A DIFFERENTIZED APPROACH TO EFFECTIVE PROJECT-BASED LEARNING

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Abstract

The differentiated approach in project-based learning (PBL) aims to adapt learning methods to students' needs, interests and abilities, thereby increasing their effectiveness and involvement in the learning process. Through this approach, projects are designed to be relevant and accessible to students of varying ability levels, allowing for active participation that matches individual potential. Research shows that this approach supports deeper understanding of concepts, development of critical thinking skills, and higher motivation to learn. Qualitative research allows researchers to gain contextual insight through direct interaction with research subjects, namely teachers and students, in their learning environment. Data will be collected through in-depth interviews, class observations, and document analysis, such as learning plans and student project results. This research Applying a different approach in Project Based Teaching to 3rd grade elementary school students allows for more inclusive and effective learning. By adapting content, processes, products and learning environments, teachers can create learning experiences that are motivating, relevant and enjoyable for all students. Diorama projects are an ideal medium for developing students' creativity, critical thinking and collaborative skills, with the support of technology and continuous assessment that enrich the learning process. Challenges in implementing this strategy can be minimized with good planning and adequate support, to ensure each student can reach their maximum potential in a supportive learning atmosphere.

Keywords *: Differentized Approach, Effective, And Project-Based Learning*

A. Introduction

In the ever-evolving world of education, traditional teaching approaches are no longer able to meet the increasingly diverse needs of students. Effective learning must pay attention to individual differences between students, such as abilities, interests, learning styles and backgrounds. This is where the role of a differentiated learning approach becomes very important. This approach emphasizes adapting learning content, processes and products to better suit the needs of each student (Tomlinson, 2021). One teaching method that can be combined effectively with a differentiation approach is Project Based Learning (PJBL). PJBL, with its focus on active learning through exploration and application of real-world projects, allows students to build important critical thinking, collaboration, and problem-solving skills (Bell, 2020).

PJBL provides a flexible framework for teaching, where students can learn through hands-on experience in exploring relevant topics. This method motivates students to participate more actively in the learning process and encourages deeper learning (Larmer & Mergendoller, 2015). When PJBL is integrated with different approaches, teachers can design projects that can be adapted to various student ability levels and learning preferences. For example, in a project that addresses environmental topics, students interested in science might conduct research on the impacts of pollution, while students interested in art might create posters or visual campaigns to raise public awareness.

The differentiation approach in PJBL allows teachers to customize content by providing various learning resources such as videos, articles, or interactive materials that students can choose based on their learning preferences (Tomlinson & Imbeau, 2020). The learning process can also be differentiated by giving students the option to work independently, in small groups or with direct guidance from the teacher. Flexibility in this approach increases students' sense of confidence and responsibility for their own learning process, which ultimately increases their motivation and engagement (Heacox, 2012). Implementing this approach requires teachers to have a good understanding of student learning profiles. Formative assessments conducted during projects can help teachers monitor student progress and needs, and adjust teaching strategies if necessary (Anderson, 2017). Technology is an important tool to facilitate a different approach to PJBL, with various digital applications allowing students to access learning materials flexibly. Tools such as e-learning platforms, collaborative applications, and presentation software enable students to work and express their ideas in a variety of formats (Roberts, 2016).

The benefits of combining different approaches with PJBL are also seen in improving academic outcomes and developing student skills. Research shows that students who take PJBL with differentiation elements tend to have a better understanding of the material because they learn in a way that suits their style and interests (Bell, 2020). In addition, inclusive learning environments help students develop social skills such as communication, cooperation and empathy (Coffey & Horner, 2015). Students learn to appreciate each other's differences and work together to achieve common goals.

However, implementing this approach is not without challenges. The complexity of planning and the need for high flexibility often become obstacles for teachers. They should take the time to design projects that accommodate the needs of all students. Therefore, professional training and support for teachers is essential to help them develop the skills necessary to

implement this approach effectively (Tomlinson, 2021). Finally, a differentiated approach to project-based teaching provides a framework that allows students to learn in a way that suits their abilities and interests. Integrating these strategies will increase student engagement, motivation and learning outcomes, and help develop critical skills needed in the 21st century. By using technology and available resources, challenges in its implementation can be overcome, so that each student can reach their maximum potential in an inclusive and supportive learning environment.

B. Literature Review and Hypothesis Development

Differentiated Approaches in Project Based Learning, a differentiated approach in education is a strategy for adapting learning methods to the needs, interests and abilities of individual students. This approach aims to increase the effectiveness of the learning process by paying attention to individual differences in terms of learning styles, academic readiness, and emotional or social needs (Tomlinson, 2001). In the context of project-based learning (PBL), a differentiated approach can strengthen student engagement and help them achieve deeper understanding through projects tailored to their abilities and interests.

PBL is a learning method in which students are actively involved in the process of investigating and solving problems through projects that are relevant to real life. This learning model has been proven to be able to improve students' critical thinking skills, problem solving and collaborative skills (Bell, 2020). By incorporating a differentiated approach in PBL, teachers can create projects that allow students to contribute according to their abilities and interests, thereby increasing motivation and deeper understanding of the material.

Effectiveness of Differentiated Approaches in PBL, research shows that a differentiated approach can improve student engagement and learning outcomes in a PBL environment (Subban, 2016). Differentiation allows students who have different levels of understanding or skills to work on challenging but achievable tasks appropriate to their level of readiness. In addition, this approach also allows teachers to provide more personalized support for students who need additional help or further challenges (Tomlinson, 2021). In PBL, a differentiated approach can be implemented through various strategies, such as varied project assignments, heterogeneous learning groups, and flexibility in the process and final project results. This allows students with varying levels of ability to participate actively and develop skills according to their needs (Heacox, 2022). The relevant approach model to support the literature and develop this

hypothesis is Model Differentiated Instruction (Tomlinson, 2001) And Project Based Learning (PBL) Model. Tomlinson's Differentiated Instruction Model explains key principles for adapting content, processes, and products to meet individual student learning needs, while PBL provides a framework for integrating critical thinking skills in a collaborative learning context. The combination of these two models provides a strong theoretical foundation for a differentiated approach to effective PBL.

C. Research Method

This research uses a qualitative approach to explore the effectiveness of a differentiated approach in project-based learning. This approach aims to explore in depth how differentiation strategies are implemented in the classroom and how they impact student engagement and understanding. Qualitative research allows researchers to gain contextual insight through direct interaction with research subjects, namely teachers and students, in their learning environment (Creswell, 2013). Data will be collected through in-depth interviews, class observations, and document analysis, such as learning plans and student project results. Interviews will be conducted with teachers to understand the planning and implementation of differentiation in PBL, as well as with students to find out their experiences and perceptions of this learning process. Classroom observations will be conducted to see differentiation practices in daily interactions between teachers and students, as well as how different levels of student needs are accommodated in project activities. Data from these observations will be analyzed using a thematic analysis approach, which allows the identification of patterns and themes that emerge in the application of differentiation in the PBL context (Braun & Clarke, 2006).

D. Result and Discussion

1. Results

In 3rd grade, effective teaching must consider the needs of diverse students who have different abilities, interests, and learning styles. In this case, a differentiated learning approach is an important strategy to ensure that each student obtains a meaningful and relevant learning experience. One method that can be applied effectively with the principle of differentiation is *Project Based Learning* (PJBL). PJBL emphasizes learning through direct experience, where students are involved in creating projects, for example dioramas, to illustrate the concepts they

have learned. These projects allow students to develop a variety of skills including creativity, critical thinking and collaboration (Tomlinson, 2021; Bell, 2020).

This approach is designed so that content, processes, products and learning environments can be tailored to the needs of each student. When grade 3 students are working on a diorama making project, the teacher can adjust the content by providing topic choices that suit the students' interests. For example, students who are interested in animals can create dioramas of animal habitats, while students who are more interested in nature can depict water cycles or forest scenes. This approach allows students to choose projects that match their interests, so they feel more motivated and engaged in learning (Tomlinson & Imbeau, 2020).

The results of implementing the differentiated learning approach in Project Based Education (PBE) in grade 3 elementary school show a positive impact on student engagement and performance. By providing project topic choices that match students' interests and abilities, teachers can create a more inclusive and responsive learning environment. Students who are given the opportunity to choose and explore topics that interest them tend to show greater motivation and desire to learn. This is due to the sense of ownership they have over their learning process, where they feel recognized and appreciated (Tomlinson, 2021; Bell, 2020). Implementing this approach not only increases engagement, but also encourages the development of 21st century skills such as critical thinking, collaboration, and communication. For example, when making dioramas, students learn to plan and organize ideas, look for relevant information, and collaborate with friends to complete the project. In this process, they develop the ability to overcome challenges and solve problems in creative ways. Students involved in different PJBL also show improvements in communication skills, both oral and written, as they are often asked to present their projects or explain their ideas to the class (Larmer & Mergendoller, 2015).

Adaptation in the learning process also helps students learn according to their individual needs. Students who prefer to work independently are given the opportunity to explore their projects more independently, while students who need more support receive tutoring and peer assistance. This process strengthens students' self-confidence because they feel supported according to their needs (Anderson, 2017). Additionally, collaborating in groups encourages students to learn to respect each other's points of view and develop important interpersonal skills. The differentiation approach in PJBL also produces diverse and creative products. Students can express their understanding through various forms of final product, such as a physical diorama, accompanying narrative, or even a digital presentation. This flexibility allows students to

capitalize on their strengths and interests, resulting in work that is more meaningful and relevant to them. The resulting product is often richer in details and ideas because students feel motivated to perfect their work and feel proud of their achievements (Bell, 2020).

Learning environments designed to support this approach also play an important role in driving successful implementation. By creating dedicated work zones in the classroom, students can choose a study space that suits their needs, such as a discussion area for group collaboration or a quiet corner for independent work. This flexible environment provides space for students to express ideas and work in the way they are most comfortable, ultimately increasing engagement and learning effectiveness (Roberts, 2016).

Continuous formative assessment throughout the PJBL process helps teachers monitor student progress and provide constructive feedback. These assessments not only help teachers understand the extent to which students have understood the material, but also allow teachers to adjust teaching strategies to support students who need additional help. For example, if students have difficulty expressing their ideas in diorama form, the teacher can provide examples or additional guidance to help them. This process ensures that all students, including those who may need more time to understand the material, stay on track with their learning (Heacox, 2021).

a. Customizable content

One of the main aspects of the differentiation approach in PJBL is the adaptation of learning content. In a diorama making project, the contents can be changed to include various themes and relevant material. Teachers can provide various learning resources such as storybooks, educational videos, and interactive images that students can access. That way, students can choose which resources are most interesting to them and best suit their learning style. For example, visual students may be more interested in videos and images, while students who prefer to read may benefit from books and short articles (Heacox, 2021). In this way, students learn according to their style and preferences, increasing their understanding and engagement.

Tailoring learning content in different approaches helps ensure that each student gets a learning experience that is rich and suited to their needs. By providing a wide choice of learning resources, students not only have the freedom to choose the media that best suits their learning style, but also feel more motivated because the learning is relevant and interesting. For example, in a diorama making project, the teacher can provide several theme choices such as forest ecosystems, animal habitats, or the water cycle. Students can choose the themes they

are most interested in, allowing them to explore their personal interests while studying curriculum material. Additionally, this approach allows students to develop additional skills relevant to their preferences and interests. For example, students interested in technology might be encouraged to use presentation software or digital design applications to design elements of their diorama. Conversely, students who are more comfortable with physical materials can use tools such as clay, paper, and recycled materials to build more traditional dioramas. This flexibility ensures students not only learn the material, but also hone other important skills, such as technical and manual skills.

By adapting content, teachers can also more easily integrate cross-disciplinary material into projects. For example, a diorama project about an ecosystem might incorporate science lessons about animal and plant species, geography about habitat locations, and art into the visual design process. This cross-disciplinary approach enriches students' learning experience and helps them see the connections between various subjects, thereby enhancing their understanding holistically. This process not only involves providing a variety of resources and materials, but also ongoing support from teachers to facilitate student exploration. Teachers can help students identify appropriate sources and guide them in developing in-depth research questions. This proactive approach supports students in building critical thinking skills and independence as they learn how to search for information, filter relevant data, and apply it to their projects.

Ultimately, the strategy of adapting content to different PJBL approaches not only improves students' academic understanding but also builds their self-confidence. When students feel that their learning styles and preferences are acknowledged and facilitated, they tend to be more motivated and engaged in learning. This encourages students to become active learners who do not only rely on direct instructions from the teacher, but also take the initiative to explore and develop their understanding independently. Through this experience, students learn that learning is a dynamic and adaptive process, and understand that their success is greatly influenced by their ability to actively participate in the process.

b. Flexible learning process

The learning process in PJBL must also be differentiated so that students can obtain and process information in the most effective way for them. In diorama making projects, teachers can offer various learning methods, such as group discussions, individual guidance, and independent learning. Students who prefer to work alone can be given the opportunity to

develop projects independently with little intervention from the teacher, while students who need more support can get additional guidance through structured learning sessions or help from peers (Anderson, 2007). In addition, teachers can apply cooperative learning strategies by organizing students into heterogeneous groups, where they can work together to combine their ideas and skills. For example, in a group working on a diorama about a forest ecosystem, each student can play a different role: someone creates trees and plants, someone designs small animals, and someone writes a project description. This strategy helps students to work together, develop communication skills and foster a sense of shared responsibility (Coffey & Horner, 2015).

c. Various products

Product differentiation allows students to express their understanding in a way that best suits their strengths and interests. In a 3rd grade diorama project, the teacher can give students the freedom to determine the final format of the product. Some students may choose to create traditional three-dimensional dioramas using materials such as paper, clay, or recycled materials. Other students may want to add digital elements, such as creating a short presentation or explainer video about their diorama. By providing this flexibility, teachers can encourage students to express their creativity and demonstrate their understanding in unique ways (Bell, 2020). Diorama projects can also be customized based on difficulty level, where higher ability students can be challenged to add more complex details and elements to their projects, such as creating a story or scientific explanation of the diorama's theme. Students with special needs can be given simpler but still meaningful tasks, such as creating a diorama background or arranging a main object, with tailored support (Tomlinson, 2021).

d. Supportive learning environment

A conducive and inclusive learning environment plays an important role in the differentiation approach. Teachers must create a classroom atmosphere that encourages exploration, collaboration, and a sense of security for all students. For example, classrooms can be organized with special zones such as discussion areas, group work areas, and diorama display areas. This gives students the freedom to choose a place to study that suits their needs, whether they prefer to work in a quiet place or discuss with friends (Roberts, 2016).

The use of technology in the learning environment can also support this approach. E-learning platforms, presentation software, and online collaborative tools can help students gain additional information and collaborate with their peers, even when they're not in the same

room. For example, students can use presentation applications to prepare explanations about their dioramas or use digital classroom forums to exchange ideas and feedback (Coffey & Horner, 2015). Technology helps overcome space and time limitations, allowing students to learn more flexibly and efficiently.

e. Continuous assessment

Implementing different approaches in PJBL requires ongoing formative assessment to ensure that each student receives appropriate support. This assessment not only includes an evaluation of the final result of the diorama, but also the process carried out by students, such as participation in discussions and efforts to find solutions. Teachers can use different rubrics to assess different aspects of projects, so that students can understand assessment criteria that are clear and relevant to them (Heacox, 2021).

Implementing a differentiation approach in PJBL requires ongoing formative assessment to ensure that each student receives the right support according to his or her needs. These formative assessments provide teachers with the opportunity to monitor student progress throughout the project and provide constructive feedback. Not only is the final result of the diorama assessed, but also the process that students go through while working on the project, such as participation in group discussions, ability to work together, and efforts to find creative solutions to the challenges they face. To make this assessment easier, teachers can use different rubrics, which serve to assess various aspects of the project according to the ability level and needs of each student. This rubric provides clear and detailed assessment criteria, so that students can understand the expectations and goals they want to achieve. For example, a rubric might include categories such as creativity, presentation quality, understanding of the material, and ability to work in groups. With this approach, teachers can ensure that every student has the opportunity to succeed, while still paying attention to differences in abilities and ways of learning. Continuous formative assessment also encourages students to reflect on their own work, thereby increasing their awareness of the learning process and the results they want to achieve.

2. **Discussion/Analysis**

Analysis of different approaches in project-based teaching for grade 3 elementary schools. In grade 3 elementary schools, effective teaching must be able to adapt to the diverse needs of students who have different levels of abilities, interests and learning styles. At this stage it is important to create relevant and meaningful learning experiences for all students, and this is where

differentiated learning approaches become very important. This approach aims to ensure that every student, both those who master quickly and those who need more support, has the same opportunity to understand the lesson material. One effective method for applying the principle of differentiation is *Project Based Learning* (PJBL). PJBL prioritizes learning through direct experience, where students actively participate in creating projects, such as dioramas, that allow them to illustrate and understand concepts in more depth (Tomlinson, 2021; Bell, 2020).

By creating dioramas, teachers can adapt content, processes, products and learning environments to suit each student's needs. As students work on these projects, teachers can customize the content by providing topic choices that match students' interests. For example, students who are interested in the animal world can make dioramas about animal habitats, while students who are interested in geography can choose the theme of the water cycle or mountain views. By offering flexibility in subject choice, students are more encouraged to participate actively and are motivated in learning (Tomlinson & Imbeau, 2020).

a. Diverse and flexible content

In the differentiation approach, content aspects are very important to adapt learning to students' needs and interests. Teachers can provide various learning resources such as picture story books, educational videos and interactive activity sheets that students can choose according to their learning style. For example, students who are more interested in visuals may be more interested in videos and images, while students who like to read may choose to dive deeper into books and articles. This increases student engagement in learning, because they can access the material in the way that best suits them (Heacox, 2021).

b. Adapted learning process

In PJBL, the learning process can be arranged more flexibly. Teachers can give students the option to work individually or in groups. Students who prefer to work alone may be more challenged with less supervision, while students who need more support may receive more intensive guidance from a teacher or help from peers. This strategy ensures that all students, including those who need more support, feel accommodated in the learning process. Group discussions can also be used to encourage collaboration, where students learn to share ideas and communicate effectively. In a diorama project, students may take on different roles, such as designing parts of the background, creating animal figures, or writing a brief description of the project (Anderson, 2017; Coffey & Horner, 2015).

c. Diverse and unique products

Product differentiation allows students to demonstrate their understanding through various forms that suit their strengths. In a diorama project, some students may choose to create a diorama using physical materials such as paper, cardboard, or recycled materials, while other students who are more interested in technology may add digital elements such as creating a video presentation or creating an explanatory slideshow. . With this freedom, students can express their creativity and demonstrate their understanding in the way that best suits them. For more advanced students, teachers can challenge them to add more complex elements, such as narrative details about the diorama's theme or in-depth explanations of the scientific concepts behind it. Meanwhile, students with more special learning needs can be given tasks that are simpler but still relevant and meaningful (Bell, 2020; Tomlinson, 2021).

d. Supportive learning environment

Creating a supportive learning environment is a key element in the differentiation approach. Teachers should ensure that classrooms have flexible zones, such as group discussion areas, independent work areas, and project exhibition areas. This gives students the option to choose a location that best suits their needs, whether they prefer to work in a quiet setting or have more active conversations with friends. This kind of spatial arrangement creates a sense of security and comfort for students, so that they have more freedom to explore ideas and interact productively (Roberts, 2016).

The use of technology can also help create an inclusive learning environment. Tools such as e-learning platforms and presentation applications allow students to access additional information and collaborate with classmates. For example, students can use presentation software to prepare explanations of their dioramas, or use online class forums to share ideas and receive feedback. By using technology, teachers can provide greater flexibility in learning, allowing students to learn effectively inside and outside the classroom (Coffey & Horner, 2015).

e. Continuous assessment

It is important for teachers to carry out continuous formative assessment in the PJBL approach with the principle of differentiation. This assessment not only assesses the final result of the diorama, but also includes an evaluation of student participation during the project work process. Teachers can use different rubrics to assess various aspects, such as creativity, collaboration, and understanding of concepts. These assessments provide students with clear

guidance on success criteria and help teachers adjust learning strategies based on each student's needs (Heacox, 2021).

E. Conclusion

Integrating a differentiation learning approach with *Project Based Teaching* in class 3 provides many benefits for students. By customizing content, processes, products, and learning environments, teachers can create inclusive and effective learning experiences. Diorama projects allow students to express their creativity, develop critical thinking skills and learn in a collaborative atmosphere. With the support of technology and continuous assessment, challenges in implementing this approach can be minimized so that each student can reach their maximum potential and learn in a supportive environment. Applying a different approach in Project Based Teaching to 3rd grade elementary school students allows for more inclusive and effective learning. By adapting content, processes, products and learning environments, teachers can create learning experiences that are motivating, relevant and enjoyable for all students. Diorama projects are an ideal medium for developing students' creativity, critical thinking and collaborative skills, with the support of technology and continuous assessment that enrich the learning process. Challenges in implementing this strategy can be minimized with good planning and adequate support, to ensure each student can reach their maximum potential in a supportive learning atmosphere.

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