



**RESEARCH PAPER**

**Peer Tutoring and Social Intelligence: An Experimental Investigation**

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**ABSTRACT**

In Pakistan, teachers normally prefer to deliver their lectures by following the lecture method as they have to teach a great number of students in a classroom. This particular situation makes it impossible to pay full attention to students' individual needs. Such circumstances demand the implication of such learning activities that provide a platform for class discussion and group assignments. This thing can be possible by utilizing one of the innovative teaching methodologies that is peer tutoring. Which allows students to learn from their fellow students without any restriction or hesitation, specifically within a classroom. The current study was carried out to find out the effect of peer tutoring on students' social intelligence by employing a quasi-experimental method. All the participants of the study were females. The social intelligence of students before and after the intervention was measured through Social Intelligence Inventory (SII) developed by Lacanlale (2013). The results reflected that at the time of the pre-test, no significant mean difference was observed among participants. But, on the other hand, participants of the experimental group were become socially intelligent after learning through peer tutoring. Considering these results it is recommended that university authorities should promote the implementation of such teaching methodologies that promote socialization among students to boost their confidence, which would be very supportive for shy students to work in diverse conditions in their practical life.

**Keywords:** Classroom, Confidence, Hesitation, Peer, Social Intelligence

**Introduction**

Our educational system consisted of the traditional teaching method, for teaching different kinds of disciplines at all levels traditional teaching method is used. A teacher provides information confidently in the teacher-centered classroom which generally depends on learners' listening skills. Students follow teachers' instructions, in such an environment discussion practice is not encouraged. The teacher makes complete silence in the classroom and only the voice of the teacher resonated in the classroom throughout the period. Students are mentally absent but physically present during the lecture delivered by teachers because of making notes in traditional teaching methods (Haghighi, Vakil, & Wetiba, 2006). The concentration and interests of students could not consistent due to prolonged conservative teaching sessions (Cangelosi, 2013). Along with this reality, there is another reason for utilizing the lecture method is the large number of students in every classroom that makes it impossible for teachers to pay full attention to students' individual needs. Considering these, there is a dire need for the implication of such learning activities that provide a platform for class discussion and group assignments. This can be possible by utilizing one of the innovative teaching methodologies that is peer tutoring.

In peer tutoring, students received training to work cooperatively for improved learning. They help each other in understanding the process and seek the answer to their queries by acting like a tutor and tutee (Costantini, 2015). This can be effective if high

achiever is grouped with low achievers because if all students in a group are low achievers, the group will face difficulty while learning (Ullah et al., 2018). Peer tutoring has significant importance to enhance the behavior of students while performing group assignments by allowing them to have an advantage intrinsically through teaching and learning from each other in the classroom setting (Nguyen, 2013). According to Topping (2005), during the sessions of peer tutoring, all students contribute to it and share their views and precious information, and used sufficient time to learn and practice new stuff. All the students are paired with one another and one student applies the directions of the teacher to communicate with the other. It can also be executed in groups in which a tutor expresses directions as a teacher to their group mates.

Human beings are considered as social animals, they need others for the accomplishment of their tasks. For this, they should become able enough to understand others. In an educational environment, students felt more capable to help their fellow after receiving peer tutoring. They also learned how to work with others by understanding them (Curry, 2016; Miravet et al., 2014). Peer tutoring expects students to set up a social association with fellow students (Keer, Duran, & Topping, 2015). It is a procedure in which people who belong to almost similar social gatherings help others in learning through instruction (Bamford & Topping, 2013). It helps to develop satisfaction at work and maintain relationships with friends or fellows while working in a group setting (Joseph & Lakshmi, 2010).

Social intelligence (SI) implies a person's ability that supports him/her to communicate in a better way, it is a learned ability that includes awareness of the situation, understanding of the dynamics of society, and self-awareness (Moulton, 2018). SI is the capacity to coexist in a better way with others and to motivate them to collaborate with others. It implies an ability of a person to act wisely in relationships and to complete group assignments (Dubey, 2016). An individual can first know about the emotions, thinking, and behavior of people and then behave according to them. If someone is not able to understand then it might cause hurdles in social relationships (Orosova & Gajdosova, 2009).

Peer has an effect on the social intelligence of students (Miravet, Ciges, & Garcia, 2014; Schleyer, Langdon, & James, 2005; Uzuner & Aktas, 2016; Wolfe, 2018; Curry, 2016). Miravet, Ciges, and Garcia (2014) conducted a study to identify university students' perceptions regarding their self-concept along with the concept of solitary as a result of peer tutoring. Findings revealed that students become capable to help and support their fellows after receiving peer tutoring. Similarly, Wolfe, 2018 carried out an experimental study to find the effect of peer tutoring on secondary school students' performance. Results reflect that when students learn through peer tutoring they become able to memorize the content for longer periods, they accomplish their tasks more conveniently, and their communication skills improved to a great extent.

## **Literature Review**

In our educational culture to teach the overcrowded classrooms, where students have diverse abilities and different background is usual. So the basic thing is adoption of competent methods adopted by tutors to tackle with these problems. Costantini (2015) revealed that peer tutoring is an effective way to enhance the understanding of learners regarding content knowledge as well as subject matter. Class wide peer tutoring (CWPT) is effective way to improve students' grades, increases understanding of subject matter, develop engagement between students and helps to improve the behavior of learners. It is also used to attain high level in the reading, calculation, vocabulary, language, social studies and English as an international language.

Man cannot survive alone that highlight the importance of relationships with others in one's life. In his everyday life he encounter with different people possessing different kind

of nature and personalities. Every person has different in physical as well as psychological and social character. Because of difference in personalities and social character he may face misunderstandings, conflicts, dissension and resentment in life if he is not in position to manage and carry his social relations. As, his mutual relationship with others affects his relationship towards himself. For instance, his affiliation to other people influences his own personality (self-esteem and self-efficacy) (Lacanlale, 2013). Therefore, in order to build healthy and smooth relationships man should be adaptive and bendable in dealing with other individuals. He must develop and hold the competency and skills for understanding and managing other people. He should know that how to operate and tackle different situations by having understanding about the social surroundings in which he is supposed to interact. Social intelligence is considered as important to respond in such situation (Goleman, 2011).

Mastropieri et al. (2003) said that the students of high school with lack of learning abilities, the best technique useful for them is peer-tutoring. Kourea et. al., (2007) has given similar expressions as Miller, Topping, and Thurston (2010) highlighted the benefits to tutee including valuable learning, attention to every student and a good relationship with peer during tutoring. Peer tutoring is also beneficial for pupils to achieve their outcome of learning and also give ignite to every pupil to increase their social abilities that includes communication with other, cooperation and helping to each other in the classroom as well as efficient to develop learner's self-esteem. Topping (2005) argued that Peer tutoring is especially effective and supportive for both struggling and gifted students.

There is a need to adapt such a teaching methodology that promotes students' learning and their concept clarity through promoting discussion between teacher and students as well as among students that is not only beneficial for concept understanding but also proves fruitful in developing better social relationships. Therefore, the current study was carried out to investigate the effect of peer tutoring on students' social intelligence, as very limited literature is available in this particular area. This study may significantly add new information to the existing body of knowledge associated with peer tutoring, by identifying the effect of peer tutoring on social intelligence. It may prove valuable for the administration of educational institutions to promote the implementation of new teaching methodologies in their institutions to cope with the modern trends of the current era that can't be possible with traditional lecture methods. It may be helpful for students by encouraging a more positive attitude towards learning and they may become able to have a better understanding of the subject area and develop a more positive self-image. For that reason, this study was designed to identify the effect of peer tutoring on the social intelligence of students by utilizing a quasi-experimental method.

Considering the aforementioned objective of the study, the following hypothesis was formulated

H<sub>0</sub>: There is no significant difference between the effect of peer tutoring and traditional lecture on the social intelligence of student teachers.

### **Conceptual Framework**

Peer tutoring enables a person to convey their knowledge to other people. It allows a tutor and tutee to be self-aware of their capabilities and shortcomings. Considering this reality current study was carried out by manipulating the independent variable of peer tutoring to identify its effect on students' social intelligence which is a dependent variable in this study. The conceptual framework is depicted in the following figure.

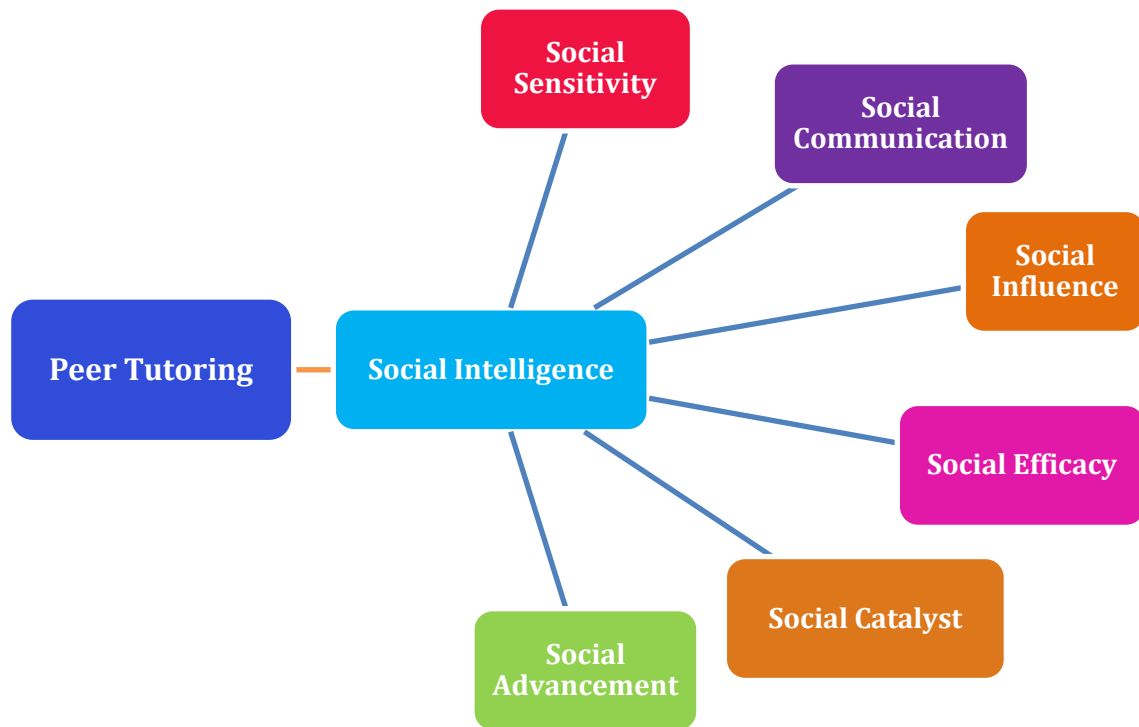


Fig 1. Conceptual Framework of the Study

### Material and Methods

The present study adopted the deductive approach to test the theory. The research tended to test hypotheses to find the effect of the independent variable on the dependent variable which is peer tutoring and social intelligence respectively. The Sample was comprised of final-year student teachers. Two sections of the same program were selected conveniently after getting permission from the head of the department. One of the sections categorizes as experimental while the other as control, this nomination was based on tossing the coin. All the participants of the study were female. Homogeneity between both experimental and control groups was assured along with minimizing the threats of external and internal validity to have a true effect on the independent variable after its manipulation.

### Intervention

The complete detail of the intervention is reflected in Figure 2.

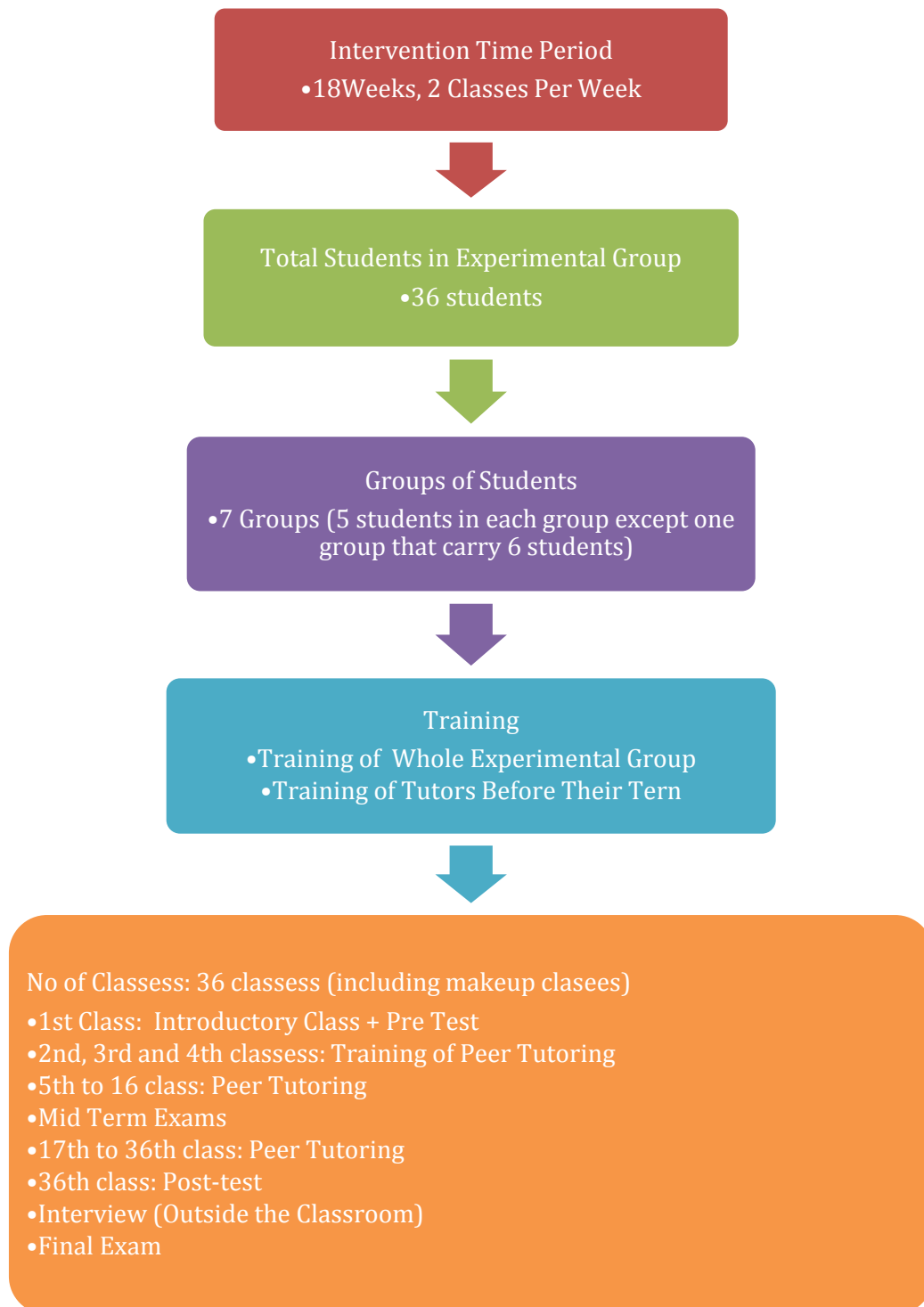


Fig 2. The Intervention of the Study

### Instrumentation

Social Intelligence Inventory (SII) was adopted by the researcher to measure the changes in students' social intelligence before and after intervention and was originally developed by Lacanlale in the year 2013. It was comprised of six subscales: Social Sensitivity, Social Communication, Social Influence, Social Efficacy, Social Catalyst, and Social Advancement. It was converted to three points Likert to five-point Likert scale and the number of items also reduced from 90 to 55.

## Results and Discussion

**Table 1**  
**Comparison of Social Intelligence Experimental and Control Groups Students Before Intervention**

	Experimental		Control		t	P	d	95% CI	
	M	SD	M	SD				Lower	Upper
<b>SS</b>	3.39	0.471	3.64	0.665	-1.840	.070	0.4	-.521	.021
<b>SC</b>	3.52	0.360	3.64	0.572	-1.127	.264	0.3	-.352	.098
<b>SI</b>	3.73	0.492	3.75	0.487	-.180	.857	0.04	-.251	.209
<b>SE</b>	3.64	0.381	3.89	0.542	-2.263	.027*	0.5	-.470	-.030
<b>SCa</b>	4.00	0.404	3.76	0.565	2.129	.037*	0.5	.016	.477
<b>SAd</b>	3.31	0.717	3.69	0.615	-2.470	.016*	0.6	-.703	-.075
<b>Total SII</b>	3.62	0.296	3.73	0.433	-1.308	.195	0.3	-.289	.060

*Note:* SS = Social Sensitivity; SC = Social Communication; SI = Social Influence; SE = Social Efficacy; SCa = Social Catalyst; SAd = Social Advancement; SII = Social Intelligence Inventory;  $df= 70$ ;  $d=$  Cohen's  $d$ ; CI = Confidence Interval and  $* = p < 0.05$ ; N for experimental group = 36; N for the control group = 36.

In the above table values of the independent sample t-test are presented that was applied to measure the mean difference in the score of SII and its sub-factors SS, SC, SI, SE, SCa, and SAd in the pre-test of experimental and control groups. Student teachers belonged to either an experimental group or control group both equally socially intelligent. It is evident from the values shown in the above table that the difference exists in the mean score is not significant as a mean value of the experimental group of SII ( $M = 3.62$ ,  $SD = 0.296$ ) was not significantly lesser than mean value of control group ( $M = 3.73$ ,  $SD = 0.433$ ),  $t = -1.308$ ,  $p > .05$ , the magnitude of this mean difference is (mean difference =  $-0.11$ , 95% CI:  $-.289$  to  $.060$ ) small effect size ( $d = 0.3$ ). On the same pattern, no significant difference is observed in three sub-factors of SII (SS, SC, and SI) in experimental and control groups as  $t = -1.840$ ,  $p > .05$ ;  $t = -1.127$ ,  $p > .05$ ;  $t = -.180$ ,  $p > .05$ ; the effect size for SS, SC, and SI are small as the value of Cohen's  $d = 0.4$ ,  $0.3$  and  $0.04$  respectively. Contrary to this significant difference is observed in three sub-factors of SII (SE, SCa, and SAd) in experimental and control groups as  $t = -2.263$ ,  $p < .05$ ;  $t = 2.129$ ,  $p < .05$ ;  $t = -2.470$ ,  $p < .05$ ; the effect size for SE, SCa, and SAd are medium as the value of Cohen's  $d = 0.5$ ,  $0.5$  and  $0.6$  respectively.

**Table 2**  
**Comparison of Social Intelligence Experimental and Control Groups Students after Intervention**

	Experimental		Control		t	P	d	95% CI	
	M	SD	M	SD				Lower	Upper
<b>SS</b>	4.17	0.590	3.60	0.509	4.371	.000*	1.0	.309	.826
<b>SC</b>	4.03	0.717	3.59	0.487	3.022	.004*	0.7	.148	.725
<b>SI</b>	4.22	0.446	3.59	0.470	5.849	.000*	1.4	.416	.847
<b>SE</b>	4.08	0.515	3.58	0.585	3.817	.000*	0.9	.237	.755
<b>SCa</b>	4.10	0.468	3.50	0.505	5.234	.000*	1.2	.372	.830
<b>SAd</b>	4.25	0.523	3.74	0.672	3.620	.001*	0.9	.231	.797
<b>Total SII</b>	4.14	0.426	3.60	0.239	6.696	.000*	1.6	.383	.708

*Note:* SS = Social Sensitivity; SC = Social Communication; SI = Social Influence; SE = Social Efficacy; SCa = Social Catalyst; SAd = Social Advancement;  $df= 70$ ;  $d=$  Cohen's  $d$ ; CI = Confidence Interval and  $* = p < 0.05$ ; N for experimental group = 36; N for the control group = 36.

In the above table values of independent sample t-tests are presented that were applied to measure the mean difference in the score of SII and its sub-factors SS, SC, SI, SE, SCa, and SAd in post-test of experimental and control groups. Student teachers who belonged to the experimental group become more socially intelligent as it is evident from the values shown in the above table that the difference exists in the mean score is significant in scores as a mean value of an experimental group of SII ( $M = 4.14$ ,  $SD = 0.426$ ) was significantly greater than the mean value of control group ( $M = 3.60$ ,  $SD = 0.239$ ),  $t = 6.696$ ,  $p < .05$ , the magnitude of this mean difference is (mean difference = 0.51, 95% CI: 16.461 to 30.428) large effect size ( $d = 1.6$ ). the difference exists in the mean score is significant in all sub-factors of SII (SS, SC, SI, SE, SCa, and SAd), in experimental and control groups as  $t = 4.371$ ,  $p < .05$ ;  $t = 3.022$ ,  $p < .05$ ;  $t = 5.849$ ,  $p < .05$ ;  $t = 3.817$ ,  $p < .05$ ;  $t = 5.234$ ,  $p < .05$ ;  $t = 3.620$ ,  $p < .05$  the effect size for SS, SC, SI, SE, SCa, and SAd are large as Cohen's  $d = 1.0$ ,  $0.7$ ,  $1.4$ ,  $0.9$ ,  $1.2$  and  $0.9$ .

### **Conclusion**

The above results provide sufficient evidence to conclude that peer tutoring significantly affects the social intelligence of participants of the experimental group as the mean score of the experimental group is higher than the control group. This difference is observed in all sub-scales. The results of the present study were consistent with the results of (Miravet et al., 2014; Schleyer et al., 2005). They highlighted that students felt more competent to help their fellow after receiving peer tutoring. The results of the present study were also aligned with studies conducted by (Uzuner & Aktas, 2016; Wolfe, 2018), as the results of their studies pointed out that students' communication skills/speaking skills of students improved through peer tutoring. Considering the results of this study it is recommended that teacher training institutes should emphasize the practice of peer tutoring during the teaching practice of prospective teachers. It will help to enable prospective teachers not only to identify but also to understand the needs of their students

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