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## The Experiences and Attitudes of Student Tutors to Peer Tutoring in the Class Time of the Gynecology and Infertility Course

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### Cover Page Footnote

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# **The Experiences and Attitudes of Student Tutors to Peer Tutoring in the Class Time of the Gynecology and Infertility Course**

**Mitra Safari, Behrouz Yazdanpanah, Shahrzad Yazdanpanah, and Shamila Yazdanpanah**

## **Abstract**

This study was conducted to examine experiences and attitudes of midwifery student tutors during scheduled class time. Sixty-one students from 2016 to 2019, who passed the gynecology and infertility course, participated in this study as student tutors and tutees. Students' experiences were investigated with a five-point Likert-type rating scale questionnaire including 17 items in six domains. The average score, frequency, and percentage of positive and negative attitude were calculated in each domain. All participants were female with an average age of 26.3 years. Average student experiences were favorable, and their attitudes towards peer teaching were overwhelmingly positive in all domains. Class-time peer tutoring programs where students change their roles as teacher and student may be regarded as an alternative to traditional peer tutoring programs.

## **Background**

Collaborative learning and teamwork are core competencies that impact quality of healthcare (Rosen et al., 2018). Collaborative learning is broadly defined as "students working in groups of two or more, mutually searching for knowledge, solutions, meanings, completing a task, or creating a product (Smith & MacGregor, 1992, p. 1). During collaborative learning, students have the opportunity to develop skills in managing their learning while interacting with peers to discuss and debate concepts that will promote higher-order cognitive reasoning (Pervaz et al., 2020).

On graduation, healthcare professionals are expected to supervise, teach, facilitate, assess, and provide feedback to colleagues, not only within their own discipline or profession but also across disciplines within the health profession (Burgess & McGregor, 2018). Consequently, access to teaching skills is necessary for midwifery and other healthcare students. These skills are better acquired through an active learning process in which students take a deep learning approach and develop critical thinking and effective communication skills (Burgess et al., 2014; Safari et al., 2020).

Peer-assisted learning (PAL) is an umbrella concept for active learning approaches that focus on deep learning and is understood as students learning from each other (Gazula et al., 2017; Olaussen et al., 2016). Several concepts are described under the PAL umbrella, including reciprocal peer teaching (Schunk, 2012), peer tutoring, peer learning, peer mentoring, peer assessment, reciprocal peer tutoring (RPT), and peer-to-peer learning (Williams & Reddy, 2016).

Skills in peer tutoring, assessment, and feedback are documented internationally as required graduate attributes for health professionals (Marton et al., 2015). Peer tutoring has a long and rich history as collaborative or community learning (Topping, 2007; Clarence et al., 2008; Arrand, 2014). The term peer tutoring has been used for various tutoring activities but mostly refers to students who usually study or learn in pairs to help each other. Topping (1996) described peer tutors as “people from similar social groupings who are not professional teachers, helping each other to learn and learning themselves by teaching.” Collaborative and active learning techniques such as peer tutoring play an important role in the improvement of personal attitudes, views, theories, and beliefs (Kakana et al., 2015).

There are three main types of peer tutoring: Cross-age peer tutoring, where elder students act as tutors to younger students and tutors have a higher academic background compared to their students or learners (Lieberman et al., 1997); reciprocal peer tutoring, where peers learn from each other by changing their status from tutor to student (Goodwin & Watkinson, 2000); and class-wide peer tutoring, a comprehensive teaching strategy based on reciprocal peer tutoring and group reinforcement wherein an entire classroom of students is actively engaged in the process of learning and practicing basic academic skills simultaneously in a systematic and fun way (Davis et al., 2012). This reciprocity of learning, among other things, makes it an attractive idea to educationalists. Class-wide peer tutoring is one of the most important peer tutoring types; each class is divided into smaller groups, and students very actively learn from each other for an extended period (Greenwood et al., 1988).

Peer tutoring as a system of partnership in the learning process places commitment and responsibility for teaching and learning on the students. Therefore, effectiveness of any proposed method should be evaluated by students themselves, given that they are the most important stakeholders in the overall educational process (Ricci et al., 2018). Several studies have assessed the students' experiences and attitudes towards peer tutoring. However, these studies did not apply reciprocal peer tutoring methods wherein students alternate roles as teacher and learner; most of them cover traditional peer tutoring programs (Brannagan et al., 2013; Burgess et al., 2014; Clarke et al., 2015; Daud & Ali, 2014; Jahan et al., 2016; McMenemy & Koehler, 2013; Outhred & Chester, 2010). Traditionally, peer tutoring programs were set up as extra, out-of-class, supplemental instruction programs (Falchikov, 2001). Programs integrating class-wide peer tutoring into daily class sessions during scheduled class time are not well researched. This study was conducted to examine experiences and attitudes of midwifery students in a peer tutoring program during scheduled class time.

### **Material and Method**

Midwifery undergraduate students of the Yasuj University of Medical Sciences-Iran were the population of this cross-sectional research. Sixty-one fifth-semester students from 2016 to 2019, who passed the gynecology and infertility course with the peer tutoring method, participated in this study. These students were involved in a class-wide peer tutoring program teaching subjects to their classmates during scheduled class time. The curriculum that included educational objectives, resources, and timetable for topics was provided by the faculty and explained in detail to the students. Students were divided into small groups, each group participated in teaching the content of

one session, and all students experienced both tutor and tutee roles throughout the program. Members in each group were required to use various active teaching methods based on their interests and opinions.

Proposed methods were role play, case reporting, group discussion, question and answer, PowerPoint slides, video clips and short educational materials, simulation of clinical environments, educational pamphlets, laboratory environments, and skill labs for the lessons. Each group was trained on the subject matter of the course they would teach and was prepared with tutoring skills and activities to use with their classmates when following this structure: exploration of prior knowledge, explanation, practical activities, feedback, and reflection. These measures took place before the start of teaching sessions outside class hours, and students were involved in practice with each other in small groups. In order to implement the class-wide peer tutoring program in each session, the classroom was prepared and chairs were arranged in a semicircle form to increase interaction, comprehension, and concentration. Tutor groups applied active methods to teach other students as tutees. Faculty had an active presence in the classroom during peer tutoring sessions supervising teaching, intervening as needed, and responding to questions that peers had failed to comprehend fully.

Students' experiences were investigated with questionnaires including 17 items covering six domains: teaching skills (three items), deep learning (three items), motivation (three items), personal development (three items), communication and interaction (two items), and difficulty of teaching (three items). A five-point Likert-type rating scale with options ranging from Very Little to Very Much (1-5) was used for the assessment of students' experiences. The statement of student attitude was constructed on a Likert-type scale consisting of five options: "Strongly disagree," "Disagree," "Neutral," "Agree," and "Strongly agree." The content validity method was used to evaluate validity of the questionnaire, where a panel of five experts (faculty members) confirmed that questions contain the desired objectives and contents. Reliability of the questionnaire was established by test-retest correlation. The Cronbach's alpha coefficient for the same questionnaire, which was completed by eight students at the beginning and 10 days later, was 0.89.

Exclusion criteria were excessive student absence and reluctance to participate in the research. All ethical principles were observed, and the framework was approved by the Ethics Committee of the Yasuj University of Medical Sciences. Data analysis was performed using SPSS version 22 by calculating the average item scores in each domain and the frequency of positive attitude (over 60% of the total score) and negative (60% or less of the total score). Cumulative percentages of "Agree" and "Strongly agree" for each statement were considered as the students' agreement.

### **Results**

The average age of participants was  $26.3 \pm 6.9$  years with minimum and maximum ages of 20 and 50 years, respectively. All participants were female, and their last semester grade average was  $15.3 \pm 1.3$  with a minimum average of 13 and a maximum of 18.5. All students completed the questionnaire.

Statistics for experience scores by domains are presented in Table 1. The highest average scores were observed in the domains of motivation and personal development.

Table 1

*Minimum (min), maximum (max), and mean and standard deviation (SD) of experience scores by domains*

Domains	Min	Mean $\pm$ SD	Max
Teaching skills	7	11.8 $\pm$ 1.9	15
Deep learning	6	10.6 $\pm$ 1.8	14
Motivation	6	12.3 $\pm$ 5.2	15
Personal development	10	12.1 $\pm$ 5.7	15
Communication and interaction	4	8.1 $\pm$ 2.4	10
Difficulty of teaching	3	5.5 $\pm$ 1.9	10

Table 2 presents students' experiences in the six domains of teaching skills, deep learning, motivation, personal development, communication and interaction, and difficulty of teaching.

Table 2  
*Number and percentage of students' responses to the statements within and across domains*

Domain	Statement	SA n (%)	A n (%)	N n (%)	D n (%)	SD n (%)
Teaching skills	Helped organization of content and clarified basic concepts lesson	25 (41.0)	22 (30.0)	5 (8.2)	6 (9.8)	3 (5.0)
	Inspired me to develop presentation skills with self-confidence	24 (39.4)	26 (42.6)	2 (3.3)	5 (8.2)	4 (6.5)
	Helpful in planning classroom schedule and management skills	20 (32.8)	29 (47.5)	3 (4.9)	7 (11.5)	2 (3.3)
Deep learning	Persuaded me to use multiple study resources	18 (29.5)	20 (32.8)	4 (6.5)	10 (16.4)	7 (11.5)
	Encouraged me to construct my own learning program that I can explain effectively to learners	20 (32.8)	22 (30.0)	2 (3.3)	12 (19.7)	5 (8.2)
	Was helpful in understanding the subject matter of the course and awareness of course expectations	22 (30.0)	19 (31.1)	3 (5.0)	12 (19.7)	5 (8.2)
Motivation	Peer tutoring motivated me to learn more about the course	30 (49.2)	20 (32.8)	4 (6.5)	5 (8.2)	2 (3.3)
	I taught with enthusiasm, and teaching increased my interest in the course	24 (39.4)	27 (44.2)	3 (5.0)	4 (6.5)	3 (5.0)
	Was effective in motivating my career and continuity of teaching other courses	25 (41.0)	25 (41.0)	4 (6.5)	2 (3.3)	5 (8.2)
Personal development	Enhanced my sense of confidence and responsibility	25 (41.0)	32 (52.5)	2 (3.3)	1 (1.6)	1 (1.6)
	I get a feeling of satisfaction from tutoring other students	28 (45.9)	30 (49.2)	1 (1.6)	2 (3.3)	0 (0.0)
	Inspired me to develop self-study skills and plan my own learning activities	23 (37.7)	33 (54.0)	3 (5.0)	1 (1.6)	1 (1.6)

Communication and interaction	Helpful in improving my communication skills and taking active part in discussions	30 (49.2)	20 (32.8)	4 (6.5)	5 (8.2)	2 (3.3)
	Provided an opportunity for learning with others and obtaining others' perspectives on the course	28 (45.9)	29 (39.3)	2 (3.3)	6 (9.8)	1 (1.6)
Difficulty of teaching	Sessions were informal and time consuming	0 (0.0)	2 (3.3)	2 (3.3)	30 (49.2)	29 (47.5)
	Sessions were inconvenient, uncomfortable, and stressful for me	1 (1.6)	1 (1.6)	2 (2.3)	26 (46.2)	31 (50.8)

SA = Strongly agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly disagree

A very high percentage (77.8%, 83.6%, 62.4%, 82.5%, and 93.4%) of students agreed that peer tutoring promotes their teaching skills, deep learning, motivation, personal development, and communication and interaction, respectively. The only exception was the domain of teaching difficulty, where only 3.2% of students agreed with the negative impact of peer tutoring.

Table 3 presents students' attitudes towards peer tutoring. Positive attitude was more frequent than negative in all domains.

Table 3  
*The frequency and percentage of student attitude*

Domains	Positive n (%)	Negative n (%)
Teaching skills	52 (85.2)	9 (14.8)
Deep learning	44 (72.1)	17 (27.9)
Motivation	54 (88.5)	7 (11.5)
Personal development	59 (96.7)	2 (3.3)
Communication and interaction	54 (88.5)	7 (11.5)
Difficulty of teaching	59 (96.7)	2 (3.3)

### Discussion

This study investigated experiences and attitudes of students who acted as tutor and tutee in a class-time peer tutoring program. The highest average score was observed in the domain of motivation with a score of 12.3 out of a maximum of 15 (Table 1). Daud & Ali (2012) reported an average motivation score of 5.1 out of a maximum of 8 for peer tutoring. Jahan et al. (2016) reported that peer tutoring was very useful for motivating and promoting students' competency in teaching. They found that more than two-thirds agreed that peer tutoring sessions should continue, consistent with our study where the majority of the students agreed with continuing peer teaching in other courses (Table 2).

In the domain of personal development, a majority of peer tutors agreed that the experience enhanced their sense of confidence and responsibility as well as the feeling of satisfaction from tutoring other students (Table 2). These results are consistent with the studies of Clarke et al. (2015) where 95% of students felt confident to teach tutorials, and Sneddon (2015) where 98% of the student tutors showed satisfaction from tutoring other students and felt more confident.

In the study by Buckley and Zamora (2007), 80% of students desired to improve their generic skills, such as confidence in speaking to groups, and 97% improved contextual factors such as the desire to help fellow students. Peer tutoring schemes provided the opportunity for students to develop their personal skills such as responsibility, dedication, interpersonal skills, and time management skills. We observed strong agreement by students in enhancement of confidence and responsibility due to peer tutoring (Table 2).

Peer tutoring also led to the development of a sense of commitment and pride due to the ability to help peers (Meyer & Turner, 2006; Ginsburg-Block et al., 2006).

Improvement in communication and interaction with classmates was the other important finding of our study; a high average score of 8.1 out of a maximum of 10 was recorded (Table 1). Daud and Ali (2012) reported improvement in communication skills in the field of interactive and cooperative learning in agreement with our study where 81.2% of tutors agreed that peer tutoring improved their communication skills (Table 2). Jahan et al. (2016) also showed improvement in peer presentations within interactive clinical scenarios. In our study, a majority of student tutors (85.2%) agreed that tutoring provided an opportunity for learning with other students and understanding their perspectives (Table 2). A significant majority of the student tutors (88.5%) also showed positive attitudes towards the communication and interaction domain (Table 3), consistent with the report by Loke and Chaw (2007).

Introducing active approaches in the teaching process can achieve many benefits including the creation of an interactive environment for learning using diverse techniques and methods to deliver information, which contributes to building the students' experiences (Kakana et al., 2015). Student engagement is gaining increasing importance in higher education (Handelsman et al., 2005; Webb et al., 2006), and newer generations of students are demanding more in-class participation and interaction from their classroom experience (Blazar et al., 2017). We involved students in group activities outside classroom hours; each group was required to use various methods—such as role play, case reporting, group discussion, questioning, and simulation of clinical environments—to enhance their communication and interaction skills. Role-play and simulation are forms of experiential learning (Russell & Shepherd, 2010) that can be adapted in the classroom to enhance students' competence during communication (Abdul Rahman, & Maarof, 2018).

More than two-thirds of the peer tutors agreed that tutoring helped organization of the content, development and planning of the classroom schedule and management skills, as well as development of presentation skills with self-confidence (Table 2). Buckley and Zamora (2007) reported a similar figure of 80% wanting to improve their practical teaching skills. We also observed the student tutors' positive attitude towards improving their teaching skills (Table 3).

Despite the finding of some studies (Chi et al., 2001; Duran et al., 2005; McMaster et al., 2006; Craig et al., 2006; & Jahan et al., 2016) that peer tutoring enables students to achieve a deeper understanding of the subject matter by reorganizing, clarifying, exemplifying, and applying existing knowledge in practice, the average deeper learning domain score in our study was lower than the average scores in other domains (Table 1). About 61% of students agreed that tutoring was helpful in understanding the subject matter of the course, and a similar number of tutors confirmed that peer tutoring persuaded them to use multiple resources and construct their own learning program, a cause for deep learning (Table 2) as compared to Sneddon's (2015) figure of 94%. However, students reported the lowest positive attitudes towards the deeper learning domain (Table 3). This can be explained by the fact that our students did not have previous experience in peer tutoring because academic teaching

was based on lecture and passive learning methods. This was not unexpected given that it was students' first educational experience as a tutor.

The domain of teaching difficulty showed the lowest average score (Table 1). McMenamin and Koehler (2013) reported an average score of 1.2 with a maximum of 10 for student attitudes towards boringness of extracurricular clinical skills in peer tutoring. In this study, a small number of students agreed that peer tutoring sessions were informal and time consuming as well as inconvenient, uncomfortable, and stressful (Table 2). Students benefit more from learning guided by student tutors because student tutors interact in a more direct and personal way with the students, creating a safer and more open learning environment (Harvey et al., 2012; Moust & Schmidt, 1994; Lockspeiser et al., 2008; Outhred & Chester, 2010).

In contrast, Brannagan et al. (2013) showed that students receiving peer tutoring in conjunction with faculty instruction were statistically more anxious about performing lab skills with their peer tutor than with their instructors. Loke and Chaw (2007) reported that despite students' enjoyment of the tutoring process and their perception of its usefulness, they also experienced frustration and disappointment. These frustrations usually stem from passivity in learning, punctuality, commitment, inadequate knowledge, and mismatches. In our study, because of the reciprocal and class-wide nature of the peer tutoring program, placing students as both tutor and tutee, students seldom felt passivity. In addition, using different interactive teaching methods made the class environment very enjoyable. Students' attitude towards peer tutoring was overwhelmingly positive in all domains (Table 3). Researchers believe that a significant portion of the changes in students' educational achievement in a specific subject stem from their viewpoint and attitude towards the subject matter (Wong & Fong, 2014; Yara, 2009; McMenamin & Koehler, 2013).

### **Conclusion**

Students perceived peer tutoring session experiences as favorable, which in conjunction with their positive attitude during training sessions, enabled them to gain a stronger motivation to learn and a sense of responsibility. Furthermore, the study provided many insights into the gains and benefits of peer tutoring. Reciprocal peer tutoring in a classroom where students in the same year of study alternate roles of tutor and learner to meet identified learning objectives may be one way to encourage and promote more interaction between students and instructors. It also reduces the passivity of peer tutoring programs noted in other studies. This could improve student engagement, classroom climate, affective learning, and communication competence. It could also suggest peer tutoring as an alternative to traditional tutoring in undergraduate midwifery and health professional curricula as an educational method involving a process of socialization, often with students acting as tutees and tutors respectively. Class-wide peer tutoring activities provide a framework whereby students are permitted to practice and develop the healthcare and teaching skills necessary for the quality of healthcare.

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