

Implementing Project-Based Learning in the Independent Curriculum: Insights from Teachers' Perspectives¹

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Abstract

The central aim of this study was to investigate teachers' perceptions of Project-Based Learning (Project Based Learning) as a pedagogical strategy within the Independent Curriculum framework. The research focused on three main aspects: teachers' understanding of Project Based Learning concepts, its application in classroom practices, and its influence on student motivation and learning outcomes. To achieve these objectives, a descriptive quantitative design was adopted, targeting teachers who were directly engaged in implementing the Independent Curriculum. Using purposive sampling, a total of 102 teachers were selected. Data were gathered through a structured Likert-scale questionnaire, which was divided into three sections: conceptual knowledge of Project Based Learning, classroom practices, and its perceived impact on students. Analysis was carried out using spreadsheet formulas in WPS Office to provide descriptive insights. Findings revealed that teachers generally hold a positive outlook toward Project Based Learning. A significant proportion (98.20%) demonstrated strong theoretical knowledge of its principles. Teachers also highlighted its benefits, particularly in fostering collaboration (94.12%), motivation (94.12%), and critical thinking (88.24%). However, a gap emerged between knowledge and practice. While teachers understood the principles, actual classroom application especially the integration of multiple subjects proved challenging, with only 78.43% expressing confidence in this area. The study concludes that although teachers are well-acquainted with Project Based Learning concepts, practical challenges hinder full implementation. This underscores the importance of professional development programs that not only deepen theoretical understanding but also equip teachers with practical strategies for interdisciplinary integration. Strengthening these areas is vital for maximizing student engagement and achieving the broader objectives of the Independent Curriculum.

Keywords: Project based, policy, pedagogy, curriculum development, innovation

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Introduction

Global transformations driven by the Industrial Revolution 5.0 have created a compelling need to rethink educational systems worldwide. Traditional models that primarily focus on the transmission of knowledge are increasingly inadequate in preparing students for the complexities of the modern world. Education today must emphasize the development of 21st-century skills such as critical thinking, collaboration, creativity, and communication to ensure students are equipped for contemporary societal and economic demands (Rony et al., 2023). In response, numerous countries have undertaken curriculum reforms aimed at creating more student-centered learning environments that foster active engagement, problem-solving, and practical application of knowledge (Johannis & Hung, 2023). Despite these global reforms, Nepal's education system continues to face significant challenges. Evidence from assessments such as the Programme for International Student Assessment (PISA) highlights that Nepali students struggle in core domains like reading, mathematics, and science compared to international benchmarks (OECD, 2019). This situation emphasizes the need for innovative pedagogical strategies that make learning more relevant and responsive to both local and global educational requirements (Bakar, 2021).

In response to these challenges, the Government of Nepal has introduced policies and frameworks aimed at increasing school autonomy and promoting flexible, student-centered learning approaches. These initiatives are designed to allow schools and teachers to adapt teaching processes to local contexts and the specific needs of students, similar in spirit to the Merdeka Curriculum implemented in Indonesia (Hunaepi & Suharta, 2024). However, implementing these reforms in Nepal faces several obstacles. Structural limitations, including inadequate infrastructure, heavy administrative workloads, and insufficient professional development opportunities for teachers, pose considerable challenges (Sparrow et al., 2020; Zainuddin, 2025).

These challenges are particularly evident in the integration of Project-Based Learning (Project Based Learning), a key pedagogical approach in student-centered curricula (Aisyah & Novita, 2025). While Project Based Learning offers a powerful model for experiential learning, its classroom implementation in Nepal is constrained by multiple factors, including limited teaching resources, large class sizes, and insufficient guidance for project design and assessment (Belwal et al., 2021). A preliminary survey conducted by the Ministry of Education in 2023 found that many Nepali teachers struggle with designing, managing, and evaluating projects effectively, consistent with findings from other contexts (Al Maktoum et al., 2024). Research also indicates that teachers' perceptions of Project Based Learning are influenced

by factors such as the quality of training, availability of instructional resources, and increased workload demands (Sari & Wibowo, 2022; Purba et al., 2023). Furthermore, in several pilot schools, a gap was observed between teachers' positive conceptual understanding of Project Based Learning and the practical challenges they encounter in classrooms, which affects their motivation and overall effectiveness (Sormin et al., 2024; Wildani et al., 2025). These insights underscore that teacher perceptions are a critical determinant of how Project Based Learning is implemented and, ultimately, the success of curriculum reforms (Shihabuddin & Lestari, 2024). Given these issues, there is a clear research gap regarding teachers' perspectives on Project Based Learning in Nepal. Most existing studies focus predominantly on student learning outcomes, with limited exploration of teachers' experiences, perceptions, and specific support needs. Therefore, this study seeks to address this gap by examining the following research question: "What are teachers' perceptions of Project-Based Learning in the context of Nepal's evolving curriculum?"

Materials and Methods

This research adopts a quantitative approach using a survey method to collect reliable data from a broad sample and objectively measure teachers' perceptions, ensuring that the findings can be generalized (Kittur, 2023; Nardi, 2018).

Research Subjects and Location

The study focuses on teachers from basic, lower secondary, and higher secondary schools in Nepal that have introduced the new National Curriculum Framework and competency-based approaches. Participants will be selected through purposive sampling (Douglas, 2022) based on the following criteria:

1. Teachers who have taught under the new curriculum for at least one academic term.
2. Teachers actively engaged in project-based or experiential learning initiatives
3. Teachers from diverse subject areas such as science, social studies, language, mathematics, and others so that the study captures a wide range of perspectives.

Research Instrument

Data will be collected using an online questionnaire administered via Google Forms, employing a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) (Ruliyanti et al., 2021). The instrument is designed around four core indicators of curriculum implementation and teacher practice, following the framework suggested by Pan et al. (2021).

Table 1. Instrument of Research

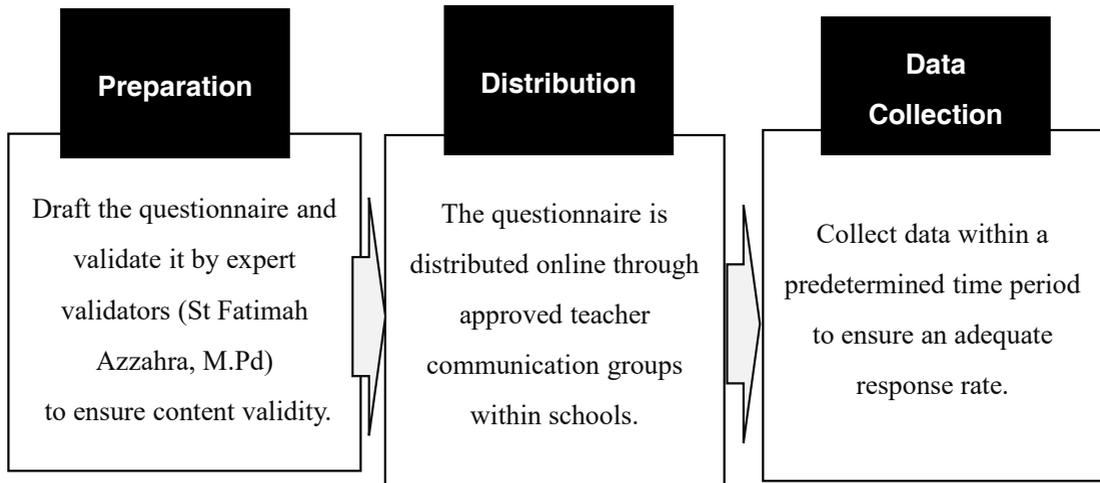
Indicator	Function	Number of Statement
Understanding of Project-Based Learning Concepts	Measures teachers' knowledge of the basic principles, stages, and characteristics of Project-Based Learning	1, 2, 3, 4
Classroom Application	Evaluates teachers' experiences in planning, managing, and assessing student projects.	5, 6, 7, 8
Impact and role of Project-Based Learning	To determine the impact and role of Project-Based Learning on student motivation and learning outcomes from a teacher perspective.	9, 10, 11, 12

The table highlights three key indicators used to assess teachers' perceptions of Project-Based Learning in the Nepalese school context. The first indicator, Understanding of Project-Based Learning Concepts, focuses on teachers' awareness of fundamental principles, stages, and characteristics of Project Based Learning. In Nepal, where the new curriculum emphasizes competency-based learning, this indicator ensures that teachers possess the conceptual foundation required to implement project based learning effectively. The second indicator, Classroom Application, examines how teachers translate these concepts into practice by planning, managing, and evaluating student projects. This is particularly important in Nepalese classrooms, where resource limitations and large class sizes can affect the quality of project-based activities. The third indicator, Impact and Role of Project-Based Learning, assesses teachers' views on how project based learning influences student engagement, creativity, and academic achievement. This aligns with Nepal's educational goal of fostering critical thinking and problem-solving among learners.

Data Collection Procedures

Data collection procedures of this study can be presented in the following Fig. 1

Figure 1. Data Collection Procedures



From the above mentioned figure the data collection procedure for this study was carried out in three systematic stages such as preparation, distribution, and collection ensuring both validity and reliability of the findings. In the preparation phase, the questionnaires are drafted and sought expert validation to ensure content accuracy and relevance. In the context of Nepal, this validation process is crucial, as curriculum reforms and competency-based learning are relatively recent, requiring tools that align with national educational goals (MOE, 2016). The questionnaire was carefully structured to capture teachers’ understanding, practices, and perceptions of Project-Based Learning, drawing upon previously validated frameworks to strengthen credibility (Creswell & Creswell, 2018).

During the distribution phase, the questionnaire was shared online through teacher communication networks. In Nepal, platforms such as institutional email groups, Viber, and social media groups of teachers are widely used for professional interaction. Leveraging these communication channels not only ensured wide outreach but also reduced geographical barriers, particularly in rural areas (Shrestha, 2021). Online distribution also minimized costs and allowed teachers to participate at their convenience, thereby increasing accessibility.

The data collection phase involved gathering responses within a predetermined time frame to achieve an adequate sample size. Timely follow-ups and reminders were sent through school administrations and teacher networks to enhance response rates. This approach was particularly significant in Nepal, where internet access and workload constraints can affect participation (Adhikari, 2020). Collecting responses

within a defined period helped maintain data consistency while ensuring that findings reflect current teaching practices under the evolving curriculum. Overall, this structured three-step procedure ensured that the data collected was valid, representative, and contextually relevant to the Nepalese education system.

Data Analysis Techniques

The data obtained from the survey will be analysed through descriptive statistical methods to interpret teachers' perceptions of Project-Based Learning in the Nepalese context. The analysis will first apply **frequency distribution** to identify how responses are spread across individual questionnaire items. Next, the **mean percentage** will be calculated to summarize responses within each indicator, providing an overall understanding of teachers' experiences and attitudes. For this purpose, spreadsheet formulas available in *WPS Office* will be utilized to simplify the computation process and ensure accuracy. The findings will be illustrated through **histograms** alongside narrative descriptions, offering both visual and textual clarity. This dual representation will help highlight patterns and variations in teachers' understanding, classroom application, and perceived impact of Project Based Learning. Presenting results in this way ensures that the analysis is easily interpretable and directly supports the goals of curriculum reform and competency-based education in Nepal (Creswell & Creswell, 2018).

Results and Discussion

The research instrument underwent a validity check, during which two statements were revised to strengthen their operational clarity. Following this revision, the instrument was applied to gather data on teachers' perceptions of Project-Based Learning, and its role in supporting the implementation of Nepal's competency-based curriculum reforms. Teachers' perceptions were categorized into three main indicators: (1) their understanding of Project Based Learning principles, (2) their experiences of applying Project Based Learning strategies in classroom teaching, and (3) their views on the impact and contribution of Project Based Learning to student learning outcomes. To analyse these perceptions, responses were recorded using a five-point Likert scale, ranging from strongly agree (SA), agree (A), undecided (U), disagree (D), to strongly disagree (SDS). The frequency distribution of these responses for each item has been systematically presented in Table 2, offering a clear picture of how teachers perceive the effectiveness and relevance of Project Based Learning within the Nepalese school context.

Table 2 Data Description

Indicator	Questions	Statements	SA	A	U	DS	SDS
Understanding of Project-Based Learning Concepts	Q1	I understand that project-based learning is a student-centered method.	63	36	3	0	0
	Q2	I understand the difference between project-based learning (Project Based Learning) and traditional project methods.	32	64	5	1	0
	Q3	I understand the teacher's role as a facilitator in project-based learning.	52	49	1	0	0
	Q4	I understand the connection between project-based learning and the dimensions of the Pancasila Student Profile.	37	62	3	0	0
Classroom Implementation	Q5	I feel I have sufficient guidance in planning effective learning projects.	28	68	6	0	0
	Q6	I have no difficulty integrating various subjects into one project.	21	59	12	10	0
	Q7	I am able to identify student interests and needs when designing projects.	26	70	6	0	0
	Q8	I have no difficulty conducting authentic assessments of student project outcomes.	22	68	7	5	0
Impact and role of Project-Based Learning	Q9	Project-based learning effectively enhances students' collaboration skills.	35	62	4	1	0
	Q10	Project-based learning helps students develop critical thinking skills.	42	59	1	0	0
	Q11	Project-based learning significantly contributes to achieving the dimensions of the Pancasila Student Profile.	39	59	4	0	0
	Q12	I have observed an increase in student learning motivation through project-based learning.	40	56	5	1	0

The data presented in Table 2 provides a detailed overview of teachers' perceptions regarding Project-Based Learning in the Nepalese school context. Responses are categorized into three major indicators: Understanding of Project Based Learning, Concepts, Classroom Implementation, and Impact and Role of Project Based Learning. Under the first indicator, the majority of teachers strongly agreed or agreed that Project Based Learning is a student-centered method and is distinct from traditional teaching. Many also recognized the teacher's role as a facilitator and acknowledged the connection of Project Based Learning with broader competency goals, which resonates with Nepal's National Curriculum Framework emphasizing learner-centered pedagogy (CDC, 2019).

For Classroom Implementation, most teachers expressed confidence in planning projects and integrating subjects. However, a smaller proportion indicated challenges in authentic assessments, reflecting concerns also noted in Nepal's School Sector Development Plan (MOE, 2016). The third indicator highlights teachers' belief in Project Based Learning's positive impact. Most respondents agreed that Project

Based Learning fosters collaboration, critical thinking, and motivation, aligning with global research that links Project Based Learning to 21st-century skills development (Thomas, 2000; Bell, 2010). Similarly, Nepal’s reform agenda underscores such approaches as vital for preparing students for real-world problem-solving (Shrestha, 2021).

Overall, the data suggests that Nepalese teachers hold favorable perceptions of Project Based Learning but may require further training in project assessment and curriculum integration.

Understanding of Project Based Learning Concepts;

Overall, teachers hold favourable views regarding the conceptual understanding of Project-Based Learning. This is reflected in the high proportion of respondents who either strongly agree or agree with the positive statements related to Project Based Learning. The data presented in Figure 2 highlights this trend, indicating that most teachers perceive Project Based Learning as an effective and meaningful approach to teaching and learning. Their responses demonstrate a generally positive outlook toward its role in enhancing classroom practices and supporting student learning outcomes as shown in the figure 2.

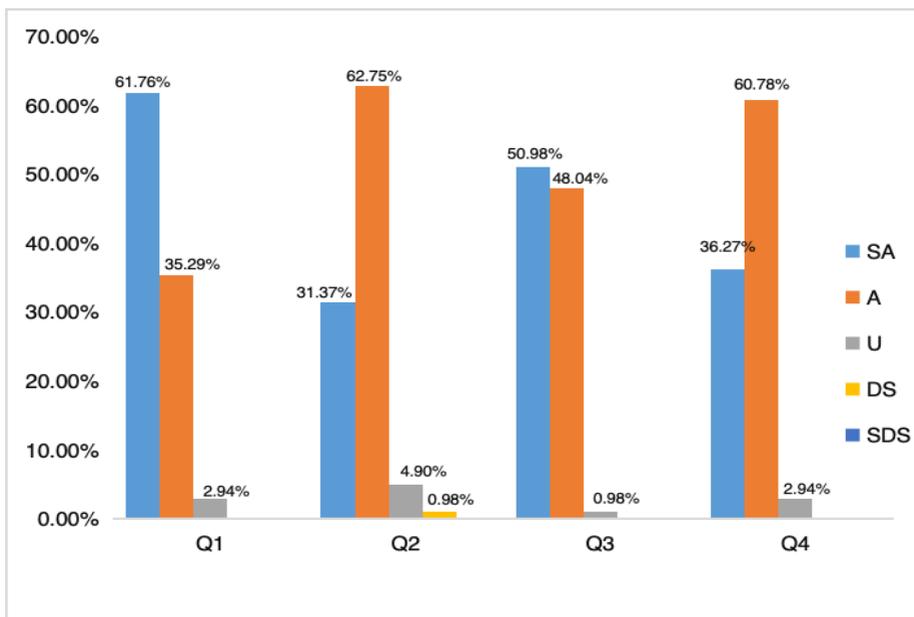


Figure 2. Data Tabulation (Percentage of Respondents) Indicators of Understanding Project Based Learning Concepts.

Based on the data, teachers show a very strong conceptual understanding of Project-Based Learning. This is evident from the high proportion of positive responses under the “Conceptual Understanding” indicator, with 98.20% of participants (56.63% strongly agree and 41.57% agree), indicating a solid theoretical foundation (Rubino, 2024). Teachers’ recognition of their role as facilitators and the link between Project Based Learning and the Student Profile further demonstrates a significant shift toward student-centered pedagogy. Similarly, the “Impact and Role” indicator shows that 97.06% of teachers (38.33% strongly agree and 58.73% agree) understand the broader objectives of the Independent Curriculum. However, challenges arise in practical application, as reflected in the “Classroom Application” indicator, where only 23.33% strongly agree and 14.77% express hesitation or disagreement. This suggests that barriers lie not in theoretical comprehension but in classroom implementation. The average score across all indicators ranges from 4 (Agree) to 5 (Strongly Agree), with the highest average reflecting teachers’ confidence in facilitating rather than merely transmitting knowledge. These findings are consistent with previous studies highlighting the absence of errors in applying Project Based Learning syntax (Purba et al., 2022) and emphasizing the paradigm shift toward learner-centered practices (Alam, 2023). Moreover, teachers’ strong grasp of Project Based Learning’s relation to the Student Profile underscores their awareness of Independent Curriculum goals (Utari & Afendi, 2022). Therefore, while theoretical understanding is excellent, strategies are required to address practical barriers and strengthen classroom implementation.

Classroom Implimentation;

In contrast to their strong conceptual grasp, teachers reported notable difficulties in applying Project-Based Learning within classroom settings. The data reveals that the average scores for implementation indicators ranged between 3.5 and 4.5, reflecting responses that mostly varied from “uncertain” to “agree.” This range suggests that teachers’ confidence in implementing project based learning is weaker compared to their theoretical understanding. While they acknowledge the value of Project Based Learning conceptually, translating it into practice appears more challenging. The variation in responses highlights inconsistencies in teachers’ readiness and ability to adapt Project Based Learning effectively in classroom contexts. These findings indicate that despite having a sound theoretical foundation, practical barriers remain a critical issue in achieving successful implementation. A detailed breakdown of the distribution of responses across categories strongly agree, agree, undecided, disagree, and strongly disagree provides a clearer picture of these challenges, as illustrated in Figure 3.

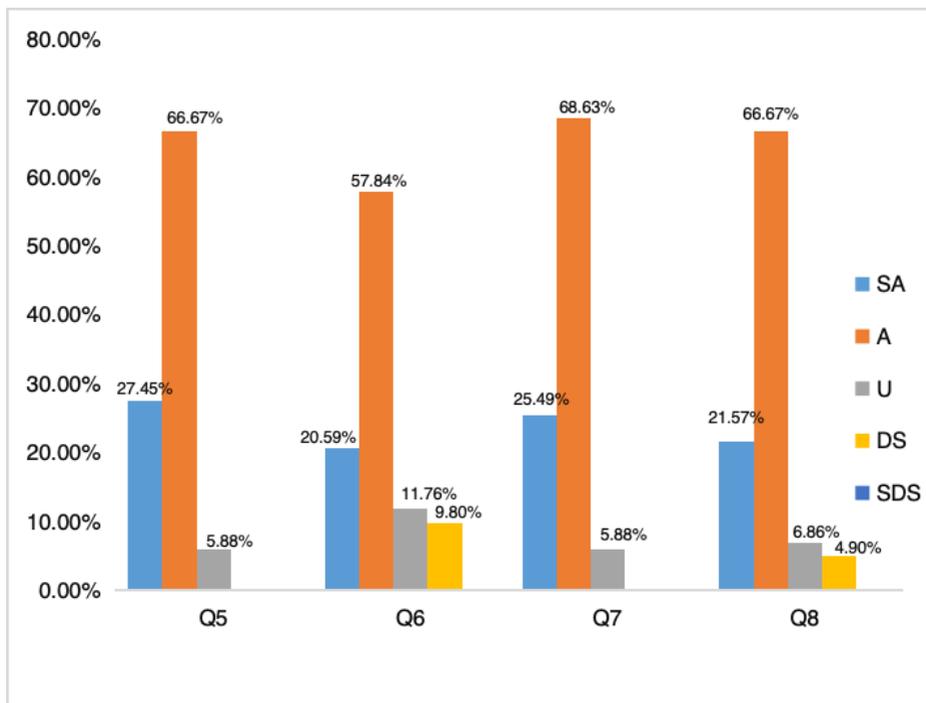


Figure 3. Data Tabulation (Percentage of Respondents) Indicators of Classroom Implementation

In the context of Nepal, the classroom implementation of Project-Based Learning reflects both positive perceptions and noticeable challenges among teachers. The data suggests that while teachers demonstrate confidence in some aspects of Project Based Learning, they continue to struggle with others. A significant proportion of respondents, 94.12% (27.45% strongly agree and 66.67% agree), indicated that they receive adequate guidance in planning effective projects. Similarly, 94.12% (25.49% strongly agree and 68.63% agree) expressed confidence in their ability to identify students' needs and interests, which is critical in the Nepalese education system where student diversity is high across urban and rural contexts. This demonstrates that teachers are becoming more responsive to learner-centered pedagogies, aligning with national priorities for improving classroom practices.

Despite these strengths, the integration of multiple subjects into a single project emerges as a significant weakness. Only 78.43% of teachers agreed that they could integrate subjects effectively, while 11.76% remained hesitant and 9.80% disagreed. This indicates that interdisciplinary teaching, although emphasized in Nepal's school education curriculum, continues to present a challenge in practical terms. Malinić et al. (2021) similarly highlight that integration across subject areas is often a barrier

to effective Project Based Learning worldwide, a concern that is equally evident in Nepal. Authentic assessment is another area where challenges persist. Although 88.24% of teachers agreed that they faced no major difficulties, this still indicates some uncertainty in applying assessment methods that go beyond traditional examinations (Li et al., 2023).

Overall, the findings highlight that while Nepalese teachers are confident in planning and identifying student needs, practical challenges remain in interdisciplinary integration and authentic assessment. Addressing these issues requires targeted professional development and systemic support, ensuring that teachers are better equipped to implement Project Based Learning effectively in the diverse classrooms of Nepal.

Impact and Role of Project Based Learning;

In the Nepalese context, teachers' perceptions of the impact of Project-Based Learning on students highlight several positive outcomes alongside some areas of uncertainty. The strongest reported benefit relates to collaboration, with 94.12% of respondents either strongly agreeing or agreeing that project based learning significantly enhances students' ability to work together. This finding reflects the growing emphasis in Nepal's education reforms on teamwork and cooperative learning. Similarly, 94.12% of teachers also believed that Project Based Learning increases student motivation and engagement, suggesting that this method can effectively address challenges of low participation often observed in traditional classrooms.

In terms of higher-order thinking, 88.24% of respondents agreed that Project Based Learning contributes to the development of critical thinking skills, aligning with the Independent Curriculum's goals of promoting analytical and reflective learning practices. However, the impact on problem-solving skills appeared less pronounced. Although 78.43% of teachers acknowledged improvements, the higher levels of uncertainty and disagreement in this area suggest that the benefits are not as consistently experienced as with collaboration or motivation. These mixed perceptions indicate that while Project Based Learning is recognized as a powerful tool in enhancing student-centered skills in Nepal, its full potential in fostering problem-solving still requires more structured support and consistent classroom application. More detailed results are presented in the following figure 4.

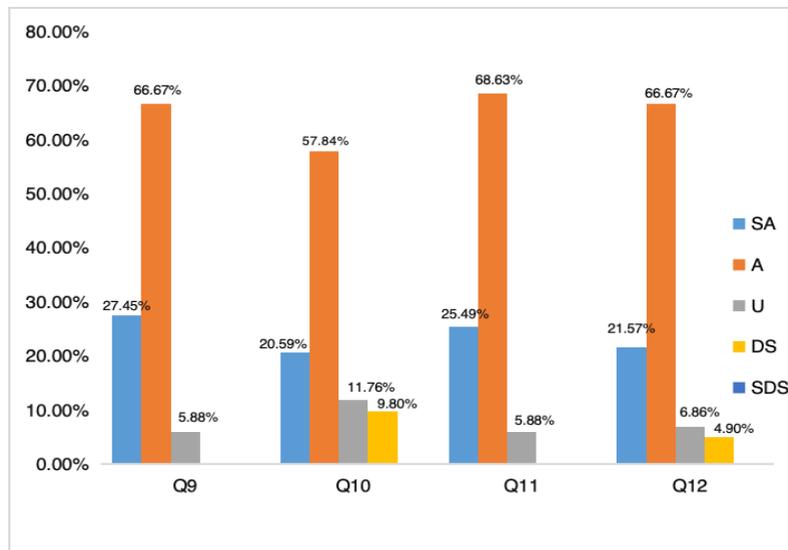


Figure 4. Data Tabulation (Percentage of Respondents) Impact Indicators and the Role of Project-Based Learning

The findings indicate that Project-Based Learning is perceived as an effective instructional approach in Nepal, particularly in enhancing students' social and motivational development. Teachers strongly agreed that Project Based Learning improves collaboration and motivation, with both indicators receiving 94.12% agreement. These results are consistent with the perspectives of educational theorists such as John W. Thomas and John Dewey, who stress the significance of contextual and social learning (Requena & González-González, 2024). Furthermore, the agreement of 88.24% on the development of critical thinking aligns with constructivist theory, which views learning as an active process of knowledge construction. However, the relatively lower agreement (78.43%) on problem-solving suggests that while Project Based Learning is beneficial, its impact in this area is less consistent and depends largely on the design of projects and the level of teacher facilitation. Overall, Project Based Learning demonstrates strong potential to support Nepal's shift toward learner-centered education.

Conclusion

This study concludes that Nepali teachers generally perceive Project-Based Learning positively, especially in relation to the goals of the Independent Curriculum. Teachers display a strong theoretical grasp of Project Based Learning and recognize its benefits in promoting collaboration, motivation, and active learning. However, the

findings reveal a gap between conceptual understanding and classroom practice. The greatest challenge lies in integrating multiple subjects into a single project, highlighting that teachers, though conceptually prepared, still lack the practical strategies and systemic support required for effective implementation. This suggests the need for rethinking teacher professional development in Nepal. Rather than focusing primarily on theory, training programs should emphasize hands-on practice, collaboration across disciplines, and the development of practical skills for project design and execution. Providing clear guidelines and opportunities for subject teachers to work together would help address these challenges, ensuring that Project Based Learning is more effectively applied and the Independent Curriculum is implemented as intended.

References

- Adhikari, R. (2020). ICT integration in Nepalese schools: Opportunities and challenges. *Journal of Education and Research*, 10(2), 1–12. <https://doi.org/>
- Aisyah, S., & Novita, D. (2025). Teachers' perception of the implementation of project-based learning in early childhood education in Indonesia: Project-based learning: A perspective from Indonesian early childhood educators. *Cogent Education*, 12(1), 2458663. <https://doi.org/10.1080/2331186X.2025.2458663>
- Al Maktoum, S. B., & Al Kaabi, A. M. (2024). Exploring teachers' experiences within the teacher evaluation process: A qualitative multi-case study. *Cogent Education*, 11(1), 2287931. <https://doi.org/10.1080/2331186X.2023.2287931>
- Alam, M. A. (2023). From teacher-centered to student-centered learning: The role of constructivism and connectivism in pedagogical transformation. *Journal of Education*, 11(2), 154–167. <https://doi.org/10.25215/0401.086>
- Bakar, S. (2021). Investigating the dynamics of contemporary pedagogical approaches in higher education through innovations, challenges, and paradigm shifts. *Social Science Chronicle*, 1(1), 1–19. <https://doi.org/10.56106/ssc.2021.009>
- Bell, S. (2010). Project-based learning for the 21st century. *The Clearing House*, 83(2), 39–43. <https://doi.org/>
- Belwal, R., Belwal, S., Sufian, A. B., & Al Badi, A. (2021). Project-based learning (Project Based Learning): Outcomes of students' engagement in an external consultancy project in Oman. *Education + Training*, 63(3), 336–359. <https://doi.org/10.1108/ET-01-2020-0006>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Curriculum Development Centre (CDC). (2019). *National curriculum framework for*

- school education in Nepal*. Government of Nepal.
- Douglas, H. (2022). Sampling techniques for qualitative research. In M. R. Islam, N. A. Khan, & R. Baikady (Eds.), *Principles of social research methodology* (pp. 1–12). Springer. https://doi.org/10.1007/978-981-19-5441-2_29
- Hunaepi, H., & Suharta, I. (2024). Transforming education in Indonesia: The impact and challenges of the Merdeka belajar curriculum. *Path of Science*, 10(6), 5026–5039. <https://doi.org/10.22178/pos.105-31>
- Johannis, A. A., & Hung, D. W. L. (2023). Gradual shifts in policy and practice towards student-centric learning. In *Moving beyond grades to purposeful learning: Lessons from Singaporean research* (pp. 19–37). Springer Nature Singapore.
- Kittur, J. (2023). Conducting quantitative research study: A step-by-step process. *Journal of Engineering Education Transformations*, 36(4), 100–112. <https://doi.org/10.16920/jeet/2023/v36i4/23120>
- Li, Q., Xie, Z., & Zeng, G. (2023). The influence of teaching practicum on foreign language teaching anxiety among pre-service EFL teachers. *Sage Open*, 13(1), 21582440221149005. <https://doi.org/10.1177/2158244022114>
- Malinić, D., Stanišić, J., & Đerić, I. (2021). The experience of teachers in realisation of project-based learning based on interdisciplinary approach. *Zbornik Instituta za pedagoška istraživanja*, 53(1), 67–120. <https://doi.org/10.2298/ZIPI2101067M>
- Ministry of Education (MOE). (2016). *School sector development plan (2016–2023)*. Government of Nepal.
- Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge.
- OECD. (2019). *PISA 2018 results (Volume I): What students know and can do*. OECD Publishing. <https://doi.org/10.1787/5f07c754-en>
- Pan, G., Seow, P. S., Shankararaman, V., & Koh, K. (2021). An exploration into key roles in making project-based learning happen: Insights from a case study of a university. *Journal of International Education in Business*, 14(1), 109–129. <https://doi.org/10.2139/ssrn.3603881>
- Purba, L. S. L., Dasna, I. W., & Habiddin, H. (2022). Creativity in project based learning: A systematic literature study (2015–2021). *Jurnal Pendidikan MIPA*, 23(4), 1504–1514. <https://doi.org/10.23960/jpmipa/v23i4.pp1504-1514>
- Purba, L. S. L., Dasna, I. W., & Wonorahardjo, S. (2023). Analysis of product dimension creativity competency through green chemistry project based learning in the independent curriculum. In *The 9th annual international seminar on trends in science and science education (AISTSSE) 2022* (pp. 295–301). <https://doi.org/10.23960/jpmipa/v23i4.pp1504-1514>

org/10.2478/9788367405195-041

- Requena, C., & González-González, E. (2024). Effect of experiential learning on the ageist attitudes of higher education students. *Educational Gerontology, 50*(6), 481–491. <https://doi.org/10.1080/03601277.2024.2306425>
- Rony, Z. T., Lestari, T. S., Ismaniah, Yasin, M., & Lubis, F. M. (2023). The complexity of leadership competence in universities in the 21st century. *Cogent Social Sciences, 9*(2), 2276986. <https://doi.org/10.1080/23311886.2023.2276986>
- Rubino, S. (2024). *Project-based learning and its impact on student engagement, well-being, and learning outcomes: A study of teachers' perspectives* [Doctoral dissertation, Arkansas State University].
- Ruliyanti, T., Sumarni, W., & Ulum, M. (2021, November). The development of questionnaire instruments assisted by Google Form application to measure students' cep characters on the STEM integrated chemistry module. In *6th International Conference on Science, Education and Technology (ISET 2020)* (pp. 5–10). Atlantis Press. <https://doi.org/10.2991/assehr.k.211125.002>
- Shaturaev, J. (2021). Education in Indonesia: Financing, challenges of quality and academic results in primary education. *Архив научных исследований, 6*(6).
- Shihabuddin, A. E., & Lestari, R. (2024, November). The relationship between learning motivation and students' perception towards learning outcomes of the Pancasila Student Profile Strengthening Project in the Kurikulum Merdeka. In *2nd Ibn Khaldun International Conference on Applied and Social Sciences (IICASS 2024)* (pp. 78–93). Atlantis Press.
- Shrestha, P. (2021). Online learning practices and teacher collaboration in Nepal. *Educational Review, 73*(4), 567–582. <https://doi.org/>
- Shrestha, P. (2021). Teachers' perspectives on competency-based learning in Nepal. *Educational Review, 73*(4), 567–582. <https://doi.org/>
- Sormin, E., Simatupang, N. I., Purba, L. S. L., Azzahra, S. F., & Simanjuntak, F. N. (2024). Analysis of increasing students' learning interest through the implementation of the project-based learning model. *Formatif: Jurnal Ilmiah Pendidikan MIPA, 14*(2), 465–472. <https://doi.org/10.30998/formatif.v14i2.28555>
- Sparrow, R., Dartanto, T., & Hartwig, R. (2020). Indonesia under the new normal: Challenges and the way ahead. *Bulletin of Indonesian Economic Studies, 56*(3), 269–299. <https://doi.org/10.1080/00074918.2020.1854079>
- Thomas, J. W. (2000). *A review of research on project-based learning*. Autodesk Foundation.

- Utari, D., & Afendi, A. R. (2022). Implementation of Pancasila student profile in elementary school education with project-based learning approach. *EduLine: Journal of Education and Learning Innovation*, 2(4), 456–464. <https://doi.org/10.35877/454RI.eduline1280>
- Wildani, M. S., Fauzi, A., & Solihin, M. (2025). Teacher perception towards the implementation of independent learning curriculum. *Journal of Educational Management Research*, 4(2), 265–277. <https://doi.org/10.61987/jemr.v4i1.895>
- Zainuddin, Z. (2025). The Merdeka curriculum and local wisdom: An innovative synergy in shaping student character in South Sumatra, Indonesia. *Journal of Cross-Disciplinary Sustainability Innovations*, 1(1), 32–38.