still needs to be developed further. Therefore, based on the findings and discussions that have been explained previously, further research can be more focused on research related to the analysis of the impact or effectiveness of multimodal elements on improving student learning outcomes with different learning styles. School institutions can improve teachers' capacity and quality in designing and developing multimodal-based Student Independent Learning Units (UKBM) through training to align with and facilitate students' different learning styles, needs, and interests. By implementing these recommendations, the learning process is expected to be more inclusive, enjoyable, and effective. In addition, it is hoped that students will be more motivated to learn English.

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