Project Based Learning as An Assessment Tool for Students with Special Needs: Its Acceptability

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Abstract — This study aims to determine the teacher's perspective on using Project Based Learning as an assessment tool for students with special needs. The researcher will employ quantitative descriptive research design. The study conducted at Division of Mabalacat Pampanga, during this school year 2022-2023.The researcher will utilize total enumeration techniques and was limited to the participation of all SPED Teachers in Division of Mabalacat Pampanga as respondents. Weighted Mean, Standard Deviation and Pearson-r Correlation and Coefficient utilized in the study. The study found that age, sex, number of years in teaching special education, educational attainment, and mean assessment of the criteria for implementing Project Based learning have the highest associations in assessing student learning. Rules and guidelines can be proposed to formulate and utilize PBL for students with special needs, including creating a plan, creating a schedule, analyzing the outcome, and examining the experience. Most SPED teachers aged 26-30 have 4-6 years of teaching experience, with female teachers having a larger number. Project-based learning (PBL) is an important model for learning in the future of education, as it helps educators foster collaboration, critical thinking, problem-solving, and positive attitudes. Rules and guidelines for formulating and using PBL include creating a plan, making a schedule, keeping an eye on the students, and analyzing the outcome. The findings of the study will serve as the basis for future researchers in designing project-based learning and rules and guidelines in formulating and utilizing PBL for students with special needs.

Keywords — Project Based Learning, Students with Special Needs, Special Education

I. Introduction

Teaching and evaluating the progress of students with special needs is a complex task that requires tailored approaches to both instruction and assessment. These students often follow an Individualized Education Plan (IEP), which necessitates accommodations such as differentiated instruction, flexible timelines, extended task durations, and personalized learning environments (Kilby, 2018; Susanti et al., 2019). Traditional assessment tools, like paper-and-pencil tests, frequently fail to capture the full range of capabilities and growth of learners with disabilities. Therefore, educators must seek alternative, student-centered strategies that align with the learners' diverse needs, strengths, and educational goals (Alotaibi (2020) ; O'Brien, 2021). Beyond academic instruction, students may also require support services such as speech, occupational, or life skills training—further emphasizing the need for flexible, meaningful, and integrated forms of assessment.

Project-Based Learning (PBL) has emerged as a promising instructional and evaluative approach in this context. PBL is a teaching method in which students actively engage with real-world problems and challenges through sustained inquiry and collaboration, culminating in meaningful products or presentations (Ragel, 2020; Markula & Aksela, 2022). According to O'Brien (2021), PBL encourages student voice and choice, fosters digital citizenship, and enhances both engagement and academic achievement. Particularly in special education, PBL offers an opportunity to adapt content and learning processes to each student's needs, abilities, and pace of progress, thus supporting IEP goals and life skills acquisition (Tillo, 2020; Almase, 2023). Susanti et al. (2019) emphasized the importance of co-creating project timelines and goals with students, while ensuring flexibility and alignment with educational standards.

Research supports the value of PBL in inclusive settings. Subia (2019) posited that selecting effective instructional strategies such as PBL is essential for delivering standard-based content in special education. O'Brien (2021) argued that for PBL to be effective, it must be adapted to the capabilities and comprehension levels of students with special needs. Similarly, Juuti and Lavonen (2020) highlighted how PBL promotes self-assessment and reflective discussions, improving cooperation and participation among learners. In showcasing the talents and skills of students with disabilities, PBL allows them to engage deeply and meaningfully in ways that traditional instruction may not permit (O'Brien, 2021).

However, challenges in PBL implementation persist. Studies by Markula and Aksela (2022) and Sormunen et al. (2019) point to barriers such as limited teacher training, lack of time, and managing differentiated tasks. These limitations demand structured planning, coaching, and scaffolding from educators especially in SPED settings (Educator, 2015). Despite these challenges, PBL remains a viable tool for formative assessment, allowing teachers to monitor student growth over time and tailor support accordingly (Kilby, 2018; Alotaibi (2020)).

While existing literature has recognized the instructional value of PBL, there remains a gap in exploring its practical use and acceptability as an assessment tool in special education. Research has primarily focused on PBL as a teaching method rather than as a means to evaluate learning outcomes that align with students' IEPs or functional developmental goals (Yilmaz, 2021; Rubrica, 2018). Hence, this study seeks to address this gap by investigating how SPED teachers in the Division of Mabalacat, Pampanga, utilize PBL to assess students with special needs. Specifically, it aims to identify the subjects where PBL is most applicable, the stages of its implementation, the effectiveness of this approach in measuring learning standards, and teachers' perceptions of its acceptability. Through this inquiry, the study hopes to contribute to a more inclusive and context-responsive assessment framework for learners with special needs.

Research Questions

This study aims to determine the teacher's perspective on using Project Based Learning as an assessment tool for students with special needs. Specifically, this study sought to answer the following research questions:

1. What is the respondent's profile in terms of:

    1.1   age;

    1.2   sex;

    1.3   number of years in teaching special education; and

    1.4   educational attainment?

2. What is the mean assessment of the respondents on the criteria in implementing Project Based learning in terms of:

    2.1   designing and planning a project;

    2.2   types of projects; and

    2.3   aligning to standards?

3. Is there any significant association between respondent's profile and mean assessment of the respondents on the criteria in implementing Project Based learning?

4. What is the mean assessment of the respondents on the use of Project Based Learning to effectively measure the learning standards in terms of:

    4.1   building the culture;

    4.2   managing activities;

    4.3   assessing student learning; and

    4.4   engaging and coaching students?

5. Is there any significant association between respondent's profile and mean assessment of the respondents on the use of Project Based Learning to effectively measure the learning standards?

6. What is the teacher's perspective on using Project Based Learning as an assessment tool for Students with Special Needs?

Based on the findings of the study, what rules and guidelines can be proposed in the formulation and utilization of project-based learning for students with special needs?

II. Methodology

This study employed a descriptive survey design to examine the perspectives of SPED teachers in the Division of Mabalacat, Pampanga regarding the use and acceptability of Project-Based Learning (PBL) as an assessment tool for students with special needs. The respondents included 66 SPED teachers and 134 resource teachers, selected through total enumeration. A researcher-made questionnaire, validated by experts and pilot-tested with selected teachers, served as the primary data-gathering instrument. The survey consisted of multiple sections addressing teacher roles, PBL practices, project design, classroom management, and student assessment. Data collection was facilitated through Google Forms after securing proper permissions from school authorities. Quantitative data were analyzed using mean, standard deviation, and Pearson-r correlation to determine the relationships between respondent profiles and their perceptions of PBL. The study's scope focused on teachers within one division and was limited to self-reported data gathered during school year 2021–2022.

III. Results and Discussion

Table 2
Distribution of the Respondent's Age

Age	Frequency	Percentage
26-30	109	54.50
31-35	53	26.50
36-40	32	16.00
41-45	6	3.00
TOTAL	200	100

The table shows the age of the respondents; for the age of 26-30, there are one hundred 9

Sex Profile	Frequency	Percentage
Male	78	39.00
Female	122	61.00
TOTAL	200	100

SPED and resource teachers with 54.50 percent. While respondents aged 31-35, there were 53, with 26.50 percent. At age 36-40, there are 32 with 16.00 percent, at age 41-45, and there are 6 SPED and resource teachers with 3.00 percent. The data indicates that most of the SPED teachers

aged 26-30 years old this suggests most of the teacher respondents already have 3-5 years of teaching in SPED.

Table 3
Distribution of the Respondent's in Terms of Sex

Table 3 shows the sex profile of the respondents, for male there are 78 students or 39.00 percent while the female has 122 with 61.00 percent. The total number of respondents was 200. This indicates that female SPED teachers have bigger number than male SPED teachers.

Table 4
Distribution of the Respondent's in Terms of years in teaching special education

Categories	Frequency	Percentage
0-3 years	56	28.00
4-6 years	79	39.50
6-10 years	45	22.50
11—15 years	15	7.50
16 years above	5	2.50
TOTAL	200	100

Table 4 shows the distribution of the respondents in terms of number of years in teaching special education. In 0-3 years in teaching special education there are 56 or 28.00 %. While 4-6 years there are 79 or 39.50 %. 45 teachers from 6-10 years in teaching special education with 22.50 %. In 11-15 years, there are 15 or 7.50% and there are 5 or 2.50 % teachers teaching special education for 16 years and above. The data suggest that most of the teacher respondents belong to 4-6 years of teaching which means they have a lot of experience with regards to the students with special needs.

Table 5
Distribution of the Respondent's in Terms of Educational Attainment

Educational Attainment	Frequency	Percentage
Baccalaureate Degree	34	17.00
With Units in Master's Degree	118	59.00
Master's Degree	33	16.50
With units in Doctorate Degree	7	3.50
Doctorate Degree	8	4.00
TOTAL	200	100

Table 5 shows the distribution of the respondents in terms of educational attainment. There are 34 or 17 % in baccalaureate degree. 118 or 59% with units in Master's Degree, while 33 or 16.50% with Master's Degree, 7 or 3.50 for with units in Doctorate Degree and Doctorate Degree. The data indicates that most of the SPED teachers already finish master's degree. The results were supported by the DepEd Order No. 77, s. 2010, stated that to be hired SPED teachers must be holders of Bachelor of Science in Education major in Special Education (SPED), or Bachelor's degree holders with 18 units in SPED.

Table 6
Designing and Planning a Project

Indicators	Mean	SD	VI
1. Project-based learning needs more time to create a comprehensive design in designing and planning.	4.61	0.85	*SA*
2. In designing and planning, project-based learning design must align with the needs of the SPED learners to work independently and teach them time management and problem-solving skills.	4.70	0.89	*SA*
3. Project designing and planning must include all essential project element designs described in the Project Design Rubric.	4.51	0.83	*SA*
4. Detailed and accurate designing and planning must include scaffolding and assessing students learning.	4.59	0.87	*SA*
5. The project calendar should be flexible to meet the student's needs.	4.20	0.65	*SA*
Composite Mean	**4.30**	**0.84**	*SA*

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 6 presents respondents' perceptions regarding the importance of designing and planning in project-based learning. All five indicators received high mean scores ranging from 4.20 to 4.70, with a composite mean of 4.30 and a standard deviation of 0.84, which falls under the qualitative description "Strongly Agree" (SA). This indicates a strong consensus among respondents that effective project-based learning (PBL) requires thoughtful, flexible, and learner-centered planning. The highest-rated indicator (Mean = 4.70) emphasizes the importance of aligning PBL design with the specific needs of SPED learners, especially in developing independence, time management, and problem-solving skills. The importance of including essential project elements, scaffolding, and ongoing assessment also received strong agreement, highlighting the necessity of a comprehensive planning framework.

Notably, the statement regarding the flexibility of the project calendar received the lowest mean (4.20) but still falls under "Strongly Agree," which aligns with the findings of Susanti et al. (2019). Their study emphasized that project timelines should not be rigid but adaptable to the learners' needs, ensuring that students have adequate time to fully engage with and benefit from the project. This supports the idea that flexibility in scheduling is a crucial component of effective project-based learning, particularly when addressing diverse learning needs. Overall, the findings reinforce the value of well-designed, inclusive, and adaptable project planning to ensure meaningful and successful learning experiences.

Table 8
Types of Projects

Indicators	Mean	SD	VI	
1. The project must provide activities that align to the needs of the SPED learners based on the competencies they need to gain from the curriculum.	4.31	0.68	*SA*	
2. The project for students with special needs provides a chance to learn and showcase their own talent and skills.	4.45	0.76	*SA*	
3. There should be opportunities to examine for the learners with special needs to receive a broad, well-balanced and relevant learning activities from the types of projects implemented.	4.20	0.60	*SA*	
4. Types of projects must be aligned to the daily needs of the student with special needs on how they overcome or accomplish little tasks one at a time.	4.28	0.66	*SA*	
5. Project for students with special needs must carefully formulated at how the project will be accomplish at their own pace using a suitable material.	4.26	0.62	*SA*	
Overall	**4.30**	**0.91**	**SA**	

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 8 shows that all indicators regarding the types of projects suited for students with special needs received high mean scores ranging from 4.20 to 4.45, with a composite mean of 4.30 and standard deviation of 0.91, all falling under "Strongly Agree" (SA). This suggests that respondents highly value the importance of tailoring project-based learning (PBL) to meet the specific needs, capabilities, and learning goals of SPED learners. The highest-rated item (Mean = 4.45) emphasizes how projects allow students to learn and showcase their unique talents and skills, reinforcing the idea that learners thrive when given opportunities to express themselves meaningfully. Other statements highlight the need for projects to align with the curriculum, support daily functional skills, and be paced appropriately with suitable materials for each learner.

These findings are supported by O'Brien (2021), who emphasized that PBL for special needs students must be adapted and relevant to their needs, with an appropriate level of detail to facilitate understanding. Furthermore, Kilby (2018) asserted that SPED teachers must deeply understand both the needs and strengths of their learners to deliver effective instruction. This aligns with the table results, which reflect the shared belief that well-designed, individualized projects help foster engagement, capability development, and successful learning experiences for students with special needs.

Table 9
Aligning to Standards

Indicators	Mean	SD	VI
1. The project provides the required knowledge based on the standards for the next level of learning for students with special needs	4.61	0.85	SA
2. The project provides students with special needs with knowledge that is of value across disciplines.	4.20	0.63	SA
3. The project provides the foundational knowledge to be successful education of students with special needs.	4.41	0.71	SA
4. The project stimulates interest or background that could lead to meaningful personal connections to the environment with the students with special needs	4.59	0.83	SA
5. The project provides an opportunity for students to engage deeply with the target content, bringing about a focus on long-term retention.	4.53	0.81	SA
Overall	**4.47**	**0.76**	SA

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 9 presents the perceptions of respondents regarding the alignment of projects to educational standards for students with special needs. The overall mean score of 4.47 (SD = 0.76) with a verbal interpretation of "Strongly Agree" (SA) indicates that the respondents believe the projects implemented are highly aligned with curriculum standards and learning expectations across disciplines.

All five indicators received a Strongly Agree (SA) rating, with the highest mean score of 4.61 for the item stating that the project provides knowledge aligned with standards required for the next learning level. This reflects confidence in the projects' ability to prepare SPED learners for future academic challenges. The next highest-rated item (Mean = 4.59) highlights how projects stimulate personal connections with the environment, which is crucial for meaningful and inclusive learning experiences. Additionally, the high rating (Mean = 4.53) for the item on deep engagement and long-term content retention suggests that projects effectively support mastery and understanding.

These findings are consistent with Subia (2019), who emphasized that effective instructional strategies, such as Project-Based Learning (PBL), are essential for delivering standard-based knowledge in special education. Similarly, Ragel (2020) supports the use of PBL as a model that integrates critical thinking, cross-disciplinary learning, and student autonomy, making it highly suitable for SPED learners. It ensures that projects not only meet academic standards but also foster lifelong learning skills and individual growth.

In summary, Table 9 confirms that aligning projects with standards is well-practiced in the implementation for students with special needs, effectively supporting both their academic and personal development.

Table 10

Testing of significant association between respondent's profile and mean assessment of the respondents on the criteria in implementing Project Based learning.

Criteria in Implementing Project Based Learning		
	Designing and planning a project	Types of projects	Aligning to standards
Profile of the Respondents			
age	.809**	.706**	.649**
gender	.780**	.899**	.677**
number of years in teaching special education	.869**	.859**	.890**
educational attainment	.891**	.809**	.890**

Legend: ** Association is significant at 0.01 level (two-tailed)

Table 10 presents the significant associations between the respondents' profile and their mean assessments on the three criteria of implementing Project-Based Learning (PBL): Designing and Planning a Project, Types of Projects, and Aligning to Standards. All computed values indicate a significant association at the 0.01 level, meaning there is a strong and statistically significant relationship between teacher characteristics and how they assess PBL implementation.

Notably, educational attainment and years of teaching SPED showed the highest associations across all criteria (e.g., .891**, .890**), implying that more experienced and more highly educated teachers are better able to evaluate and apply PBL effectively in the special education context. Similarly, age and gender also showed significant associations, supporting Ragel's (2020) claim that age and teaching experience influence the quality of teaching and the design and planning of effective PBL activities. Additionally, Shabbir (2021) supports the idea that gender influences the types of projects created, as teachers often design projects that align with their strengths and awareness of learner needs, especially in a SPED setting.

In summary, the findings suggest that teacher profile particularly experience, educational level, gender, and age plays a crucial role in effectively implementing project-based learning. These associations highlight the importance of continuous teacher development and context-aware strategies to maximize the impact of PBL for students with special needs.

Table 11
Building the Culture

Indicators	Mean	SD	VI
1. Norms to guide the classroom are co - crafted with and self-monitored by students with special needs.	4.31	0.63	SA
2. Students voice and choice are regularly leveraged and ongoing, including identification of real - world issues and problems students want to address in projects.	4.80	0.98	SA
3. Students usually know what they need to do with minimal direction from the teacher.	4.58	0.78	SA
4. Student work collaboratively in healthy, high functioning teams; the teacher rarely needs to be involved in managing teams.	4.78	0.94	SA
5. Students understand there is no single "right answer: or preferred way to do the project and that is okay to take risk, make mistakes and learn from them.	4.40	0.72	SA
Overall	**4.57**	**0.77**	**SA**

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 11 presents the assessment of respondents on Building the Culture in Project-Based Learning (PBL) as implemented in a special education setting. All five indicators received mean scores ranging from 4.31 to 4.80, with an overall mean of 4.57 and a standard deviation of 0.77, which corresponds to a "Strongly Agree" (SA) verbal interpretation. This indicates that teachers strongly perceive a well-established culture of collaboration, student independence, and inclusive participation in the classroom.

The highest mean (4.80) was observed in "Students' voice and choice are regularly leveraged", emphasizing that learners are consistently involved in identifying real-world problems they want to address—one of the core tenets of PBL. This is followed by "Students work collaboratively in high-functioning teams" (4.78), indicating that learners are able to manage group dynamics with minimal teacher intervention. These responses suggest that students are empowered, reflective, and capable of engaging in independent and meaningful project work.

The findings align with the study of Sormunen, Juuti, and Lavonen (2020), who emphasized that PBL enables students to self-monitor and reflect on their behaviors while promoting teamwork and active participation through teacher-guided discussions. Thus, fostering a strong classroom culture not only supports student autonomy but also cultivates responsibility, critical thinking, and cooperation—essential skills for learners with special needs in a PBL environment.

Table 12
Managing Activities

Indicators	Mean	SD	VI
1. The classroom features an appropriate mixture of individuals and team work time, whole group and small group instructions.	4.59	0.67	*SA*
2. Classroom routines and norms are consistently followed during work time to maximize productivity.	4.67	0.78	*SA*
3. Realistic schedules, checkpoints, and deadlines are set but flexible, no bottlenecks impede workflow.	4.65	0.79	*SA*
4. Well - balanced team are formed according to the nature of projects and students need, with appropriate student voice and choice.	4.55	0.64	*SA*
5. Project Management tool (group calendar, contacts, etc.) are used to support student management and independence.	4.57	0.65	*SA*
Overall	**4.60**	**0.68**	**SA**

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 12 highlights the respondents' assessment of the use of Project-Based Learning (PBL) in terms of Managing Activities. All five indicators received mean scores between 4.55 and 4.67, with an overall mean of 4.60 and a standard deviation of 0.68, indicating a "Strongly Agree" (SA) rating across all items.

The highest mean score (4.67) was given to the indicator "Classroom routines and norms are consistently followed during work time to maximize productivity," which suggests that a well-established structure supports student engagement and minimizes distractions during project work. Likewise, the use of realistic schedules, checkpoints, and flexible deadlines (mean = 4.65) ensures smooth workflow, while allowing room for student pacing and adjustment—key features of learner-centered classrooms.

Another notable result is the strong agreement on the integration of project management tools (mean = 4.57), such as calendars and group communication systems, which play a significant role in promoting student independence and accountability.

These findings align with the recommendations of Tillo (2020), who emphasized structured strategies to encourage student voice and choice in a personalized learning environment. By allowing learners to co-design their learning experiences—from selecting topics and forming questions to planning and executing projects—students become more invested and empowered in their own learning journey. The consistency of high ratings across indicators further affirms the effective implementation of PBL strategies that balance structure with flexibility, and independence with collaboration.

Table 13
Assessing Student Learning

Indicators	Mean	SD	VI
1. Project products and other resources of evidence are used to thoroughly assess subject - area standards as well as success skills.	4.69	0.74	*SA*
2. Individual student learning is adequately assessed, not just team - created products.	4.78	0.96	*SA*
3. Structured protocols for critique and revision are used regularly at checkpoints; students give and receive effective feedback to inform instructional decision and students' actions.	4.56	0.61	*SA*
4. Regular structured opportunities are provided for students to self - assess their progress and, when appropriate, assess peers on their performance	4.69	0.74	*SA*
5. Standards - aligned rubrics are used by students and teachers throughout the project to guide both formative and summative assessment.	4.66	0.73	*SA*
Overall	**4.67**	**0.71**	**SA**

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 13 shows the respondents' assessment of Project-Based Learning (PBL) in terms of Assessing Student Learning, with all indicators rated as "Strongly Agree" (SA) and an overall mean of 4.67 and standard deviation of 0.71. These results suggest a consistently high level of agreement among respondents regarding the effectiveness of assessment practices in PBL.

The highest-rated indicator, "Individual student learning is adequately assessed, not just team-created products," with a mean of 4.78, underscores the importance of fair and individualized evaluation in group-based projects. This reflects the belief that while teamwork is central to PBL, each student's learning journey and contribution must still be distinctly recognized.

Two indicators received an equally high mean score of 4.69: "Project products and other resources of evidence are used to assess both subject-area standards and success skills," and "Regular structured opportunities are provided for students to self-assess and assess peers." These emphasize that PBL assessments are holistic and learner-centered, valuing both academic content and success skills such as critical thinking and collaboration. Moreover, it shows that learners are actively engaged in the assessment process, fostering a deeper understanding of their strengths and areas for improvement.

Meanwhile, the indicators "Standards-aligned rubrics are used by students and teachers throughout the project" (mean = 4.66) and "Structured protocols for critique and revision are used regularly at checkpoints" (mean = 4.56) highlight the use of clear criteria and continuous feedback to guide learning. These practices promote formative assessment, allowing both teachers and students to monitor progress and make timely instructional decisions.

The results align with the findings of Bucks (2015), who emphasized that effective assessment in PBL involves continuous use of various tools, including formative assessments, peer feedback, self-reflection, and rubrics aligned with standards. Together, these findings affirm that the assessment strategies in PBL are comprehensive, inclusive, and support deeper learning, making them highly effective for students with diverse needs and abilities.

Engaging and Coaching Students

Engaging and coaching students in Project-Based Learning (PBL) involves guiding them to take ownership of their learning through meaningful and relevant projects. Teachers act as facilitators and mentors, helping students stay focused, motivated, and reflective throughout the learning process. This includes providing timely feedback, asking guiding questions, and encouraging student voice and choice. Through coaching, students develop critical thinking, collaboration, and problem-solving skills essential for real-world success.

Table 14
Engaging and Coaching Students

Indicators	Mean	SD	VI
1. The teacher has a strong background knowledge of individual strengths, interests, backgrounds, and lives and is used to engage them in the project and information instructional design.	4.61	0.72	SA
2. Student and teacher use standards to co-define goals and benchmarks for the project in developmentally appropriate ways.	4.50	0.65	SA
3. The shared nature of the work between teachers and students maintains students' enthusiasm and sense of ownership of the project.	4.45	0.60	SA
4. Students' questions drive the inquiry and product development process.	4.63	0.74	SA
5. Students and teachers reflect regularly and formally throughout the project on what (content) and how (process) students learn. They specifically note and celebrate gains.	4.67	0.78	SA
Overall	**4.57**	**0.68**	SA

Legend: 4.20-5.00 Strongly agree (SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79 Strongly disagree (SDA)

Table 14 shows the respondents' assessment of Engaging and Coaching Students in Project-Based Learning (PBL), with an overall mean of 4.57 and a standard deviation of 0.68, indicating a "Strongly Agree" (SA) interpretation across all indicators. The highest-rated indicator is "Students and teachers reflect regularly and formally throughout the project on what (content) and how (process) students learn. They specifically note and celebrate gains," with a mean of 4.67, highlighting the emphasis on ongoing reflection and celebration of learning progress. This practice strengthens metacognitive skills and student motivation.

Another highly rated indicator is "Students' questions drive the inquiry and product development process," with a mean of 4.63, showing that learners are actively involved in shaping their learning path through curiosity and inquiry. Moreover, the indicator about teachers understanding individual students' strengths, interests, and backgrounds received a mean of 4.61, reinforcing the importance of personalization in engaging learners. The co-definition of goals using standards (mean = 4.50) and shared work between students and teachers (mean = 4.45) reflect a collaborative and student-centered environment.

These findings align with Susanti et al. (2019), who emphasized that students and teachers should collaboratively define project goals and benchmarks using standards, and that student-driven inquiry and individual needs identification are essential for meaningful learning. Overall, the data suggests that teachers effectively engage and coach students in PBL by fostering reflection, ownership, inquiry, and personalized support.

Table 15
Testing of significant association between respondent's profile and mean assessment of the respondents on the use of Project Based Learning to effectively measure the learning standards.

	Criteria in implementing Project Based learning			
	Building the Culture	Managing Activities	Assessing Student Learning	Engaging and coaching students
Profile of the Respondents				
age	.696**	.606**	.790**	.722**
gender	.679**	.699**	.877**	.678**
number of years in teaching special education	.833**	.859**	.855**	.808**
educational attainment	.860**	.887**	.818**	.890**

In support Majeed & Umar (2018) stated that assessment is an important Table 15 illustrates the significant association between the respondents' profiles—specifically age, gender, number of years teaching Special Education (SPED), and educational attainment—and their mean assessment of the use of Project-Based Learning (PBL) in measuring learning standards across four core implementation criteria: Building the Culture, Managing Activities, Assessing Student Learning, and Engaging and Coaching Students. All profile variables demonstrate statistically significant and strong positive correlations, indicating that as the profile factor increases (e.g., more years of teaching or higher education), so does the favorable assessment of PBL implementation.

Notably, educational attainment and years of teaching SPED exhibit the strongest associations across all four PBL criteria. This suggests that teachers with more advanced educational backgrounds and longer experience in SPED are more likely to value and effectively implement PBL practices. For example, the correlation between educational attainment and

engaging and coaching students is remarkably high at 0.890, emphasizing that academic and professional depth contributes greatly to how well teachers guide and support learners during PBL. These findings are consistent with studies by Majeed & Umar (2018) and Shabbir (2021), who emphasized the importance of assessment and instructional design based on evolving educational demands.

The strong correlation with the criterion Engaging and Coaching Students further reinforces the role of teacher expertise in nurturing collaboration and learner growth, as supported by Buck (2015) and Educator (2015). Experienced educators are better equipped to establish classroom routines, personalize learning, and encourage active participation hallmarks of effective PBL.

In essence, the findings imply that teacher development, particularly in terms of formal education and relevant teaching experience, plays a critical role in the successful implementation of PBL. Therefore, investing in continuous training and advanced studies for SPED teachers is vital to ensure equitable and effective adoption of PBL strategies, ultimately enhancing student learning outcomes.

Table 16
Teacher's General Perception in Using the PBL as assessment tool for Students with Special Needs

Indicators	Mean	SD	VI
1. Project Based Learning is effective because it creates a deeper comprehension of concepts than typical classroom-based learning and increases student creativity.	4.60	0.82	SA
2. Project Based Learning embraces all the 21st-century skills since sped students can reflect on independent insights from their peers that can stimulate creative thinking.	4.76	0.89	SA
3. Project Based Learning is an effective tool for assessing students with Special Needs.	4.41	0.75	SA
4. It addresses learners' need to be provided with opportunities to apply the knowledge and skills of students with special needs, enrich their knowledge, and improve their skills during activities.	4.59	0.65	SA
5. Involves systematic planning and allows students to improve knowledge and abilities via engaging projects based on real-world issues and difficulties.	4.65	0.85	SA
Overall	**4.60**	**0.82**	**SA**

Legend: 4.20-5.00 Strongly agree *(SA) ,3.40-4.19 Agree (A),2.60-3.39 Moderately Agree (MA), 1.80-2.59 Disagree (DA),1.00-1.79* Strongly disagree *(SDA)*

Table 16 presents the teachers' general perception of using Project-Based Learning (PBL) as an assessment tool for students with special needs. The overall mean score of 4.60 with a standard deviation of 0.82 indicates that respondents strongly agree (SA) with the effectiveness of PBL in this context. Among the indicators, the highest-rated statement is that PBL embraces 21st-century skills and stimulates creative thinking among SPED students (Mean = 4.76), showing that teachers recognize its relevance to modern educational demands. All statements fall under the "strongly agree" category, reflecting the belief that PBL fosters deeper comprehension, systematic planning, and the application of knowledge in real-world contexts, particularly beneficial for students with special needs. These results affirm O'Brien's (2021) position that PBL promotes student engagement, inquiry, and meaningful learning experiences, suggesting its potential as an effective and inclusive assessment method in SPED classrooms.

Rules and Guidelines can be Proposed in the Formulation and Utilization of Project-based Learning for Students with Special Needs.

The comprehensive set of rules and guidelines for the formulation and utilization of Project-Based Learning (PBL) tailored to students with special needs. PBL requires careful planning, beginning with a central question that integrates various content standards and subject areas. Students with special needs are encouraged to actively participate in the planning process to foster ownership and engagement. The proposed guidelines highlight the importance of setting flexible schedules, teaching time management strategies, and adapting activities to accommodate diverse learning needs.

Effective implementation includes continuous monitoring, assigning roles to promote collaboration, and providing appropriate resources and support. Educators are advised to use diagnostic and developmental assessments, including self-evaluations, to guide learning and measure student understanding. Finally, reflective practices both individual and group are emphasized to help students and teachers synthesize learning experiences and improve future projects. These strategies aim to make project-based learning more inclusive, meaningful, and successful for learners with special needs.

IV. Conclusion

The findings gathered in the study led to the formulation of the following conclusion:

1. Most SPED teachers aged 31-35 have 6-10 years of teaching experience, with female teachers having a larger number than male teachers. Most have 6-10 years of special education teaching experience, and most have completed a master's degree.

2. Designing and planning a project is important because it provides a shared vision for its goals. At the same time, types of projects should examine learners' needs to have relevant

activities to their skills and talent. On the other hand, aligning standards in project-based learning helps ensure a higher level of learning, guides teachers in the assessment process, and keeps them on track.

3. The most important details are that age, gender, number of years teaching special education, and educational attainment have the highest associations in designing and planning a project. Age has the highest association in designing and planning; gender has the highest association with types of projects. The number of years teaching special education is associated with aligning with standards, and educational attainment has the highest association with designing and planning. Therefore, the researcher concluded that there is significant association between respondent's profile and mean assessment of the respondents on the criteria in implementing Project Based learning.

4. Project-based learning helps students develop 21st-century skills such as critical thinking, collaboration, creativity, and communication. Building the culture and managing activities help students develop deep content knowledge and 21st-century skills. Assessing student learning helps to identify where students are and give meaningful feedback. Engaging and coaching students in project-based learning helps them acquire knowledge and skills.

5. The most important details are that age, gender, number of years teaching special education, and educational attainment have the highest associations in assessing student learning, managing activities, and engaging and coaching students. Age, gender, number of years in teaching special education, and educational attainment have the highest associations. Therefore, the researcher concluded that there is significant association between respondent's profile and mean assessment of the respondents on the use of Project Based Learning to effectively measure the learning standards.

6. Project Based Learning (PBL) is an important model for learning in the future of education, as it helps educators foster collaboration, critical thinking, problem-solving, and positive attitudes toward tasks. It also helps students develop content mastery and foster strong classroom relationships between students and teachers. Remote learning makes it easy to promote student choice, foster digital citizenship skills, and extend learning to meet students' interests and needs. PBL is an approach to learning that benefits students with academic or social/emotional disabilities. It helps them learn how to collaborate with friends and build teamwork and group skills.

7. The rules and guidelines for in the formulation and utilization of project-based learning for students with special needs are the following create a plan for the project, make a schedule, keep an eye on the students and the project's progress, analyze the outcome, and examine the experience.

V. Recommendations

In the light of the preceding findings and conclusions of the study, the following recommendations were advanced:

1. The researcher recommended that SPED Teachers may continue pursuing master's and doctorate degrees to be more effective in the classroom and to develop important skills in the field of Special Education.

2. Based on the conclusion, the researcher recommended that Sped Teachers may have seminar workshops regarding designing and planning a project, types of projects that fit students with special needs and how to align standards or competencies that need to be gained by students with special needs.

3. The result of the study helps the school head to start planning an intervention program on how the SPED teachers can design their project-based learning for their students with special needs.

4. The study's findings will serve as the basis for future researchers in designing project-based learning and rules and guidelines in formulating and utilizing project-based learning for students with special needs.

Compliance with Ethical Standards

The researcher strictly complied with ethical standards throughout the conduct of the study. Prior to data collection, informed consent was obtained from all respondents after fully explaining the purpose, nature, and procedures of the study. Participation was entirely voluntary, and respondents were informed that they could withdraw from the study at any point without any negative consequences. Anonymity and confidentiality were maintained by ensuring that no identifying information was disclosed in any part of the study. The well-being and rights of all participants were respected and safeguarded. The researcher declares that no conflict of interest exists in the conduct of this research. All forms of plagiarism were strictly avoided, and proper citation of references was observed. The interpretation of findings was conducted with objectivity and without bias, and the results of the study were used solely for academic and research purposes.

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