Interpersonal Interfaces as the Creative Learning Environment for Pre-University Students to Fit Their Interests in Higher Learning: Case Studies across the Perspectives of Popular Students

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Abstract: In this study we have examined the interpersonal interface coordination results for establishing the interpersonal interactions, with a selected population of pre-university students. We explored the interpersonal interface control systems formed by associated time with each other that acted as a prime concern. The characteristic features of the association identified in the studies conducted in groups as case studies in the selected population. The association inquiries versus watch, time of association, frequency and type of opportunities provided in interface, reciprocal interaction, are revealed in studies of interpersonal interface that played as main approach. Principal analysis of the approaches aimed to help in decision support systems for higher learning opportunities. The findings uphold the urgency of opportunities in interpersonal interface for student's decisions. The learning output hopes to help out the teachers, parents and other educators in understanding the learning environment of the crucial time of the studies.

Keywords: Coordination, Interpersonal Interface, Learning Environment, Reciprocal Interaction.

I. Introduction

Every school has a desire to see its pupils prosper not just only in completing the course they are in but also choose the next higher level of education. Pre-university course or the 12th standard has a major setting in every student's journey of schooling that modifies his/her scale of learning environment. In order to achieve this important goal, every 12th standard student, and both his teachers and parents invest the best cognitive capital to win the contested mission. Therefore, every school tries best to accommodate students to the learning environment by providing the most suited interactive schooling. The necessity to harmonise with others rises generally in everybody's life, it would be more appropriate if the same was made common in the learning environment. Examples include discussions, sharing information, conversing, group discussions and playing team sports. Interpersonal harmonisation has been studied extensively (Schmidt et al., 1990; Chartrand and Bargh, 1999; Reed et al., 2006). Research on interpersonal interfaces may reveal very common principles of motor behavior, and could help in understanding phenomena such as language mutuality, communication, and socialization (Marsh et al., 2009).

Pre-university education is one of the most competitive and demands more struggle by the students to fit them to further higher learning. Their investment in class hours are also considerably larger, many a time beyond the regular hours of their stipulated days. At least every interested student spends a significant amount of time in his/her study period while in school (about 8 to 10 hours, including extra learning period). Hence during this period, the students spend most of the hours of the day in the college environment. Therefore, the environment that comprises the peer group, teaching fraternity and the affectionate support of their parents are the lively elements for shaping a pupil's academic development. In this respect several studies have supported the interpersonal coordination during the class hours as the positive in giving strength to the overall learning and development (Fowler et al., 2008; Latash, 2008). It is also said that the coordination is achieved by linking the degrees of freedom of the motor system into collaborations of the learning (Bernstein, 1967; Turvey et al., 1978).

It is in this perspective a selected group of Pre-University students who have chosen science stream were explored to understand their spectrum of learning environment, aspirations and fitness for higher learning. The modest hypothesis of what would decide their choice of curious cognitive synthesis during their stay was monitored. The overall idea of the objective was to find the interpersonal interface and its possible benefit to fit them in higher learning so are the following specific objectives.

1. Examine the overall attention of the students in mass assignment.
2. Determine the possible sized group that influence the learning.
3. Assess the relaxed out learning to relieve their stress.
4. Providing the final celebration exercise to motivate and evaluate.

II.　　　Research Methodology

The present study adopted a case study approach with selected and continuously followed up with the student group of Pre-university students. The several set objectives were the directive principles in designing the study and hence several cases were performed with different numbers of students. As the study continuously monitored for two years of their entire course of study for the same set of students, who particularly participated till the end. And there was only a voluntary participation and no mandated attendance was demanded such that the real impact of the interpersonal interface could be evaluated. In this connection the following was the study design.

2.1 The study design

There were four case studies with sequential exploration and an observation approach was adopted. Each case was supported and monitored to the next case which was in fact free of choice in participation. Therefore, in the first case study was in mass of 150 students, the next open choice model of participation started with 58 pupils and went a year long. Finally, there were 28 students who completed the entire cycle. The first 150 students' case study an open questioner was adopted, further cases were monthly two general meetings of group discussions, thirdly a day-out experimentation like sun set till the next sun set observation with scientific team. Finally, a day was celebrated for individual scientific interest, which was entirely of student's freedom.

2.2 The setting

The present study was conducted for a group of Pre-university students who joined the course during 2021 at a college located in the suburb of Bengaluru, metropolitan area. We have conducted this study supported by the management, staff of Soundarya PU college of Soundarya Education Trust, located at Hesaraghatta main road Bengaluru. Karnataka.

2.3 Theoretical Framework

Interpersonal interaction between students, students and teachers have found interesting results. It has led to increased collaboration and resulted in effective learning (Fredriksen, et. al. 2018; Karampa & Paraskeva, 2018). Many times, the overall siting of themselves for the students to fit them to find ways of further and higher learning have been found beneficial in understanding the learning framework. There have been many studies on several subjects such as mathematics, language that have considered using the models that spend time on interfaces or coordination among the students and teachers. With this narrative and strategic methodology here, we have considered the selective interfaces among the students. Hence a group provision was made in order to attempt the said goals.

In consideration of such understanding we explored the possibilities of increasing interactions, among the students and between the teachers and students. As Pre-university, science students have much aimed to get into some modern, advanced highly rewarding degree programmes. Therefore, their certainty to get prepared to choose the stream has been valid. Therefore, their immediate focused attention was also considered and evaluated as a case one study. Further they were grouped based on their peer choices and taken in several

months of group discourses beyond the said syllabi, such that there was no demand on them to check with suitable exams. This would bring them joy of learning and help further to explore their suitable choices.

III.   Results

3.1 Case study I

The selected 150 students, without any choice given to them to participate or not, were explained an hour and half for basic scientific principles. Especially on chemistry and their applications were explained after the classroom session, an open quiz paper was shared with all and given a day to return the answered papers. No discussion was allowed immediately. They were asked to read them carefully and put enough thought and leisurely answer them. The results were evaluated for their immediate attempt and insights of basic care towards the scientific principles and their perception. They were allowed to refer books, internet, discussions amongst them as well with their parents. However, they were restricted to discuss with their teachers, for a simple reason that no additional interaction from the usual teachers was avoided. The correct answers are presented in the following Table 1.

Table 1. Correct Response of all students for the open quiz

Questions	No of students responded	Percentage
All 50	Nil	0%
40-50	28	18.66%
30-40	89	59.33%
25-30	33	22%
< 25	Nil	0%

It was expected, since it was an open type and students were allowed to refer and answer, hoping for the majority to respond correctly cent-percent. But the results varied from the common understanding of their perception, and non-answered all 50 questions correctly. Only around 18.66 % students scored high (80-90%). Nearly 60 % of the students had answered 80% of the questions. This case study had no much interactions with students, just an immediate action type exposed to them. With this the further programme of grouping them and taking them to the second level of the exploration was channelized.

3.2 Case study II

Only 58 students showed the compulsory participation of leisure learning. We had met them outside the regular class hours for general discourse on some scientific inspirational topics. An average of two classes in a month for a yearlong session were conducted. These sessions were more intimate and participatory. Every pupil had an opportunity to talk and react. They were even asked to mail and every mail was answered. Every student enjoyed getting the reply mail by us and was excited, and surely inspired. Out of nearly 25 sessions 5 sessions had film shows that provided a scientific imaging on their memories. Almost all alternative sessions had different presenters covering various subjects. There were ecological discussions, agricultural issues, mathematical discourses, physics and molecular biology too. The amount of insights spared to inspire the students mind were freely provided, without any amount of compulsions. The evaluation of these participations was made as case study III and case study IV.

Table 2. Interpersonal response rates amongst students during the participation

Classroom perception	% Yes	% No
Feel of the learning	72 %	28%
Happy to learn	88%	12%
Not so happy	14%	86%
Plenty in particular	52%	48%
Joyful experience	92%	08%

As students were grouped among their peers their preferences were defined as the measure of the "like" or "dislike" of an individual or smaller group. Among them high peer preference has been defined by being liked by many peers and disliked by few; low peer preference is being liked by few peers and disliked by many. Every time their association of learning differs from other peer constructs such as perceived attention, which focuses on social dominance and prestige rather than affective likes/dislikes (Parkhurst and Hopmeyer, 1998). Their peer choices in group discussions preference is an important aspect of relationships among students. Recent studies in a number of disciplines have focused on group preferences and rejections as a specific social phenomenon involving their groups (Horn, 2003). Several educators consider situations in which students peers in the classroom reject to associate etc could be one aspect of normal social relationship formation (Smith and Brain, 2000). Hence in more generalized situations the present group learning and free learning helped to students in more open perception than a restricted less interfaced situation.

3.3 Case study III.

This was planned for all 58 students to participate on a day out with scientists and make sincere observations round the clock. They were taken out of town to a calm and rural on-farm field stay. Students reached the farm before the sun set and stayed till the next day. Their watch on both day turning dusk and night turning dawn was experienced for environmental observation. It was guided by a specialist in ornithology and environment science. Students were given sufficient freedom and support to interpersonal interfaces either amongst them or with the scientists guiding them. They were allowed freely to roam around to explore themselves about the surrounding greenery. Typical green walk was conducted with critical explanations on special trees and associated stories. This was done twice, in the evening as well in early morning. Students made notes while on move as well as any explorations during the stay. Finally, on their way back home they were asked to make a note of their stay and submit for evaluation. They were allowed to mail their notes. And each student was replied with compliments. The observations on the notes set the following intimate issues.

As many as 50% of the students responded with their notes within the stipulated requested time. However, all other students are also sent withing the additional time. Their typical views/learnings are classified and present as follows.

Table 3. Interpersonal response rates amongst students during the day-out open hour

Classroom perception	% Yes	% No
Feel of the learning	92 %	08%
Happy to learn	98%	02%
Not so happy	04%	96%
Plenty in particular	82%	18%
Joyful experience	100%	08%

It is implied that the students' interpersonal interface during the day out exposure, which had lot to them in bringing them together as well with teachers.

3.4 Case study IV

It was indeed with the kind of ultimate freedom and experiencing performance themselves for students. However, students were guided not to repeat any performance such that they were in discussion amongst a month advance. It was also a plenary for the study period. Performances included individual presentations, group discussions, quiz for participants, demonstrations and dialoguing events. As many as 23 students were involved mainly in performances and the rest of 35 were positioned themselves in supportive roles. In every performance, science, technology, mathematics was only the subject of presentation. Hence the day was entirely a celebration of science. It was just observed by the mentors that no guidance was given to the students; therefore, it was the student's choice in presenting their own ideas in the field of science. Typically, all major scientific stage events were the best of their choices. Later on, monitoring the observed results were as follows.

Table 3. Interpersonal response rates amongst students during celebrating science day

Classroom perception	% Yes	% No
Feel of the learning	98 %	02%
Happy to learn	99%	01%
Not so happy	00%	100%
Plenty in particular	92%	08%
Joyful experience	100%	08%

IV. Discussion

The pre-university students in this sample study perceived their interactions with the teacher and amongst them during class as well out of class with more frequently and positively. These results are supportive and in line with those obtained by Fredriksen *et. al.* (2018), Karampa and Paraskeva (2018). Perhaps the constant interpersonal interaction helped them resulted to get confidence in science and technology.

The methodological strategies adopted in different case studies helped the participating students in an increasing performance as the days spent increased. In fact the final days were very intimate and proved during the celebrating science day. Karampa and Paraskeva (2018) find that the use of the collaboration allows more time to carry out methodological strategies that facilitate active learning. This is in fact a consistent observation amongst the study period with the perception obtained from students who agree that interfaced learning is more active and experiential.

The results of the study also show that the students of pre-university group agree that they can learn at their own pace and are more likely with the confidant to make decisions about how they learn. Certainly at least majority of them showed while performing science about their courage and strength. These observations are consistent with those made by Ruiguang Li. (2021) amongst whose study the students using the interfaced coordination to set their own learning pace.

The study results obtained are similar and are in line with the study carried out by Chen, *et. al.* (2015) using the independent methodology. He showed that 80 - 90% of students who are benefited with the interfaced coordination have consistent and positive interactions with the teacher and peers during learning sessions. They were able to work at their own pace leisurely and had more access to time, material and instruction, were able to use more practices to demonstrate their learning and saw learning as a more active process. Along with this, 70-80% of students responded that they were more interested and likely to have options in what learning tasks to use, more likely to engage in collaborative decision-making on their own as well with other students, and more likely to work on independent critical thinking.

Around 80-90% of the students in this study report that they spend the more or less similar time on coordinated learning practices compared to other subjects who avoided the interfaced learning. This observation supports the findings of research by Muir (2021) with secondary school students in mathematics classes. It was found in them that using the coordinated interface helped for better effort by the students.

V. Conclusion

The study has found out that nearly 35% of the general population among the students in mass are alert to the special learning opportunities. Even one of every third show his/her half the interest in general learning issues. However, this could be enhanced with associated coordination and interpersonal interface. This is a major learning for us and wished to share for others to practice in pre-university teaching. So also we wish to enhance this study to further refine it and upgrade.

Interpersonal coordination is a fundamental means of forming social units (Marsh et al., 2009). Therefore, the present study was aimed at analysing the students' perception of the different key features of the interpersonal interface on the learning style of each student. The study was conducted with the hypotheses that the learning style of the student conditions his or her assessment with the interpersonal interface. After a close

observation of the results and their analysis, we can conclude that the students' performance of the different learning aspects during the interpersonal coordination in this research helped depending on their associated parental support and teachers' guidance. Learning insights, thus validating the hypothesis of the study.

Hence the students with the interpersonal learning style agree that their interactions with the teacher during class hours are frequent and positive, that their coordinated interactions with peers during class are more frequent and positive. It is shown that they have learnt in different positive ways and that the teacher can get to know them better was very advantageous.

5.1 Recommendations

- There could be more and more such outdoor classrooms sessions so that interpersonal discussion can happen more.
- Teachers should be specifically taught with those skills and technique required for interpersonal coordination.
- Each session of the learning cycle should possess a different learning styles involving interpersonal coordination.
- An attempt could possibly be made to match the time of teachers and students in accordance with the coordinated interfaces.
- Special seminars/workshops should be conducted to equip teachers with skills to deal with interpersonal coordination in learning environment.
- Emphasis should be given to use of modern interactive devices such as ICT in regular classrooms sessions.

5.2 Suggested area for further Research

Researchers are recommending further studies on:

i. Long term impact of interpersonal interfaces in classrooms on learning atmosphere.

ii. Parent – Teacher coordination in student's interpersonal coordination in learning environment.

VI.   Acknowledgement

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