Punyawati Journal
Volume 2, 2026
DOI: https://doi.org/10.3126/punyawati.v2i1.90211 ISSN: 3059-9652 (Print), 3059-9660 (Online)

Peer Learning Practices of the Graduates Pursuing Master's Degree in Rural Development, Social Work, and Health Education Subjects in University Campus, Kirtipur, Kathmandu

Jenny Limbu[1], Sushmita Shrestha[2], Dr. Dipendra KC[3]

1. Researcher Assistant at Gestalt Nepal Info Tech Pvt. Ltd.

2. Teacher at Samriddhi School, Kathmandu

3. Padhma Kanya Multiple Campus, Head Department of Social Work, Tribhuvan University

Abstract

The global higher education is experiencing a shift of traditional, instructor-based models of instruction towards the more interactive, learner-based pedagogies. This research paper examines the peer learning among the Master students of University Campus, Kirtipur in terms of their frequency, typologies, determinants, and correlation with academic performance. They used a cross-sectional survey design where the sample comprised of 112 respondents who were participants of the Social Work, Rural Development, and Health Education programmes, and were administered questionnaires that were analyzed using statistical tools. Findings show that peer learning has a high rating as a strategy to create social interaction (Mean = 4.37) and also to prepare and do exams but has a more variable rating on deep conceptual understanding (Mean = 3.64). The use of technology, role of learning and the notion of instructor support showed that there were differences of discipline and demography. Social Work students were found to exhibit more organized interaction based on formal platforms (68.2% using Google Classroom) and Health Education students had a preference towards less formal interaction which was more peer-centered. Chi-square tests showed that the subject stream and platform choice were statistically significant (χ 2 = 28.76, p =.001) and that the perceived grade improvement were statistically significant (2 = 31.17, p =.001). The research confirms the socio-affective benefits of peer learning and highlights the need to implement them in a more systematic way to better cognitive outcomes and guide evidence-based educational policy.

Keywords: Peer learning, academic performance, higher education, collaborative learning, social constructivism, Nepal

Manuscript Received	Final Revision	Accepted
22 September, 2025	24 January, 2026	28 January, 2026

*J. Limbu (jennylimbu48@gmail.com)
*S. Shrestha (shresthas@gmail.com)
*D. KC (kcdipendra18@gmail.com, https://orcid.org/0009-0004-4772-9293)

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1. Introduction

The globalisation of higher education is experiencing the move away of traditional, teacher-centred delivery to more interactive and student-centered pedagogies that focus on active engagement, collaborative knowledge building (Biggs and Tang, 2022; Freeman et al., 2024). Peer learning within this paradigm has become a key approach where the students gain knowledge through each other and with each other employing the strategies of explanation, discussion, and collaborative effort (Lopez et al., 2023). Peer learning is based on the Vygotsky (1978) social constructivist theory, especially the theory of the Zone of Proximal Development, which utilizes social interaction to support understanding and encourage independent cognition. The quality of international scholarship strongly suggests that formal engagement with peers, including tutoring and collaborative group work, can improve academic achievement, critical thinking, motivation, and acquisition of the necessary soft skills (Johnson, 2018; Topping, 2015).

Peer learning becomes especially important in the setting of Nepal, and more so in the large, lecture-fulfilled classes of Tribhuvan University. It acts as an informal supplement to formal teaching very often, helping students to cope with the high number of classmates and inadequate personal attention of teachers (Sharma, 2018). Although it may seem common and appreciated by learners, the empirical studies in Nepal, which examines the extent to which these informal peer learning practices have quantitative effects on academic performance, are nevertheless few. The current literature related to the subject mostly centers on general pedagogical practices or problems on the institutional level, and thus, there is a knowledge gap regarding the dynamics, effectiveness, and determinants of peer learning in the context of local universities (Banstola, 2024). The abundance of empirical data and educational systems of the world, such as UNESCO Sustainable Development Goal 4, confirm that a systematic peer learning is a strong source of academic performance, critical thinking, and collaboration skills (United Nations, 2015). Peer learning is based on three frameworks that are interrelated. First, the Social Constructivist Theory by Vygotsky (1978) assumes the construction of knowledge in social interaction within the Zone of Proximal Development, where peer tutoring each other in the learning process occurs through dialogue (Daniels, 2016). Second, the Social Learning Theory of Bandura (1977) emphasizes that the effectiveness of observational learning and social reinforcement within the peer groups enhances self-efficacy, which is a central point of academic engagement and performance (Schunk, 2012; Zimmerman and Kitsantas,

2014). Third, the Collaborative Learning Theory developed by Johnson and Johnson (1989) single out a set of design features including positive interdependence and individual accountability as the key factors to maximizing cognitive gains (Gillies, 2016; Slavin, 2014).

Meta-analyses affirm that the effect is more significant in the skills-based or interactive learning situations, and the effects size is immensely dependent on the structure and quality (Kyndt et al., 2013; Zhang et al., 2022). Peer learning interventions have moderators (group cohesion, student motivation, formal training) that determine success (Bandura, 1997; Carini et al., 2006; Rees et al., 2016). Peer learning is an informal practice at University Campus, Kirtipur, and is a crucial, albeit, poorly supported practice among Master students in Social Work, Rural Development, and Health Education: the fields where teamwork, communication, and community representation are the key professional skills. In order to narrow the informal practice and optimum outcomes, institutional policy must institutionalize and invest in structured peer learning programs, as an institutional policy, within these departments, such as trained peer-mentoring programmes or facilitated study circles. This kind of specific assistance will not only utilize the current collaboration between the students, but also directly improve the academic results as well as create the collaborative skills that are obliged by the national education policy and professional demands of the given spheres.

It is proposed that this research will fill the given gaps by exploring the influence of learning with peers on the academic success of Master students at University Campus, Kirtipur, a big and diverse constituent campus of Tribhuvan University. This study aims to present empirical evidence by exploring the frequency and modalities of the peer learning practices that are used, the forces that prompt students to participate, and the perceived and correlational correlation between the state of peer engagement and academic performance. In particular, the research questions are: (1) to investigate the prevalence and kind of peer learning activities among the students; (2) to determine the factors that instigated the students to use the learning activities; (3) to measure the perceived impact of peer learning to improve the academic performance; and (4) to test the specific relationship between the degree of peer learning activities and achievement among the students among various subjects. These findings are supposed to guide students, educators and policy makers on campus and university level to provide information that would better the learning environment and maximize- Collaborative learning strategies to achieve better academic results.

2. Methodology: Research Design

The research adopted cross-sectional study design which implies the use of both descriptive and correlational approaches (Creswell & Creswell, 2023). The descriptive part was intended to systematically record the current peer-learning practices including the rate of group discussion and knowledge sharing among the master students that were recruited based on the chosen disciplines. The correlational aspect sought to test the association between such practices on the one hand and academic performance on the other.

3. Population and Sampling

The target population was students pursuing master degree in Social Work, Rural Development and Health Education programme in the University Campus, Kirtipur, which is a large and diverse constituent campus of Tribhuvan University. A stratified random sampling was conducted to obtain a sample of 112 students to have a representative sample of the three disciplines. The resulting sample was composed of 44 students out of Social Work (39.3%), 38 out of Rural Development (33.9%), and 30 out of Health Education (26.8%). This sampling plan was sufficient in ensuring that there was enough representation of each discipline and that there was sufficient statistical power to compare across groups and perform chi-square test.

4. Data Collection Instrument

A structured, closed-ended questionnaire with measured items on a five-point Likert scale (1 refer to Strongly Disagree, 5 refer to Strongly Agree) was used to collect primary data. The instrument was designed after the comprehensive literature review and pre-tested on a pilot sample of 15 students to provide the instrument with clarity, relevance, and reliability. After pilot testing, some refinements were done to better the wording of questions and responding options. The consistency within the questionnaire was satisfactory (Cronbach-alpha of all subscales were above.70).

The questionnaire included several sections that were aimed at defining different aspects of peer-learning engagement. Demographic data includes subject stream, age, gender, marital status, family occupation.Peer learning practices includes how often, what activities (group discussion, peer tutoring, collaborative work), what platforms of preference (Google Classroom, WhatsApp/Viber, Zoom/Teams).

Learning roles: self-identified peer-learning roles (student, tutor, or both).Motivations and barriers includes major motives to get engaged in peer learning,

impediments.Teacher support includes perceived faculty support, organization of peer-learning, guidance.And perceived outcomes includes self-reported effects on understanding concepts, problem solving skills, exam preparation, confidence, motivation and general academic performance.

5. Data Collection Procedure

The data was collected in a four week time span in the course of the academic semester. Researchers visited classes and described the purpose of the study and asked to participate on a voluntary basis after receiving the required permissions of the university authorities and departmental heads. The students who volunteered to complete the questionnaire gave informed consent and filled the questionnaire now or within one week. The response rates were 89, 112 filled questionnaires were received out of 126 sent.

6. Methods of Data Analysis

The statistical analysis of the quantitative data was conducted with the help of IBM SPSS Statistics (Version 26.0). Several analytical methods were used in the research purposes. Descriptively, frequencies, percentages, means (M), and standard deviations (SD) were measured in order to describe the demographics of the sample, generalize peer-learning practices, and summaries perceived outcomes.Likewise**,** bivariate associations between demographic factors (subject stream, gender, marital status) and peer-learning behaviors (platform preferences, accepted roles, perceived effectiveness) were analyzed using cross-tabulation tables.Pearson chi-square (2) tests of independence were used to evaluate the statistical significance of the association between categorical variables. The statistical significance was established at p 0.05.Similarly,Pearson correlation coefficients were used to test the relationship between continuous variables (frequency of peer-learning engagement, perceived teacher support, academic performance indicators).All assumptions about statistics were checked before analysis. In the case of chi-square tests, the expected cell frequencies were verified to have the minimum value (cell frequency expected 5 or larger) in 80 or more of the cells. In cases where the assumptions were broken, the exact test or the likelihood ratio statistics by Fisher were emulated.

7. Ethical Considerations

The paper has followed ethical research principles as defined by Tribhuvan University research ethics. Respondents were free to participate without any coercion and no

incentives were given. The subjects were made completely aware of the purpose of the study, the study procedures, the risks and benefits that it could produce, and their right to discontinue the study at will without penalty. The informed consent of each respondent was obtained in written form before the completion of the questionnaire. The confidentiality and anonymity were guaranteed in a number of ways. No personally identifiable information (names or student identification number) was collected by way of questionnaires. All the data were kept safely in digital files with passwords that were accessible to the research team only. Aggregate reporting of results is done in such a manner that it does not identify individual respondents. The departmental research ethics committee approved the study before the study started to collect data.

8. Findings: Characteristics of the Respondents

The 112 respondents used as a sample had a number of demographic traits (Table 1). The group was young, and more than 92⁻ percent of the group was aged 20-29. The female respondents had the majority, which was overwhelming (74.1 %, n = 83) and a great majority of which were unmarried (82.1 %, n = 92) and represented the demographic characteristic of graduate students in the social science field in Tribhuvan University. Regarding the economic background of the family, 35.7 percent (n=40) of the respondents belonged to the family occupation of business, 25.0 percent (n=28) to the field of agriculture, and 23.2 percent (n=26) to the sphere of the private sector. This type of distribution implies that the students represent a wide range of socioeconomic backgrounds, both urban commercial and rural agricultural family settings.

Table 1. Demographic Characteristics of Respondents (n=112)

Characteristic	Category	*n*	%
Subject Stream	Social Work	44	39.30
	Rural Development	38	33.90
	Health Education	30	26.80
Age Range	20-24 years	68	60.70
	25-29 years	35	31.30
	30+ years	9	8.00
Gender	Female	83	74.10
	Male	29	25.90
Marital Status	Unmarried	92	82.10
	Married	20	17.90
Family Occupation	Business	40	35.70
	Agriculture	28	25.00
	Private Sector	26	23.20
	Government Service	12	10.70
	Other	6	5.40

9. Peer Learning Practices and Disciplinary Variations

The results of a comparative analysis of academic practices and perceptions associated with peer learning in the three disciplines are given in Table 2. The statistics show that there are strong disciplinary differences in engagement patterns, technology adoption, and perceived effectiveness.

Table 2. Peer Learning Practices by Academic Discipline

Variable	Health Education (%)	Rural Development (%)	Social Work (%)	Total) (%)
Assignment Completion				
Always	13.30	36.80	68.20	42.90
Often	53.30	44.70	27.30	40.20
Sometimes	33.30	18.40	4.50	16.90
Adopted Role				
Student	16.70	31.60	31.80	27.70
Tutor	20.00	18.40	45.50	29.50
Both	63.30	50.00	22.70	42.90
Digital Platform				
Google Classroom	50.00	44.70	68.20	55.40
WhatsApp/Viber	30.00	36.80	0.00	20.50
Zoom/Teams	20.00	18.40	31.80	24.10
Primary Motivation				
Understanding concepts	43.30	55.30	63.60	55.40
Exam preparation	36.70	31.60	27.30	31.30
Social connection	20.00	13.20	9.10	13.40
Most Effective Method				
Peer learning	36.70	28.90	20.50	27.70
Online classes	26.70	23.70	29.50	26.80
Self-study	36.70	47.40	50.00	45.50
Total (n)	30	38	44	112

In the analysis, there are significant differences in disciplinary practice and perceptions in the academic practices. The most organized activity was shown in the group of students in Social Work, as the majority of students persistently finished the assignments (68.2%) and often assumed the role of tutors (45.5 %). Another characteristic of this group is the preference of formal digital medium, where all the

respondents reported the use of formal channel like WhatsApp/Viber and 68.2% using Google Classroom.

Students in Health Education, on the other hand, were more informal and peer-oriented with the highest percentage of them always finishing assignments (13.3%) and most of them demonstrating that they preferred peer learning as an effective approach (36.7 %). Most (63.3%), were in the both category of student-tutor, indicating a loose reciprocally dependent style of learning compatible with the collaborative character of the health education practice.

Rural Development students often took up a moderate approach and they were more inclined to use informal communication tools (36.8 per cent using WhatsApp/Viber) and indicated the greatest percentage of occasional use (44.7 per cent of those that said they often did). This trend could be associated with the different geographical spread of students in this program and an increased dependence on the available mobile communication devices. On the whole, Google Classroom became the most dominant platform in all streams (55.4ʿ) and the reason to do it was learning (55.4). The information thus points out that the specific pedagogical culture and subject needs influence collaboration learning behaviours, adoption of technology, and perceived efficacy of various learning methods.

10. Instructional Role of Teachers

Table 3 reveals how students viewed the teacher support of peer-learning activities. The results show that the perception has been on the positive side with all items scoring more than 3.5 on the scale.

Table 3. Student Perceptions of Teacher Support for Peer Learning

Item	*M*	*SD*
Building student self-confidence through peer learning	4.26	0.89
Supporting peer learning activities	4.21	0.94
Encouraging peer collaboration	4.15	0.97
Providing helpful suggestions	4.08	1.02
Organizing peer learning sessions	3.94	1.14
Overall effectiveness	3.73	1.07
Helping students overcome challenges	3.61	1.23

The most rated ones were: Building student self-confidence through peer learning (M_=4.26, SD=0.892) and Supporting peer learning activities (M=4.21, SD=0.946) and these are considered to be the specific strengths of faculty facilitation. The results are in line with the Social Learning Theory that underscores the importance of social reinforcement in improving self-efficacy (Bandura, 1977).

Nevertheless, lower scores in the domains of the "Overall effectiveness (M= 3.73, SD=1.074) and the domain of "Helping students overcome challenges (M= 3.61, SD=1.233) or their comparatively large standard deviations indicate that there is more perceived variability or room to be improved in these domains. The augmented variability indicates an imprecise student experience in terms of practical problem solving support and the quality of implementation in general.

11. Peer Learning Academic Performance

Table 4 provides a summative data of responses to questions concerning the effectiveness of peer-learning activities on different aspects of academic performance and skill development based on the responses of students.

Table 4. Perceived Effects of Peer Learning on Academic Performance

Outcome Measure	*M*	*SD*
Quality of peer interactions	4.37	0.82
Ability to compare understanding with peers	4.24	0.89
Preparation for examinations	4.12	0.95
Confidence in class participation	3.98	1.04
Motivation to study	3.85	1.09
Overall grade improvement	3.82	1.12
Problem-solving skills	3.75	1.16
Understanding of core concepts	3.64	1.18

The discussion indicates that the peer learning is perceived best to improve interactive and comparative elements of the learning process. The top rated ones are the Quality of peer interactions (M= 4.37, SD=.824) and the Ability to compare understanding with peers (M= 4.24, SD=.891), which shows high social and relational benefits as highlighted by Vygotsky (1978) on the social construction of knowledge. Nonetheless, the evidence indicates that there is a finer influence on fundamental academic growth.

Less significant scores were obtained with such items as Understanding of core concepts (M=3.64, SD=1.189) and Problem-solving skills (M=3.75, SD=1.167) which are much more varied (SD= over 1.15). This trend suggests that although peer learning is widely appreciated to develop engagement, discussion, and preparation of exams, its perceived usefulness in enhancing conceptual understanding and enhancing quantifiable cognitive achievements are more moderate and uneven among learners.

The informality of social benefits and cognitive results indicates that there is a difference between informal peer learning and the structural components of deep learning that the Collaborative Learning Theory has concluded are necessary (Johnson and Johnson, 1989).

12. Statistical Relations among the Studied Variables

Cross-tabulation tests examined demographics and peer-learning behaviours, as well as their relationships. Table 5 demonstrates some cross-tabulations which show substantive patterns.

Table 5. Cross-Tabulation of Key Variables

Platform Preference by Subject Stream	Health Education	Rural Development	Social Work	Total
Google Classroom	15 (50.0%)	17 (44.7%)	30 (68.2%)	62 (55.4%)
WhatsApp/Viber	9 (30.0%)	14 (36.8%)	0 (0.0%)	23 (20.5%)
Zoom/Teams	6 (20.0%)	7 (18.4%)	14 (31.8%)	27 (24.1%)
Adopted Role by Marital Status	Unmarried	Married	Total	
Student	24 (26.1%)	7 (35.0%)	31 (27.7%)	
Tutor	26 (28.3%)	7 (35.0%)	33 (29.5%)	
Both	42 (45.7%)	6 (30.0%)	48 (42.9%)	
Teacher Support Perception by Gender				
Agreement Level	Female	Male	Total	
Strongly Agree	40 (48.2%)	5 (17.2%)	45 (40.2%)	
Agree	25 (30.1%)	11 (37.9%)	36 (32.1%)	
Neutral	18 (21.7%)	13 (44.8%)	31 (27.7%)	

These cross-tabulations are analyzed to show some different trends. By subject stream, preferences on platforms and roles are also highly contrasted: 68.2% of Social Work students use Google Classroom, and 45.5% use a role of a Tutor, and no Social Work students use WhatsApp/Viber, which is used by 36.8% of Rural Development students. The most frequent role is the Both role (63.3 per cent) of the Health Education students, which implies more reciprocal peer relations.

On the marital status, 92.9% (26 out of 28) of the students who take the role of a Tutor are unmarried, possibly due to more time to do so, or other motivational factors. Single students are also more consistent in their opinion that peer learning helps them to prepare exams (75.0 per cent. in agreement or strongly agree vs. 62.5 per cent. of married students).

With regards to gender, the views on teacher support vary significantly: 88.9% (40 of 45) of those who strongly agree with the statement that teachers provide useful suggestions are female, with male respondents being more inclined to be neutral (44.8 vs. 21.7 of female respondents) indicating that there may be gender differences in how faculty support is experienced, or how teachers express themselves.

13. Chi-Square Test Results

The statistical significance of observed associations was verified by Pearson chi-square tests in Table 6.

Table 6. Chi-Square Test Results for Key Associations

Variables	χ^2	*df*	*p*	Interpretation
Subject Stream × Platform Preference	28.76	4	< .00	Highly significant
Subject Stream × Grade Improvement	31.17	8	< .00	Highly significant
Marital Status × Adopted Role	14.65	2	.00	Significant
Marital Status × Exam Preparation	15.54	4	.00	Significant
Gender × Teacher Support (Organization)	16.91	4	.00	Significant
Gender × Teacher Support (Suggestions)	12.84	4	.01	Significant

The outcomes affirm statistically significant correlations ($p < 0.05$) between the most important demographic variables and the academic practices and perceptions of students. The most significant relationships are also found with subject stream, which has a highly significant impact on the choice of digital platform ($\chi 2 = 28.76$, $p < 0.001$)

and perceptions in terms of grade improvement through peer learning (χ 2 =31.17, p < 0.001). Likewise, there are also significant relationships with marital status, with which a student adopts a peer learning role (χ 2 = 14.65, p = 0.001) and an attitude towards exam preparation (2 = 15.54, p = 0.004). Moreover, gender shows strong correlations with teacher facilitation perceptions especially in terms of how to organize peer learning sessions (χ 2 =16.91, p=0.002) and the provision of useful suggestions (2 =12.84, p=0.012).

In general, these statistical results confirm that academic discipline, marital status, and gender are significant variables that are connected to specific patterns in the use of technologies, roles in collaborative learning, and attitudes towards the value of educational support.

14. Discussions of Findings

The current research provides an advanced insight into peer-learning activities among Master students in the University Campus of Kirtipur, thus significantly supporting and confusing existing theories and empirical data. The strong support of the peer learning to the improvement of social interaction and comparative understanding (e.g., Quality of peer interactions, M = 4.37) fits perfectly well into the Social Constructivist Theory proposed by Vygotsky (1978). The focus on dialogue, mutual understanding is a manifestation of the social construction of knowledge in the Zone of Proximal Development, where peers support each other in learning by discussing the topic at the length of time (Daniels, 2016).

On the same note, the finding that students score high on instructors on the scale of Building student self-confidence (M: 4.26) reminds me of the Social Learning Theory by Bandura (1977), according to which observational learning and social reinforcement in peer groups are the constructive factors of self-efficacy, which is a key motivator of academic engagement and academic performance (Schunk, 2012; Zimmerman and Kitsantas, 2014).

However, the relatively average and mixed scores of core academic achievement of such items as “Understanding of core concepts (M=3.64) bring in a crucial twist. This implies that even though there is a strong activation of the social and motivational processes in peer learning, their direct conversion into profound conceptual mastery is less predictable. This observation resonates with warning signs found in the empirical literature with meta-analyses showing that the effect to which benefits apply is greater

in skills-based or interactive learning contexts and that effect size is significantly contingent upon structure and quality (Kyndt et al., 2013; Zhang et al., 2022).

The lack of intentionally designed aspects of peer learning (e.g., positive interdependence, individual accountability, structured roles) that the Collaborative Learning Theory by Johnson and Johnson (1989) defines as the main factors of maximising cognitive gains may be the characteristic of the informal and unsystematic forms of peer learning reported at the campus (e.g. high prevalence of general platforms like WhatsApp and spontaneous study groups) (Gillies, 2016; Slavin, 2014). This is a salient gap between the consistent social implementation and the inconsistent cognitive influence of existing practices of peer-learning.

The significant differences in disciplinary variations make solid arguments to prove the contextualism of peer learning expressed in the literature. The fact that Social Work students choose structured roles (Tutor at 45.5ʻ) and formal platforms (Google Classroom at 68.2ʻ) is indicative of a pedagogical culture that is more organized and aligned with more organized forms of collaboration. This can be attributed to the tendency of the profession to focus on formal supervision, case-management policies as well as professional development models that are also replicated in the academic field.

In their turn, the strong preference of Health Education students to the Both role (63.3) and the use of peer learning as the major instructional approach (36.7) suggest a more flowing, mutually-dependent style. This corresponds to the peer health promotion, community-based learning, and collaborative practice models of health education. Such differences probably reflect the varying socialization of professions and task requirements of each profession, hence corroborating the empirical data that subject matter and local culture have a significant influence on collaborative learning behaviours (Laal & Ghodsi, 2012). The unique use of informal platforms among Rural Development students (36.8 WhatsApp/Viber) could be due to practical adjustments to the field-based learning needs, geographic spread of practicum locations, and the need of flexible and accessible communication tools that can be used in the rural setting to facilitate learning.

The high rate of demographic correlations (e.g. marital status with adopted roles, gender with perception of teacher support) emphasizes that peer learning is not a uniform phenomenon. The fact that unmarried students occupy the position of the Tutor in disproportionately larger numbers (92.99021863) and support peer learning as the most believe that exams should be learned with more pronouncedly may be due to having

more time, having different priorities in life or other motivational factors that are particular to career-development stage.

The differences between the genders in the perception of teacher support, which is manifested in the fact that female students reported more positive experiences (88.9 500 per cent strongly positive responses), should be examined further. Such an effect may be indicative of the real variation in the communication style of the faculty, gender-specific communication bias, and more general sociocultural orientation affecting student-teacher interactions in Nepali higher-education settings. These population trends coincide with the focus of Bandura (1997) on the moderating effects of social contexts and models on learning behaviours and self-perception, and they complement the empirical warnings that group cohesion and student motivation are some of the key moderating factors of peer-learning success (Carini et al., 2006).

This paper confirms the strong social and affective power of peer learning as the early theories projected. Nonetheless, it also demonstrates a lack of connection between the strong social implementation and unstable cognitive influence, thus underlining the gap between informal practice and the designs that have been found to be the most effective in the global body of empirical research (Rees et al. 2016; Topping, 2015). The results propose the abandonment of informal peer interaction in favour of creation of disciplinarily sensitive and structured interventions of peer-learning, which are informed by Collaborative Learning Theory, but which formalise the positive social interaction that already exists, but which includes aspects of peer tutor training, clear task-structure, and formal accountability. These can be expected to reliably increase deep conceptual learning, and academic performance in all groups of students.

15. Conclusion

The current research provides a holistic description of peer-learning in Master students of University Campus, Kirtipur. Peer learning is indicated to be a widespread and positively viewed pedagogical strategy, especially due to its ability to improve the quality of social interaction, which strengthens student self-confidence and comparative knowledge. Learning among peers is mostly done with the objective of enhancing the conceptual understanding and preparing to exams, which is driven by the interaction between individual (self-confidence, inherent motivation) and social-environmental factors (teacher support, peer relations). There are observed smaller logistical issues; however, peer learning significantly increases interactivity and pleasure of learning, thus complementing formal education. However, it is perceived effect on deepening of core conceptual knowledge ($M = 3.64$) and on the development of problem-solving

skills (M = 3.75) is less enduring and overall, which suggests a reputation of unequal conversion of social engagement into deep cognitive results.

Importantly, not all peer engagement is effective and to a large extent has been shaped considerably by disciplinary culture and demographic factors. The three subject streams, Social Work, Rural Development and Health Education show significantly different trends in terms of preferences to the technological platform, structure of interaction, and assumed learning roles. In addition, gender and marital status, among other variables, have statistically significant impact in the perception of teacher support among students and their roles that they play during peer-learning situations.

16. Limitations and Implications

This study is limited in a number of ways. To start with, it is based on the self-reported perceptions and cross-sectional data thus is not causal in ruling out the influence of peer learning on academic performance. In further studies using longitudinal designs, including objective measures of performance (GPA, exam scores) should be used to determine cause-and-effect relationships. Second, since it focuses on three disciplines on one campus, this limits the ability to generalise. External validity would be enhanced with comparative studies across a number of institutions and a wider range of disciplines. Third, the authors did not observe peer-learning interactions directly, as well as they could not evaluate the quality of collaborative processes. The future studies should combine qualitative research (observation, interviews) and process-based measures to explain the processes by which the peer learning influences the outcomes. Fourth, demographic links were established, but a more detailed research is needed to see the mechanisms behind the differences in gender and marital status, especially with regard to relationships between teachers and students and the time available to engage in collaborative learning. Lastly, intervention research based on the application of the structured peer-learning programmes underpinned by the Collaborative Learning Theory would provide insights about the effectiveness in the Nepalese setting and shape the implementation behaviour that can be applied in future. Nevertheless, the research provides strong empirical data on the topic of peer-learning practice, identifies substantial disciplinary and demographic differences, and contains practical suggestions that can be used to establish an atmosphere of collaborative learning in Nepalese higher education.

Theoretically, the results contribute to theoretical understanding of strong empirical evidence of the social and motivational processes that the Social Constructivist Theory (Vygotsky, 1978) and Social Learning Theory (Bandura, 1977) propose in addition to

illustrating shortcomings of both theories in informal learning settings unstructured. The research builds on the Collaborative Learning Theory (Johnson & Johnson, 1989) by showing that the design elements of structures are necessary in order to translate the social engagement into deep cognitive results, particularly in heterogeneous disciplinary contexts. The observed large disciplinary differences add a subtlety to available theories, by showing that peer learning does not truly exist as a universal concept but instead responds to and reflects the unique epistemological cultures, patterns of professional socialisation, and traditions of pedagogy in various academic fields.

Practically,students ought to take an active role in organized peer-learning processes, including study groups and collective projects, to expand the conceptual knowledge and improve academic performance. Development of individual skills in time management, communication and self-confidence will ensure maximum gains of these partnerships. It is possible to inform students about the specific cultures of peer-learning present in various disciplines, which will help them embrace more useful, discipline-specific approaches. Thus Departments of Social Work, Rural Development and Health Education are encouraged to officially lay formalized peer-learning structures into curriculum and assessment planning. This integration would include:

- Creating peer mentor and tutor training programmes;
- Developing discipline-based collaborative learning modules that are consistent with professional competencies;
- Incorporating the evaluation techniques that will compensate individual mastery as well as the team effort;
- Helping, and not merely overseeing, group work;
- Offering specific instructions regarding the best strategies on interacting with peers.

These should be planned in sensitive ways of the individual pedagogical trends and technological inclinations that have been found in each programme. In the case of University Administration: University Campus administration should institutionalise support of peer learning by:

- The provision of special collaborative capabilities, such as physical (training rooms, group work areas) and digital (licensed collaborative tools, learning management systems);

- Encouraging a culture of collaboration throughout a university by conducting workshops, seminars and sharing of resources; Formulating policies that will deal with the current logistical problems;
- Investment in peer-learning coordinator posts or faculty education in learning in groups;
- Providing fair access to learning materials and technology by different student groups.

Through such systemic changes, the heterogeneous student body (in disciplines, gender, and marital status) will be able to have the advantage of a more organized and facilitated collaborative learning environment.

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