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Learning with Peers: Exploring the Experiences of University Students

Abstract

This article documents the challenges experienced in exploring the perceptions of quality education held by parents from different backgrounds. My respondents were parents (mostly mothers) of children studying in very different kinds of schools, namely a state government school, a central government school, a low fee charging private school and a high fee charging private school. The process of conducting interviews made me aware of some important considerations that make the voices of the parents from different backgrounds more accessible. I also realised the importance of language, transcription and translation in research methodologies and how these decisions taken in context of this specific research helped in bringing out authentic voices.
Keywords: *Learning with Peers, Collaborative Learning, Academic, Social Environment*

Introduction

In our everyday life, formally or informally, we are used to learning from each other. Many great inventions and discoveries are the result of collective human consciousness, efforts and thought processes. It is a general acceptance that two minds are better than one for the proliferation of ideas. This is equally applicable for teaching-learning in classroom situations where students learn from each other by engaging themselves in varied academic and social activities. Colleges and universities offer students new opportunities to interact and learn from others with different backgrounds and life experiences.

Recognizing the significant role of such interactions in teaching-learning, Albert Bandura proposed his theory of social learning based on the idea that we learn effectively from our interactions with others in a social context. Even before that another noted psychologist Vygotsky examined how our social environments influence the learning process and stated that we learn through our interactions and communications with others. Students as social beings learn better by explaining and sharing their ideas with fellow beings. Vygotskys and Bandura's theories still hold their relevance since schools themselves are miniature society, where students formally or informally learn from their peers. Cooperation among different individuals/groups leads to greater learning gains than individual or competitive conditions.

Learning with peers encompasses a broad range of activities ranging from where students in the same class assist each other, to other models wherein senior students teach their junior counterparts. Collaborative classroom debates, and assignments help students to learn to locate information, think critically, formulate persuasive arguments and counter-arguments, and express themselves in oral and written forms. This not only promotes active learning, but also acts as a learning multiplier.

Benefits of peer learning

Peer support is considered to be a promising human resource to enhance the teaching-learning environment. Learning from peers stimulates a deeper understanding of the materials and a positive attitude towards the subject matter. Students, who are involved in group work during class, have been shown to develop a significant understanding of subject matter and increase problem-solving skills (Cooper, 1990 as cited in Davis, 2009). Contemporary researches show that it also provides a diversity of learning experiences. Students get more time for personalized learning and feel more comfortable while interacting with a peer.

One of the major advantages of peer learning is that it is effective in allowing minority groups to integrate better, and the shared experience increases the likelihood of continued positive interaction (Rohrbeck, et al. 2003). Hence, collaborating with peers in solving problems or mastering difficult materials deepens understanding. It also prepares students to deal with many problems which they encounter during and after formal college years. Broadly peer is someone of the same social standing with whom one interacts otherwise also. Here, we have used the word 'Peer learning' regarding such learning experiences, where students learn with and from each other, without any implied authority to any individual. The term Diverse Others used in the paper refers to socially differentiated individuals through class, religion, region, tribe, gender, and language.

Researchers are continuously working towards developing tools and techniques to assess the quality of academic as well as a social experience that students have gone through at their institutions. The present study examines the frequency and distribution of one such dimension of student engagement referred to 'learning with peers'. The paper focuses mainly on peer learning in higher education but many of the ideas are applicable more widely to other stages of education as well.

Objectives of the Study

This paper primarily attempts to analyse the frequency of learning with peers in higher education and the concept is measured by indicators such as collaborative learning and discussion with diverse others. The following objectives are designed to study the theme, "learning with peers".

To analyze the frequency of students' indulgence in collaborative learning during an academic session.

To analyze the frequency of students' discussions with diverse others during an academic session.

To test the significance of difference between the students' experience of learning with peers.

Research Settings

Data was collected from C.S.J.M.University, Kanpur. Established in 1966, this University is one of the largest institutions in India in terms of the number of students enrolled and affiliated institutions. Assessing the peer learning experiences will reflect upon the academic culture persisting in the institution and how students are rating their experience on various academic parameters.

Sample

The sample for the study was selected from the population of students enrolled in on-campus courses in various Departments of C.S.J.M.University, Kanpur, during the academic year 2014-15. From each department, classes were selected by simple random sampling while students were selected who were readily available. The final sample of the study consists of 250 students. Although data was not analyzed as per the gender variable, still due representation was given to male and female subjects.

Instrument

The NSSE survey was, developed by the Center for Evaluation and Education Policy, Indiana University was launched in 2000 by

Indiana University and updated thereafter in 2013. It assesses the extent to which students engage in educational practices associated with high levels of learning and development. Some items of tools are modified to make it suitable for Indian students. Learning with peers is one of the themes of student engagement and measured by indicators such as collaborative learning and discussion with diverse others. The that measure learning with peers used a rating scale which ranged from never to very often. The higher frequency in a given segment indicating the level of academic challenge experienced by majority of the students.

Validity & Reliability

In general, the psychometric properties of NSSE are quite impressive, and overall instrument along with items have been tweaked based on data collected over the years from focus groups, cognitive testing, and various psychometric analyses. Much of this information about the instrument is available on the link: http://nsse.iub.edu/pdf/conceptual_framework_2003.pdf.

The value of the reliability coefficient for the whole test is 0.85. This high-reliability coefficient of correlation shows that the present tool is a reliable device to assess Student Engagement and its theme "Learning with Peers".

Procedure

The investigator personally visited all the University Departments with prior permission from the Head of Department. Students in their respective departments may tend to get influenced by the presence of their faculty and hence possibilities of biased responses are natural. Such effects are neutralized by having personal interviews with respondents and cross-examining their expressed views with earlier responses. They were assured that their answers would be kept confidential and would be used for research purposes only. It was found that the rating scale was an instrument important to collect the numerical facts about collaborative learning and the interview led to further exploration of the possible reasons for the underlying situation.

Once all data were collected they were tabulated for analysis and interpretation. Frequency distribution for each response category was calculated with the help of MS office software. The number of students was converted into percentages for easy comparisons. Further, chi-square test was being used to test the distribution of observed data against normal probability curve parameters. Analysis and interpretation of the data are presented here with.

Data Interpretation & Analysis

Objective 1: To analyze the frequency of students' indulgence in collaborative learning during an academic session.

Less than one-fifth of the population asked questions or contributed to course discussion very frequently. One-fourth of the population contributed to it often. More than two-fifth of them does it sometimes and one-tenth of them never asked any questions or contributed to course discussion. Overall only two-fifth of the population asked a question or contributed to course discussion often or very often.

Slightly more than one-tenth of the population very often prepared assignment before turning it in, a little more than one-fifth do it often, two-fifth of the population prepared sometimes, while little more than one-fourth of the population never prepared any draft or assignment before turning it in. Overall about two-thirds of students rarely prepared the draft of paper or assignment before turning them in.

One-tenth of the population never came to class without completing readings; more than one-fourth did it sometimes. Two-fifth the populations did it often while one-fifth of the population very often came to class without completing readings.

One-tenth of the population very often attended play or other arts performance while

more than one-tenth did it often. Less than one-fifth attended sometimes while three-fourth of the population never attended any arts performance. Only one-fourth of the population attended some art exhibit, play or other art performances.

More than one-tenth of the population very often asked other students to help while about one-third asked for it often. Less than two-fifth sometimes asked other students to help while less than one-fifth never asked for help from other students. Hence, more than half of the population asked other student's help in understanding course material sometimes or the other.

More than one-fourth of the population very often explained course material to other students while one-fifth did it often. About one-third do it sometimes and one-fifth never explained course material to others. Overall less than half of the population explained course material to other students.

More than one-fourth of the population very often prepared for the exam by discussing or working through course material with other students, while a little more than one-fourth often did it. A little less than one-third of the population did it sometimes and more than one-tenth of the population never prepared for exams by discussing or working through course material with other students. Overall more than half of the population prepared for exams by working through course materials with others.

A little less than one-fifth of the students very often worked with other students on course projects while about one-third of them did it often. Little more than one-fourth sometimes worked with other students on course projects or assignments and slightly more than one-fifth never worked with other students on course projects or assignments. Overall little more than half of the population works with other students on course projects or assignments. Still, one-fifth of them had not done any project or assignment with other students.

More than one-tenth of students very often gave a course presentation while about one-fifth give presentations often, about two-fifth of them gave it sometimes while one-fourth of students never gave any course presentation. Overall only one-third of the population gave a course presentation frequently and the rest of them rarely presented themselves in front of the class. Item wise frequency distribution of the indicator for collaborative learning is given in table 1.

Table 1

Item Wise Frequency Distribution for Indicator Collaborative Learning

In your experience at your institution during the current school year, about how often you have done each of the following					
Sl.No	Item	Response Categories			
		Very Often	Often	Sometimes	Never
1.a	Asked questions or contributed to course discussion in other ways.	43	62	110	35
		17%	25%	44%	14%
1.b	Prepared two or more drafts of a paper or assignment before turning it in.	30	55	100	65
		12%	22%	40%	26%
1.c	Come to class without completing readings or assignments. (Reverse-coded)	50	105	70	25
		20%	42%	28%	10%

1.d	Attended an art exhibit, play or other arts performance (dance, music, etc.)	25	35	40	150
		10%	14%	16%	60%
1.e	Asked another student to help you understand course materials	35	80	95	40
		14%	32%	38%	16%
1.f	Explained course material to one or more students	70	53	77	50
		28%	21%	31%	20%
1.g	Prepared for exams by discussing or working through course material with other students	70	68	77	35
		28%	27%	31%	14%
1.h	Worked with other students on course projects or assignments	45	86	64	55
		18%	34%	26%	22%
1.i	Gave a course presentation	34	51	94	71
		14%	20%	38%	28%

Objective 2: To analyze the frequency of students' discussion with diverse others during an academic session.

One-fourth of the population had reported that they very often discussions with people of a race or ethnicity other than their own. A little more than one-tenth often had such discussions. Little less than two-fifth had discussion sometimes while little more than one-fourth never discussed with people of a race or ethnicity other than their own. Overall, two-thirds of students had very little interaction with people from other races or ethnicity.

Little more than one-fourth of the population very often discussed things with people from an economic background other than their own, while less than one-tenth had such discussions often. Little less than two-fifth of them only had such discussion sometimes and a little more than one-fourth never had such discussion. Overall two-thirds of the population have very few discussions with people from an economic background other than their own.

One-fifth of the population very often discussed with people with religious beliefs other than their own, while little less than one-fifth did it often. Little less than one-third had it sometimes while less than one-third never discussed with people with religious beliefs other than their own.

Less than one-fifth of the population very often had discussions with people with political views other than their own and the same number of the population had it often. More than one-third of the population sometimes had discussion while less than one-third never had any such discussion. Overall two-thirds of the population had few discussion with people with political views other than their own. Item wise frequency distribution of collaborative learning is given in Table 2.

This section contains average frequency distribution of engagement indicator Collaborative Learning (Table 3) and discussions with diverse others (Table 4). The distribution is obtained by adding the frequencies of component items in each response category and dividing it by the number of items.

Table 2
Item Wise Frequency Distribution for Indicator Discussion with Diverse Others

2. During the current school year, about how often have you had discussions with people from the following groups?					
Sl.No	Item	Response Categories			
		Very Often	Often	Sometimes	Never
2.a	People of a race or ethnicity other than your own	63	27	95	65
		25%	11%	38%	26%
2.b	People from an economic background other than your own	65	20	93	72
		26%	8%	38%	28%
2.c	People with religious beliefs other than your own	52	45	80	73
		21%	18%	32%	29%
2.d	People with political views other than your own	45	40	90	75
		18%	16%	36%	30%

Table 3
Average Frequency Distribution for Indicator Collaborative Learning

Research Question : How do students engage in collaborative learning during the academic year?	Response Category	Frequency	Percentage
	Very often	45	18
	Often	66	26
	Sometimes	80	32
	Never	59	24
Total		250	100

Less than one-fifth of the population engages very often in collaborative learning, more than one-fourth do it often. While about one-third of them indulge in such collaborations sometimes and about one-fourth of them rarely indulge in collaborative learning during the academic year. Overall less than half of the population learns collaboratively with peers. The overall distribution is almost equal in often and never categories.

Table 4
Average Frequency Distribution for Engagement Indicator Discussion with Diverse Others

Research Question: How frequently do students have discussions with diverse others?	Response Category	Frequency	Percentage
	Very often	56	23
	Often	33	13
	Sometimes	90	36
	Never	71	28
	Total	250	100

Less than one-fourth of students very often had discussions with diverse others, while more than one-tenth of them often have such discussions. More than one-third of them sometimes interact with diverse others

and more than one-fourth of them rarely interact with diverse others. Overall more than one-third of the population discussed with diverse others often or very often while about two-thirds of them sometimes or never have such interactions.

Objective 3: To test the significance of the difference between the student's experience of learning with peers.

To test the distribution of obtained frequency against the normal distribution Chi-Square test is used. Null Hypothesis is framed to test the significant difference against expected frequency. Data can be assessed from table 5 Hypothesis 02: There is no significant difference between observed frequencies of learning with peers.

Table 5
Divergence of Learning with Peers

	Very Often	Often	Sometimes	Never	
Observed (fo)	51	50	85	64	250
Expected (fe)	17	108	108	17	250
(fo-fe)	34	-58	-23	47	
$(fo-fe)^2$	1156	3364	529	2209	
$(fo-fe)^2$ (fe)	68	31.14	4.89	129.94	
	x^2=233.97	df=3	P is less than.01		

From table 5, the value of x^2 is 233.97 which is beyond the limit of Standard table. The discrepancy between the observed and expected value is so great that the hypothesis of normal distribution in this group must be rejected. Hence, the frequency of learning with peers is not distributed normally.

Discussion

More than half of the population has a lower contribution to course discussions. Students avoid asking questions to teachers because many times teachers responded to their questions by asking them a question. Therefore, they don't get into a situation that may want to embarrass them by asking questions in front of the whole class. A large number of students are not participating in classroom discussions as they find classroom teaching less interesting and monotonous.

Many students with lower grades do not have any motivation to work or prepare for class, all they want is to just complete their graduate degree. If their efforts are not being appreciated by teachers, they stop doing any extra efforts to prepare for classes or preparing any drafts or assignments.

Two-fifth of the students come to class without completing readings or assignments. They are not putting any effort in preparing for class. They have other priorities hence they have figured out that it is not necessary to read everything that is being assigned them, to do well in class.

Participation in performing art activities is low as students consider participating in these activities a wastage of time. Also because students do not receive credit in terms of extra marks/grades for performances or exhibitions in which they participate. Therefore such events are limited to the departments which have their specializations as arts and performance.

Working in groups is an important mode of learning, but there is a lack of activities in the curriculum that promote peer learning. About half of the population rarely or sometimes asks for help from other students, as most of them are more relying on teachers for learning. The responsibility lies with the teachers to promote collaborative learning among class through group activities.

For some students discussing or working through the course material at exam time is

a strategy for dealing with exam stress and anxiety. Collaborative learning provides a boost to their self-confidence at exam time. However, about two-fifths of the population consider discussing course material at exam time as a wastage of their important hours as they avoid discussing or working through course material with others.

Teamwork is important for students to successfully integrate into professional life. About half of the population rarely worked with other students on course projects or assignments. This clearly shows that there are very few activities to promote teamwork in students.

About two-thirds of the population rarely gave a course presentation as their course work does not include it as a compulsory activity. It is also due to low self-confidence that students tend to keep themselves away from presentations. Some people have an innate ability to speak in front of others while some are introvert. Many times faculty members themselves don't possess these skills and are thus unable to develop these skills in their students.

There is a communication gap between students of various races and ethnicity. Many students rarely discussed with people of different races or ethnicity other than their own. Results indicate that students prefer friendship from students of similar race and ethnicity.

Student groups tend to be more homogeneous in terms of economic diversity. Three fourth of the population rarely discussed with people from diverse economic backgrounds. Though bullying and harassment based on financial status are not prevalent, students need to be more empathetic towards accommodating diversity in their own lives.

Two-thirds of the population rarely interact with students with religious beliefs other than their own. Again the reason is the presence of a lower number of religious minorities in the population and existence of homogeneous student groups. In such a scenario religious minorities tend to isolate themselves from mainstream academic and social experiences. Given the diversity of our country, some students may become a target of hostility and blame because they may be viewed as the enemy of the student's particular group.

Too much political interference in academic institutions has led to creating enmity between student groups in case of a clash of interests. About three fourth of the population rarely interact with students who have political views other than their own. Often student groups who got backed by political parties tend to enforce their propaganda on others and this leads to conflict between them.

About three-fifths of the students record lower interaction with diverse others. More than one-fourth of the students had very low interaction with people of different races or ethnicity, economic backgrounds, religion or political group. It is found that trait "learning with peers" is not distributed normally and there is a significant difference between student's experiences of learning with the peer. About one-fourth of the population never had any peer learning experience during the academic year.

Conclusion

- The present study has attempted to systematically and analytically investigate peer learning in higher education. Major findings from the study can be summarized as follows:
- There is a significant difference between the student's experiences of learning with peers. Most of the student groups are more homogeneous and they lack diversity in peer social relations.
- One-fourth of the population has never engaged in learning with peers, this population is disengaged. Sense of alienation is visible among many students and they tend to lower their participation in academic and social activities.
- About one-third of the population has experience of learning with peers only

sometimes, these students are on the verge of disengagement. Half of the population is neither participating in classroom discussions nor putting an effort in preparing for class.

- Many students come to class without completing readings or assignments and their participation in performing art activities is minimal. Many of them ask for help from other students only when they prepare for examinations by discussing or working through course material with other students.
- Students are less sensitized towards acceptance of diverse religious, political perspectives and accommodating diversity.

Educational Implications and Suggestions

- The findings of the current study are significant as acting on them they may lead to positive changes in educational institutions. Universities need to cultivate supportive environments to promote better collaboration among students. These strategies are most effective when they are applied in environments where there is recognition, nurturing, and development of the emotional, social, and physical needs of students. Some useful suggestions for teachers, students, and administrators are as follows:
- Teachers need to effectively allocate time for students to engage in hands-on experiences, discuss and process content and make meaningful connections.
- Most importantly teachers must model tolerance and compassion in their words and behavior. Teachers may give historical or social examples where people working together were able to reach and construct to complex solutions.
- Classroom instructions must allow students to participate and understand that learning is a process and mistakes are a natural part of learning.
- Teachers should help students develop skills they need to succeed in doing group activities. These can be though using team-building exercises or introducing self-reflection techniques.
- Students need to develop a tolerance for diverse political views. They must be aware of factual information about other cultures and groups with different backgrounds.
- Administrators/teachers must motivate physically challenged students, sports personnel, rural students, and students from weaker sections of society.
- Students need to recognize differences as diversity rather than abnormal behaviour or inappropriate response to the situation.

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