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IMPLEMENTING PROJECT-BASED LEARNING IN THE INDEPENDENT CURRICULUM: INSIGHTS FROM SECONDARY LEVEL TEACHERS' PERSPECTIVES

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ABSTRACT

This research was conducted to observe the perception of teachers about Project-Based Learning (PBL) as a method of teaching in the Independent Curriculum. It focused on three key areas, the knowledge of the teachers on PBL concepts, their classroom practices of implementing PBL and their perception of the effects of PBL on student motivation and student learning outcomes. Quantitative research design was applied as a descriptive one (102 teachers were selected with the help of purposive sampling); these teachers were active participants of the process of the Independent Curriculum implementation. The structured Likert-scale questionnaire survey was used to gather the data and included sections on conceptual understanding, classroom application, and perceived student impact. Spreadsheet tools in WPS office were used in the descriptive statistical analysis. The results show that educators tend to have a positive attitude of PBL, and they have a high level of theoretical understanding of the principles. The majority of teachers admitted that it is efficient at enhancing the collaboration, motivation, and thinking among students. Nevertheless, the outcomes also show the disconnect between the theoretical knowledge and the reality. Specifically, educators described difficulties associated with the adoption of interdisciplinary projects. The research finds that teachers are conceptually ready to implement PBL, but specific professional

mattering is necessary to make the implementation more practical and help the successful attainment of the goals provided by the Independent Curriculum.

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

INTRODUCTION

The industrial revolution 5.0 has also brought about changes in the world, which have made education systems across the world rethink the traditional teaching methods. Models focusing on the teaching of knowledge by rote are no longer considered as being enough to equip learners to respond to the requirements of the modern social and economic environment. This has led to education being focused on the 21 st century skills like critical thinking, collaboration, creativity and communication (Rony *et al.,* 2023). Most nations have acted by revising their syllabuses to encourage student focused learning that integrates active learning, problem solving, and practical application of knowledge (Johannis & Hung, 2023).

Regardless of these international changes, Nepal still has educational problems that cannot be eliminated. According to the results of international assessments, like the Programme for International Student Assessment (PISA), Nepali students are below global standards in the main areas of performance, such as reading, mathematics, and science (OECD, 2019). These outcomes help to highlight the urgency of the necessity to adopt innovative pedagogical practices not only context-specific but also diverse. These results indicate the necessity of applying new pedagogical approaches, which can be both situational and internationally receptive (Bakar, 2021). The Government of Nepal has in response to this developed policies to encourage school autonomy and to encourage flexible and learner-cantered practices of instruction. This principle of these reforms is linked to the international activities, such as the Merdeka Curriculum in Indonesia (Hunaepi & Suharta, 2024). Nevertheless, the implementation of policy is not easy because of the infrastructural limitations, excessive teacher workload, and insufficient access to long-term professional development (Sparrow *et al.,* 2020; Zainuddin, 2025).

Project-Based Learning (PBL) has become one of the instructional strategies of this reform context that contributes to student-centre curricula (Aisyah and Novita, 2025). Despite its high potential in fostering the use of experiential learning, PBL use in Nepalese classrooms is frequently affected by the lack of resources, high attendance rates of students, and

the lack of project design and assessment guidelines (Belwal *et al.,* 2021). There are indicators that teachers, though familiar with PBL conceptually, show challenges in its practical implementation especially where applying it in interdisciplinary settings (Sormin *et al.,* 2024; Wildani *et al.,* 2025). The perceptions of teachers are thus fundamental in determining the way PBL is implemented and the success of curriculum reforms (Shihabuddin & Lestari, 2024). This research will thus attempt to fill this gap by exploring the following research question:

i. What is the level of teachers' understanding of Project-Based Learning concepts within the Independent Curriculum framework?

ii. How do teachers implement Project-Based Learning in their classroom practices under the Independent Curriculum?

iii. What challenges do teachers face in applying Project-Based Learning, particularly in interdisciplinary integration and assessment?

STATEMENT OF THE PROBLEMS

The shift to the competency-based and learner-centered curriculum in Nepal needs a change in the instructional dynamics between the teachers, which implies the Project-Based Learning (PBL). The international research indicates that PBL is a potentially effective strategy to enhance critical thinking, cooperation, creativity and motivation of students (Bell, 2010; Rony *et al.,* 2023). The National Curriculum Framework of Nepal is oriented to the competency-based learning and classroom practice according to the context in order to support such international tendencies (CDC, 2019). However, such intentions of policies are hardly transferable into classroom reality. The school structural constraints that continue to face the schools are lack of resources, professional development, excessive administration, and inconsistencies in curriculum implementation that constrain the ability of the teachers to design, manage and evaluate the projects (Sparrow *et al.,* 2020; Zainuddin, 2025).

A study conducted in Nepal indicates that teachers tend to be positive towards PBL and possess adequate theoretical background knowledge about the principles of such learning process. Nevertheless, they can still be poorly supported in the classroom as the interdisciplinary integration, authentic assessment, and project facilitation (Belwal *et al.,* 2021; Malinié

et al., 2021) are still insufficiently supported. This indicates an endemic gap in theory practice with the Independent Curriculum.

MATERIALS AND RESEARCH METHODS

The research design used in this study was a descriptive quantitative research design to investigate objectively the perceptions of teachers about the Project-Based Learning (PBL) within the Independent Curriculum in Nepal. The reasons why a quantitative survey method was chosen are that it enables researchers to collect uniform data of a considerable number of respondents and produce objective and generalizable findings (Nardi, 2018; Kittur, 2023). A total of 102 teachers were the participants of the research, who were chosen using the purposive sampling method because their direct engagement with the application of the new curriculum and experiences learning programs was studied in accordance with Douglas (2022). Structured online questionnaire was used in data collection using Google Forms. That instrument was created based on the structure provided by Pan *et al.* (2021) and incorporated three indicators, including conceptual knowledge of PBL, classroom practice, and perceived influence on student results. Measures of the levels of agreement between the participants were provided using a five-point Likert scale (Ruliyanti *et al.,* 2021). The questionnaire was also subjected to official validation by experts, to verify the content reliability and the orientation of the future research on the competency-based curriculum reforms in Nepal (Creswell & Creswell, 2018).

Data collection was done in three systematic steps that included preparation, distribution and collection to guarantee consistency and accuracy. The information was analyzed by descriptive statistics and frequency distribution, mean percentage through spreadsheet tools in WPS office. Visual representations were used to supplement findings to increase interpretability. This research design provided a valid and contextualized perception of teacher regarding PBL in Nepal.

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 are 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

The data were collected through an online questionnaire based on the Google Forms platform with the use of a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) (Ruliyanti *et al.,* 2021). The instrument is based on three indicators that include understanding of PBLC, classroom use and role of PBL of curriculum implementation and teacher practice, which are proposed within the framework proposed 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 draws attention to three major indicators that are applied to measure the perceptions of Project-Based Learning among teachers in the Nepalese school setting. The first one is the indicator Understanding of Project-Based Learning Concepts that deals with the knowledge of the teachers about the main principles, stages, and features of Project Based Learning. In Nepal where the new curriculum focuses on competency based learning, this indicator is the one that will provide the conceptual

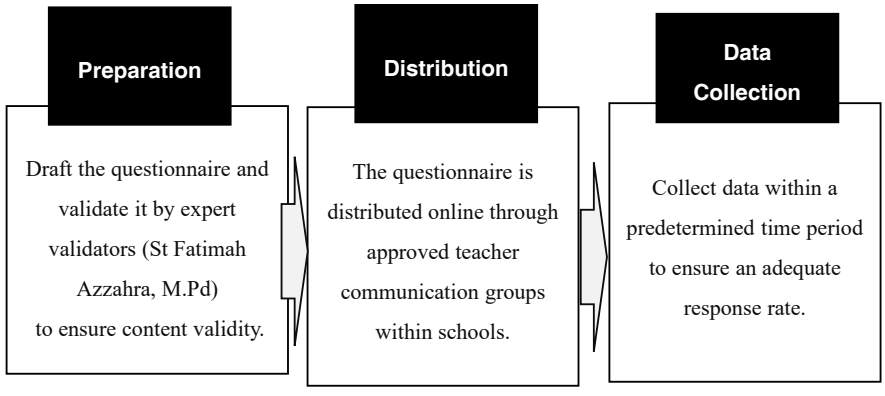
background that teachers need to embrace project based learning. The second indicator, Classroom Application, looks into how the teachers bring these concepts to use by planning, managing, and assessing student projects. This is especially needed in the Nepalese classrooms where the quality of project based activities may be influenced by resource constraints and large classes. Impact and Role of Project-Based Learning is the third indicator that determines the perceptions of teachers regarding the effect of project based learning on engaging students, creativity, and academic achievement. This is inline with the Nepali vision of education in terms of encouraging critical thinking and problem solving in learners.

Data Collection Procedures

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

Figure 1

Data Collection Procedures



Based on the above figure data collection process of this study was conducted in three systematic processes including preparation, distribution and collection that provides both validity and reliability of the findings. During the preparation stage, the questionnaires will be written and presented to the experts in order to verify its content accuracy and relevance. This validation process is essential in the context of Nepal, because curriculum reforms and competency-based learning are not quite old, and tools should be considered to correlate with the national educational objectives (MOE, 2016). The questionnaire was well formulated to measure the knowledge, behaviours, and attitudes of teachers towards Project-Based Learning and it

utilized the prior validated frameworks to bolster the credibility (Creswell and Creswell, 2018).

The questionnaire was distributed in the distribution phase where they were exchanged over the teacher communication networks over the Internet. Professional interaction in Nepal is largely done through the institutional email groups, Viber, and social media groups of teachers. The use of such channels of communication not only guaranteed a large reach but also minimized geographical barriers especially in the rural areas (Shrestha, 2021). Online distribution was also less expensive and they could be performed at the convenience of teachers thus more accessible.

The data collection stage entailed a collection of responses within a stipulated time that would be used to obtain a sufficient sample size. Follow-ups and reminders were timely received in the form of school administrations and teacher networks to improve response rates. In Nepal, especially, where participation may be influenced by internet access and workload (Adhikari, 2020), this method was of great importance. The collection of the responses within a specified time frame aided in keeping the data consistent as well as making sure that the results are representative of the existing teaching practices in the changing curriculum.

The ethical consideration was strictly adhered to when giving out questionnaires and gathering of responses. Before data collection, the participants were fully briefed on the objective of the study and their free participation. The consent was made by making sure that teachers were filling the questionnaire voluntarily, and would pull out at any point with no repercussions. The anonymity and confidentiality were ensured; no individual details in the form of names or institutional information were gathered. They were only used academically and were kept in a secure place to ensure that they were not accessed by unauthorized personnel. Also, the online distribution approach reduced the pressure or coercion thus there is honest and unbiased reporting. This three-step organized process, in general, resulted in a valid and representative collection of the data that was relevant to the Nepalese education system in context.

Data Analysis Techniques

Data gathered after the survey is subjected to descriptive statistical analysis to explain the perception of teachers towards the Project-Based Learning within Nepalese context. The first analysis will be based on frequency distribution to determine the distribution of responses in

individual questionnaire items. The average percent will then be computed to provide a summary of the responses in each indicator to give a general picture of what teachers experience and how they feel. To this end, spreadsheet formulas that are offered in the WPS Office will be used to streamline the process of computation to ascertain accuracy. Histograms and narrative descriptions will be used to illustrate the findings which will provide a panoramic understanding of them both visually and textually.

This two-fold depiction will be useful in bringing out patterns and differences in the comprehension, classroom implementation and perceived effects of Project Based Learning by teachers. This approach to the presentation of the results will guarantee that the analysis will be easy to analyse and directly related to the objectives of curriculum reform and competency-based education in Nepal (Creswell & Creswell, 2018).

RESULTS AND DISCUSSION

The research instrument has been subjected to a validity check, where two of them were amended to enhance their operational clarity. After this revision, the instrument was used to collect data about the perceptions of Project-Based Learning by teachers, and how it aided in facilitating the introduction of the competency-based curriculum reforms in Nepal. The perceptions of teachers were divided into three key indicators that include: (1) perception of teachers about the principles of Project Based Learning, (2) practices of teachers about implementing Project Based Learning strategies in classroom teaching and (3) perceptions of teachers regarding the influence and contribution of Project Based Learning to classroom learning outcomes of students were categorized. In order to analyse these perceptions, responses were documented on a five-point Likert scale that was based on strongly agree (SA), agree (A), undecided (U), disagree (D), to strongly disagree (SDS). The responses of this frequency of each of the items has been tabulated in a systematic manner in Table 2, which provides the clear understanding of how the teachers perceive the effectiveness and relevance of Project Based Learning in Nepalese school setting.

Table 2 contains the information that gives the comprehensive description of the attitude of teachers towards Project-Based Learning in the Nepalese school setting. The responses are classified into three broad indices, including Understanding of Project Based Learning Concepts, Classroom Implementation, and Impact and Role of Project Based Learning. According to the first indicator, most of the teachers strongly agreed or

agreed that Project Based Learning is a student-centered approach and is different to traditional teaching. It was also noted by many that the role of the teacher as a facilitator should not be overlooked and that Project Based Learning is connected with the overall competency objectives, which is aligned with the National Curriculum Framework of Nepal that focuses on the learner-centered teaching approach (CDC, 2019).

Table 2

Data Description

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

In Classroom Implementation, the majority of teachers were convinced in planning projects and combining subjects. Nevertheless, a

lesser percentage reported difficulties in genuine examinations and this is an apprehension that is being highlighted in the Nepal School Sector Development Plan (MOE, 2016). The third indicator signifies the positive impact of Project Based Learning that teachers believe in. The majority of the respondents responded that the Project Based Learning enhanced teamwork, critical thinking and motivation, and this was in accordance with international studies which identified Project Based Learning as an intervention method in developing 21 st century skills (Thomas, 2000; Bell, 2010). In the same spirit, the reform agenda of Nepal highlights the importance of such methods of preparing students to face real-world problems (Shrestha, 2021).

On the whole, the information indicates that the Nepalese educators have positive attitudes toward Project Based Learning but they might need additional education in project evaluation and curriculum implementation.

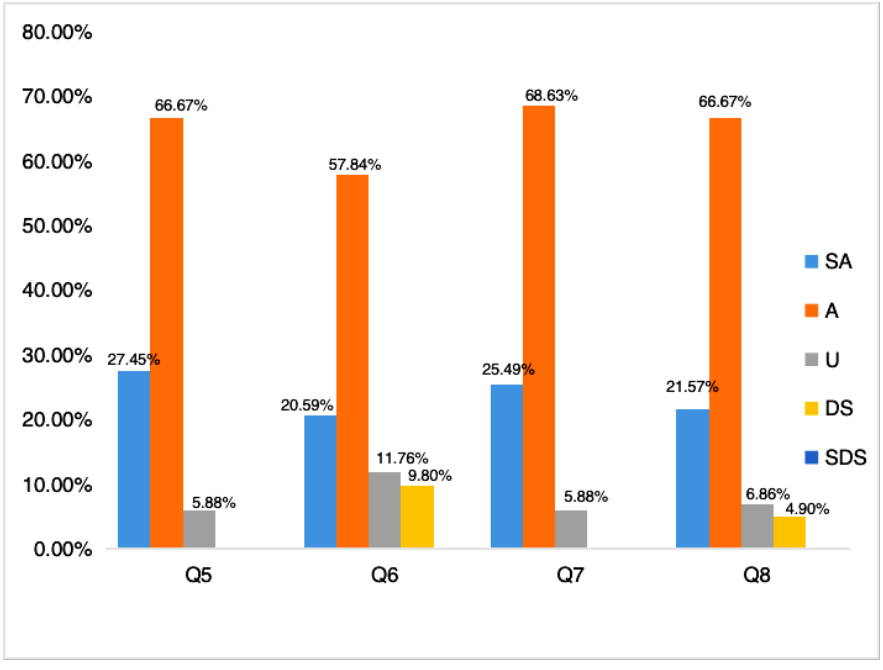
1. Understanding of Project Based Learning Concepts;

In general, teachers have positive perceptions towards the conceptual knowledge about Project-Based Learning. This can be seen through the fact that a large percentage of those who responded strongly agree or agree with the positive statements as pertain to Project Based Learning. This trend is reflected in the numbers given in Figure 2, where the vast majority of teachers consider Project Based Learning an opportunity that is both effective and fruitful in terms of teaching and learning. They have a relatively good attitude towards its use in improving classroom practice and assisting students to achieve learning outcomes as reflected in the figure 2.

According to the statistics, educators demonstrate an extremely positive level of conceptual knowledge of Project-Based Learning. It is seen through the large percentage of positive answers under the indicator of Conceptual Understanding with 98.20 of the respondents (56.63 of strongly agree and 41.57 of agree) saying that they have a good theoretical basis (Rubino, 2024). The fact that teachers acknowledge their facilitatorship and the correlation between Project Based Learning and the Student Profile are other reasons as to why pedagogy has significantly changed and shifted to be student-centered. Likewise, the Impact and Role indicator depicts that 97.06% of teachers (38.33% strongly agree and 58.73% agree) are aware of the larger goals of the Independent Curriculum.

Figure 2

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



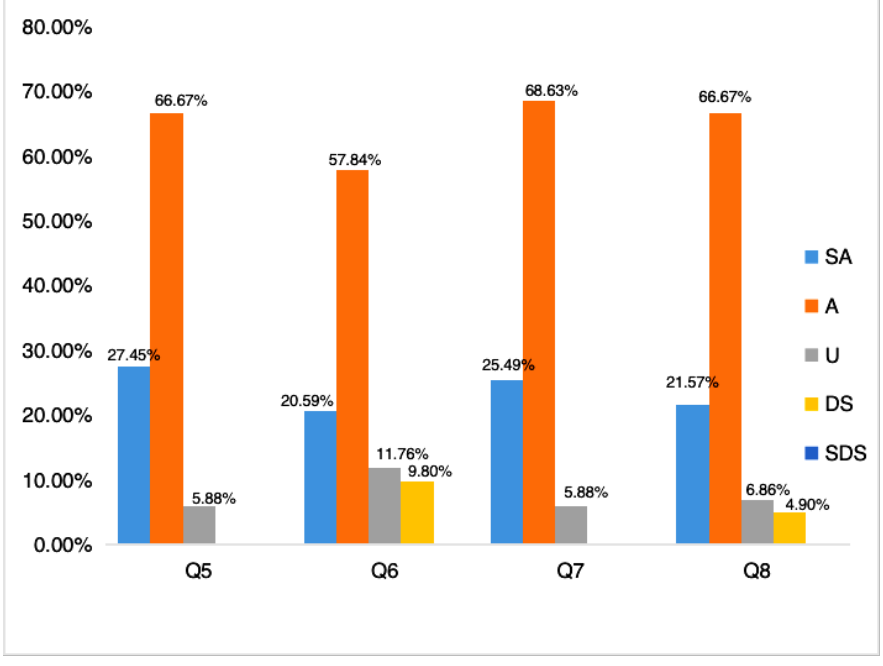
Nonetheless, in the reality, there are some problems with the field practice, as it is shown in the indicator Classroom Application, 23.33% strongly agree and 14.77% hesitate or disagree. This implies that the obstacles are not theoretical but practical in nature. The mean score of all indicators is between 4 (Agree) to 5 (Strongly Agree) with the highest mean indicating the confidence of teachers in facilitating as opposed to transmitting knowledge. Such results are in agreement with the past research that indicates the lack of mistakes in implementing the syntax of Project Based Learning (Purba *et al.,* 2022) and the paradigm shift of the practices towards learners (Alam, 2023). Furthermore, the fact that teachers have a good understanding of how Project Based Learning relates to the Student Profile highlights the fact that they are conscious of the Independent Curriculum objectives (Utari & Afendi, 2022). In that way, theoretical knowledge is superb, but the strategies are needed to overcome the practical obstacles and enhance classroom practice.

2. Classroom Implementation

Unlike their good level of conceptual understanding, teachers have indicated that they have significant challenges in implementing Project-Based Learning in the classroom contexts. The statistics show that the average score of implementation indicators was between 3.5% and 4.5, which indicated the responses with an overall shift, which was not always between uncertain and agree. This spectrum indicates that the confidence of the teachers concerning the implementation of project based learning is lower than their theoretical knowledge. Although they admit the importance of the Project Based Learning conceptually, it seems to be more difficult to translate into practice. The difference in the responses reveals inconsistencies in the readiness and capacity of teachers to incorporate Project Based Learning into the classroom situations. These results suggest that even with an excellent theoretical background, practical impediments are still a major concern of success in the implementation. A closer examination of the distribution of answers in category strongly agree, agree, undecided, disagree, and strongly disagree makes the clearer image of these challenges as is shown in Figure 3.

Figure 3

Data Tabulation (Percentage of Respondents) Indicators of Classroom Implementation



Regarding Nepal, classroom application of Project-Based Learning can be interpreted as the presence of both positive attitudes and evident difficulties among educators. The results indicate that even though teachers are confident in certain areas regarding Project Based Learning, they still have issues with others. There is a considerable percentage of respondents that responded that they are adequately guided in the planning of effective projects 94.12% (27.45% strongly agree and 66.67% agree). On the same note, they were also very confident of their capability to recognize the needs and interests of students (94.12% strongly agree and 68.63% agree) and this is very important in the Nepalese education system where student diversity is very high both in urban and rural setups. This shows that educators are increasingly sensitive to learner-oriented pedagogies, and they are in line with national agendas on better classroom practices.

With these advantages, integration of various subjects into one project is seen as a major weakness. The teachers who agreed that they were able to integrate subjects effectively were only 78.43 with 11.76 hesitant and 9.80 disagreeing. This suggests that interdisciplinary teaching though enforced in the school education curriculum of Nepal remains a challenge practically. Malinic *et al.* (2021) also note that inter-subject integration can be seen as a major barrier to effective Project Based Learning across the world, and the same issue can also be observed in Nepal. The other area where the issue remains unresolved is authentic assessment (Li *et al.* 2023). Even though a majority of the teachers (88.24) claimed that they did not encounter any significant challenges, it means that they still had some doubts about implementing methods of assessment beyond the scope of traditional tests (Li *et al.,* 2023).

Altogether, the results indicate that, although Nepalese teachers are assured in planning and determining the needs of students, there are still practical obstacles in the interdisciplinary integration and genuine evaluation. To solve these problems, professional development and systematic assistance targeted are necessary so that the teachers are more prepared to implement Project Based Learning in the multicultural Nepalese classrooms.

3. Impact and Role of Project Based Learning

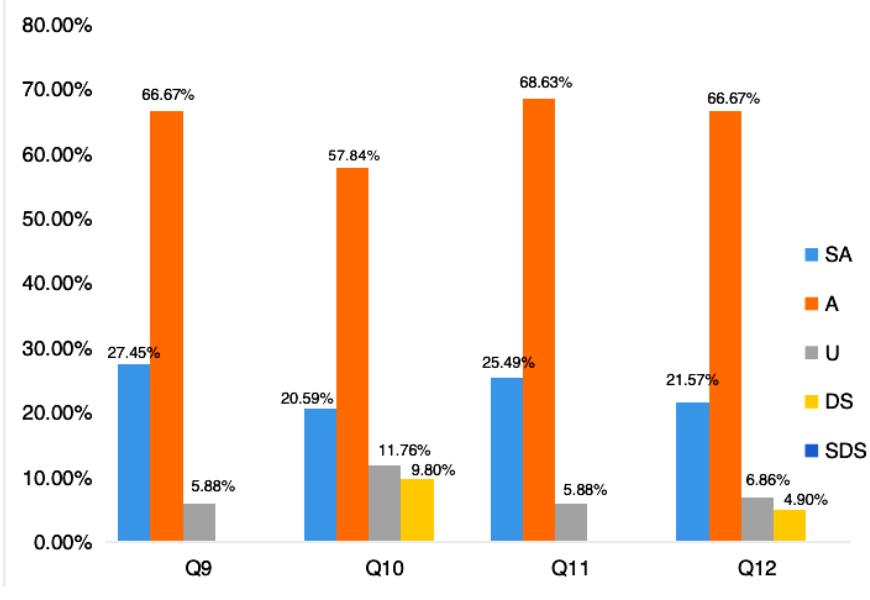
The views of the Nepalese teachers regarding the influence of Project-Based Learning on students show that there are positive outcomes and some areas of uncertainty. The greatest benefit reported is associated with collaboration, 94.12 percent of those who reported on the same

indicated that project based learning would go a long way in improving the ability of students to collaborate. This observation indicates the increasing trend in education reforms in Nepal, regarding teamwork and collaborative learning. In the same way, a majority of 94.12% of teachers also agreed that Project Based Learning can enhance the level of student motivation and engagement and indicate that this approach is capable of resolving low participation levels that are usually experienced in conventional classroom.

Revising higher order thinking, 88.24% of the respondents agreed that Project Based Learning helps in the cultivation of critical thinking skills, which is in line with the objectives of the Independent Curriculum to facilitate the practice of analytical and reflective learning styles. The effect on problem-solving skills was however less strong. Despite the fact that 78.43% of educators attested the improvement, the increased rates of uncertainty and dissent in the specified area indicate that the positive effect is not as regular as collaboration or motivation. These ambivalent attitudes show that although Project Based Learning has been accepted as an effective instrument in developing student centric skills in Nepal, its potential as a problem-solver is yet to be researched more thoroughly and implemented more regularly in the classroom. A more comprehensive result is represented in the figure 4 below.

Figure 4

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



The results show that Project-Based Learning is viewed as a successful teaching method in Nepal especially in promoting the social and motivational growth of students. The teachers highly perceived that Project Based Learning enhances collaboration and motivation with both the indicators having 94.12% agreement. These are the findings that are aligned with the views of other educational theorists like John W. Thomas and John Dewey who emphasize the importance of contextual and social learning (Requena and Gonzalez-Gonzalez, 2024). Moreover, 88.24 percent of the respondent's agreement regarding the development of critical thinking is in line with the constructivist theory which considers learning as an active knowledge construction. Nevertheless, a comparatively lower consensus (78.43) on the problem-solving indicates that although Project Based Learning is advantageous, the effect in this domain is more intermittent and largely relies on the design of undertakings and the intensity of guideline of instructors. On the whole, Project Based Learning has a high potential as it can be used to facilitate the transition to learner-cantered education in Nepal.

4. Project Design in Project Based Learning;

A significant thing that can be identified in the findings though needs to be reiterated is the design of projects in Project-Based Learning. The key to the successful PBL implementation is effective project design which defines the correspondence of the learning objectives, student engagement, and assessment. Even though the instructors on this study showed good theoretical comprehension of PBL, the issues presented with interdisciplinary integration and authentic assessment denote some shortcomings in the project design abilities. Properly designed projects are usually based on the real life issues, they are well aligned with the standards of the curriculum and organized with the help of the definite questions of inquiry, deadlines and evaluation criteria (Thomas, 2000; Bell, 2010).

It has been indicated in the researches that the poor design of projects makes PBL prone to taking the form of an activity-based approach instead of a learning-centered approach (Larmer, Mergendoller, and Boss, 2015). Hence, the enhancement of the ability of teachers to develop meaningful interdisciplinary assessable projects is needed to narrow the gap between the theoretical knowledge and the classroom application. Further training of projects planning structures, scaffolding approaches and

design of assessment would improve effective implementation of PBL in the Independent Curriculum.

CONCLUSION

The conclusion of this paper is that Nepalese teachers have a positive impression of Project-Based learning, particularly when it comes to achieving the objectives of the Independent Curriculum. The teachers demonstrate a solid theoretical understanding of Project Based Learning, and their awareness of the positive aspect of this teaching approach in facilitating collaboration, motivation and active learning. Though, the results show there is a disjunction between theoretical knowledge and the practice in the classroom. The most significant issue is that there is a necessity to merge several disciplines into one project and, in this regard, it is apparent that teachers are conceptually ready to undertake such projects but lack the practical strategies and the systemic assistance to effectively implement the project. This implies professional development of teachers in Nepal should be revaluated. Instead of paying much attention to theory, training programs must be more focused on practice, interdisciplinary collaboration, and acquisition of practical skills in the project design and execution. A set of guidelines and space to collaborate between the subject teachers would aid in combating these problems, and Project Based Learning would be used more fully and the Independent Curriculum would be enforced as it was intended.

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