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STUDENT'S EMOTIONAL WILLINGNESS IN A NEW COLLABORATIVE LEARNING STRATEGIES

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Abstract:

The success of collaborative learning activity is depending on the level of commitment and participation shown by the students involved. This paper presents the insightful factors that contribute to the student's willingness to participate in the new collaborative learning from the e-peer mentoring programme conducted. Hence, a quantitative correlational research design was implemented in this study to achieve two objectives: first, to determine the significant mean difference between student's emotional willingness to the programme and gender, and second, to determine how altruism, organizational culture, and leadership skills influence the willingness of students to participate in the e-peer mentoring conducted from the mentor's perspective. The questionnaires were distributed to 83 students involved in this program. The findings revealed that the emotional willingness to e-peer mentoring programs among students' gender is equal whereas the gender stereotypes on how they view peer mentoring programs do not apply to these students. Besides, there are significant positive relationships between altruism, organizational culture, and leadership skills toward emotional willingness to e-peer mentoring

programs since all the *p*-values are less than 0.05. In addition, from the three factors considered, only altruism and organizational skills are directly related to the emotional willingness of students. This study offers valuable insights for e-peer mentoring program organizers, educators, and administrators, enabling them to develop strategies that nurture mentor emotional engagement and improve the program outcomes.

Keywords:

Altruism, Collaborative Learning, Emotional Willingness, Organizational Culture, Peer Mentoring

Introduction

One of the important skills needed for students to survive at the Higher Education Level is the ability to work collaboratively with peers. This engagement is crucial and good teamwork in this collaboration became one of the factors contributing to academic excellence and more importantly for their future employment quality. Teamwork was listed in the top 10 skills companies needed the most in LinkedIn Workplace Report 2023 showing how important it is to equip students with skills to collaborate. One way to enhance these skills is through collaborative learning between students. However, despite the well-known benefit of this approach, it possesses many challenges as the contribution and cooperation of all students are essential for the success of this type of learning approach. Results obtained by Buchs et al. (2017) showed that only 33% of the teachers use this teaching and learning pedagogy routinely and in general, teachers do not feel that this approach is an easy method to implement.

The emotional willingness of students is believed to be the main criterion that must be considered for this collaborative learning. This learning style is also known as cooperative learning by Noraini Desa et al. (2020) where the purpose is to promote student-centered learning to supplement the role of educator. In any collaborative learning, the involvement of students and their willingness to cooperate is essential to produce a productive learning environment and plays a vital role in determining the success of the learning environment created.

A strong correlation was found in the research done by Yehudith Weinberger & Miri Shonfeld (2018) from two factors that contribute to the familiarity with the advantage of collaborative learning. Firstly, is the attitude of the students, and secondly, their willingness to implement it. The proper guidance from the educator to explain the overall process, procedure, and the benefit gained from this learning approach to students and the aptitude of students to handle the situation are the two main criteria to make this collaborative learning works (Devisch et al., 2019).

Collaborative learning, cooperative learning, and peer learning are often used and classified as group learning. The process of group work is harder as it requires all members in the group to be active learners and able to handle the discussion, be good listeners, be willing to share knowledge and explore together to meet the same goal. Many factors influence group learning including the willingness of each member to cooperate and contribute as a team. So, it is important to instil responsibility for each member of the group so that they will feel accountable

to one another, be willing to help and care as a team, and more importantly create a sense of belonging when doing activities in the team.

Collaborative learning has been conducted by the Faculty of Computer and Mathematical Sciences (FSKM) UiTM Kelantan since 2016 and was run formally via the Peer Mentoring Programme. Peer mentoring is a collaboration between fellow peers that has similar social groupings to achieve specific goals which can bring benefit to both parties of peer mentors and peer mentees involved (Jyothi Thalluri et al., 2014). Besides the benefit to individual needs, this mentorship program is also a process that can meet the needs of the institution as stated by Harol Kohn (2014). Originally, the program was conducted as an intervention program to overcome the high failure rate for few core Mathematics courses such as pre-calculus and calculus 1 at the Diploma level (Mohd Faiez Suhaimin et al., 2021).

The peer mentoring programme that was conducted in the beginning was following the traditional collaborative learning between peers where the buddy system was created in which the high-performing students were assigned as a mentor and was trained directly by educators. The mentor plays the role of an educator and is paired with the lower-performing students as the mentee. The peer mentee benefitted from the programme by the improvement shown in their academic performance and this kind of collaborative learning will benefit mentors to have more robust social skills.

To build a relationship in which both the peer mentors and the peer mentees benefit with good social skills, the new collaborative learning strategy was designed to achieve this new goal. Recently, the Ministry of Higher Education (MOHE) Malaysia introduced the implementation of a hybrid and flexible learning system where university students were no longer obliged to be present physically in class and were given choices to study from home (New Straits Time, 2023). With the evolution of teaching and learning in the higher education system worldwide that has been changing rapidly from traditional instructional methods and face-to-face learning to e-learning, this collaborative skills quality became a more important measure as a support system for students' academic survival in the higher education system.

The new model of peer mentoring was designed using the online platform where both mentors and mentees are accountable for one another's learning. Peer mentors are guided and trained directly by educators to transform the knowledge to the peer mentees. All peer mentees will then share their understanding of peer mentees with the guidance of peer mentors. Since the peer mentees also play a role as the peer mentors, all students involved in the programme regardless of their roles will develop the skills to collaborate.

With the new model of learning implemented, this research is aimed to determine the significant mean difference between student's emotional willingness to the programme and gender and lastly to determine how altruism, organizational culture, and leadership skills influence the willingness of students to participate in the e-peer mentoring conducted from the mentor's perspective.

All the process conducted in the program was explained in the Methodology section and the recorded video from the program was provided in the Appendix section.

Literature Review

Peer mentoring is considered effective if it brings certain benefits to the mentor, mentee, and the organization where the mentoring is conducted. The effectiveness of this type of learning method was proven true by several researchers and can be seen in the form of improvement of mentee's academic performance (Andreanoff, 2016.; Leidenfrost et al., 2014), improvement of students' engagement in learning (Gamage et al., 2021), reduction in failure rate of the course (Azyan Zafyrah, 2021), and higher satisfaction and motivation in learning for both mentor and mentee (Pechinthorn, 2020).

Given the positive outcomes associated with peer mentoring, it is crucial to examine whether both males and females have equal willingness towards mentoring. There is some indication that gender differences are a crucial factor, even though research on how gender influences mentoring willingness is still inadequate. A qualitative study by Ragins & Cotton (1993) raised the issue as they found that women shared equivalent intentions to mentor, just like men. Despite other variables that may influence the decision to mentor, the main findings of the study proved that the relationship is not significant.

Emotions contribute directly to mental health and play a crucial role in learning activities and social interactions. Positive emotions contribute to motivation and later are expressed in individual behaviour. The willingness of students to involve in the programme emotionally is believed to be one of the factors contributing to the mentoring program's success. In this research where the discussion is on the context of collaborative learning, the focus is to determine the factors that directly contribute to the willingness of students to participate, cooperate and collaborate in the programme conducted. Three factors were highlighted in this research which are altruism, organizational culture, and leadership quality as shown in the conceptual framework shown below.
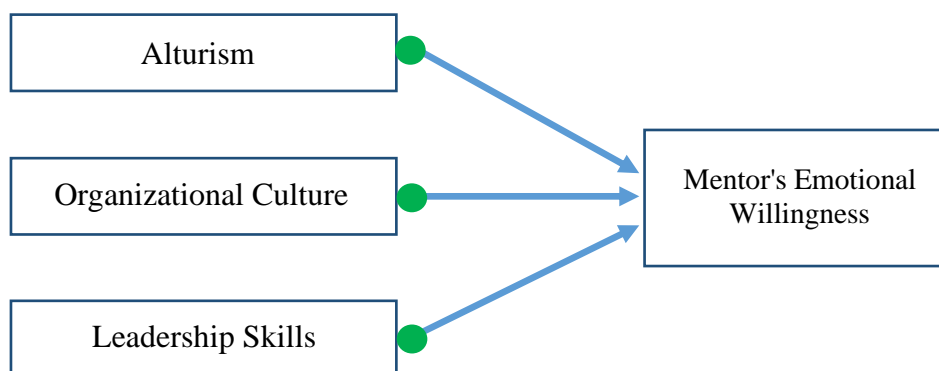

Figure 1: A Conceptual Framework Between Altruism, Organizational Culture, and Mentor's Leadership Skills Towards Mentor's Emotional Willingness

Many factors can contribute to the student's willingness to participate in this collaborative activity and one of them is altruism. According to Batson, Ahmad, and Stocks (2011), altruism is the art of people having unselfish concern where their desire to do things for the sake of helping not because one is out to help but because they want to assist as a matter of responsibility to do so. Students with great altruistic values will likely volunteer and commit to their role as a mentor. Mentors act as an educator during the mentoring program to assist,

guide, and create positive support for mentees. The altruistic value is driven by the empathy feeling that has the goal of helping others in need out of concern. Mentors with this value possess the motivation to help and the feeling of care for their mentee even in a conflict situation (Batson et al., 2015). This value of altruism within the mentors is considered as no reward is expected in return for their altruistic action.

Meyzari and Dasht (2016) carried out a study at Islamic Azad University to find out the relationship between altruistic behaviours, empathetic sense, and social responsibility with happiness among university students. Data obtained and analysed using inferential statistics showed that there is a significant positive association between happiness, altruistic behaviour, and social responsibility. Meanwhile, Kibe and Ndege (2023) determined the relationship between altruistic and academic achievement among secondary school students. A correlation analysis established a positive correlation between altruistic and academic achievement among students in secondary schools, with an increase in altruistic behaviour causing increases in academic achievement among students in secondary schools. In 2014, Noufou et al. measured students' willingness to mentor their peers and explored key factors to student peer mentoring effectiveness. The survey was conducted with students of a Bachelor of Commerce (BCom) program at a North American university. They found that organizational culture and altruism significantly affect students' emotional and intentional willingness to mentor their peers.

The culture applied in an organization also plays a pivotal role in shaping individuals' attitudes, behaviours, and decisions within an organization. It also refers to the shared values, beliefs, norms, and practices that define an organization and guide the behaviour of its members (Brown, 2014). One of the key aspects of organizational culture in educational institutions that has garnered attention in recent years is its influence on students' emotional willingness to participate in peer mentoring programs. As Marcoulides et al. (2005) mentioned, the organizational culture in educational institutions is related to both the mentor's and mentee's values and beliefs. These cultural factors include trust, openness, mutual support, and authenticity from the organization.

Organizations that foster a culture of collaboration and knowledge sharing are more likely to create an environment conducive to peer mentoring. A culture that values and rewards knowledge-sharing can motivate mentors to participate in mentoring programs (Bock et al., 2005). Mentors may be more emotionally open to participating in mentoring programs if they feel that their skills and knowledge are valued.

Besides, the availability of resources and organizational support for mentoring programs is another critical aspect of organizational culture. If an organization allocates sufficient time, budget, and training to support mentoring initiatives, mentors are more likely to view the programs as valuable and worth their emotional investment (Allen et al., 2004). A lack of organizational commitment and resources may deter mentors from participating wholeheartedly in peer mentoring activities.

Noufou et al. (2014) carried out a survey with students of the same program to explore the objectives, focus, and factors contributing to their willingness to mentor and to peer mentoring effectiveness. The results revealed that organizational culture and altruism significantly affect students' emotional and intentional willingness to mentor their peers. Hence, organizational

culture plays a significant role in shaping mentors' emotional willingness to participate in peer mentoring programs. A culture of trust, collaboration, and resource allocation can positively

influence mentors' engagement in mentoring initiatives. Conversely, a lack of these cultural elements can hinder participation and reduce the effectiveness of peer mentoring programs.

Peer Mentors in the program also derive meaningful benefits from the peer-mentoring process. Mentors reported that mentoring others advanced their interpersonal and communication skills, increased patience and compassion, maturation, encouraged better time management, developed better leadership, and enhanced personal satisfaction and reputation (Hall & Jaugietis, 2011; Scandura & Williams, 2004). Some peer mentors also reported that they were able to apply these skills and experiences outside the program and that they were motivated to participate and look for more opportunities to improve themselves such as looking to take on more leadership or mentoring/speaking roles, if possible, around campus for continuous improvement. (Seery et al., 2021).

The willingness to be in the collaborative project can be influenced by the quality of leadership possessed by the members of the group. Leadership quality that is determined by one's emotional intelligence is believed to improve one's ability to socialize effectively, good in relationship management, and consideration of other members that are engaged with. Good leadership skills will encourage good teamwork and can have a good drive to do more volunteer work in the program to successfully produce the expected collaborative outcomes needed (John D, 2011).

A leader, or in this study refers to the role of peer mentor is an individual that able to create an environment that people can feel connected to or as a part of the group setting and is willing to fulfill the individual needs in the group (Johnson & Johnson, 2018). Students that have an emotional willingness to the programme possess good leadership skills. A good leader always shows their willingness to contribute to their team, enjoys the process in the group work, always be the one motivating others, loves their job as a leader, and welcomes changes if the required goal can be achieved.

Methodology

The methodology is divided into two parts which are new collaborative learning strategies and correlational research design for data collection.

New Collaborative Learning Strategies

For the new collaborative learning introduced in e-peer mentoring, the process of conducting the program is explained in the following phases and illustrations.

> *Phase 1:*

Students were divided into 5 groups (5 peer mentees in each group and 1 peer mentor) and each group was assigned 5 different topics/problems (B1, B2…, B5). Each mentee is responsible for each problem in their group. All five groups are given a similar topic/problem.
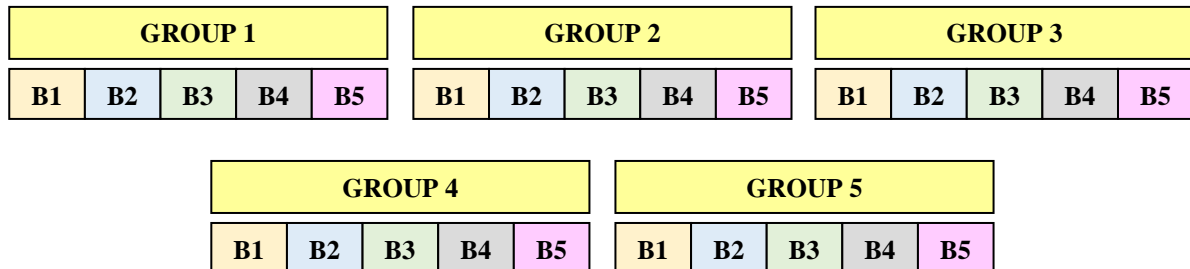
Figure 2: Illustration for Phase 1

Phase 2:

Peer mentees with similar topics/problems will be grouped and assigned a peer mentor who was guided by the lecturer before the program.
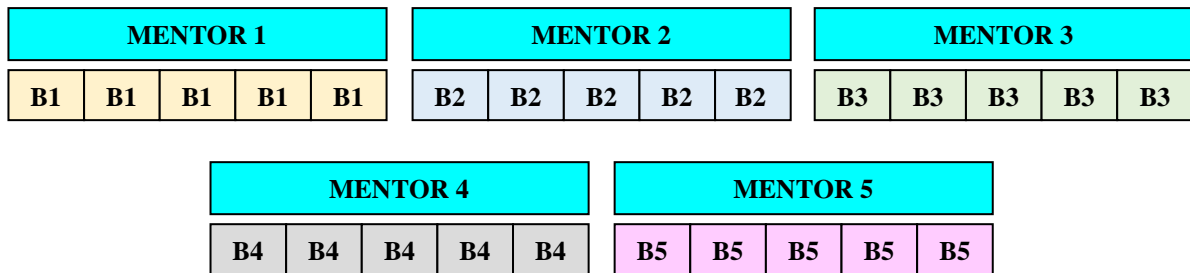

Figure 3: Illustration for Phase 2

Phase 3:

All peer mentees will be moving to their original group and will share the solutions to the problems, or the topic discussed with their mentor earlier with their groupmates (other mentees). All discussions between mentees will be monitored by the peer mentor that was assigned before.
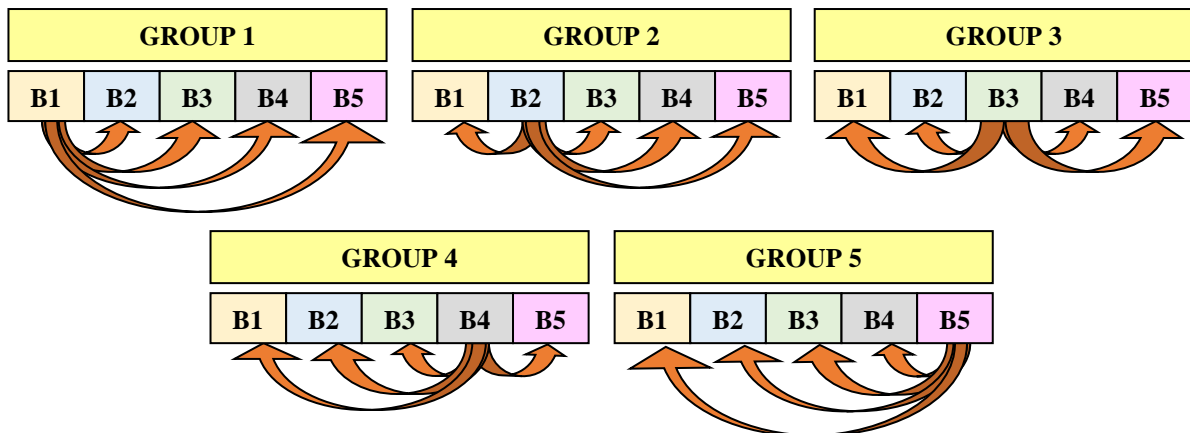

Figure 4: Illustration for Phase 3

Phase 4:

Peer mentors will be moving from one group to another until all the five topics or problems assigned are completed for all groups.

Correlational Research Design

The correlational research design is used to reach this research's objectives. Correlational research design examines the relationship between variables which indicates how two or more variables are related to another variable (Salkind & Frey, 2021).

Research Population

The respondents for this research are 83 FSKM students from UiTM Cawangan Kelantan who took part in the e-peer mentoring program. This peer mentoring program involved Diploma in Mathematical Science (CS143) and Diploma in Computer Science (CS110) students who enrolled in Calculus 1 (MAT183) subject. Since there is only a small population of 83 students, this research considers all students as a census study.

Data Collection

This research uses primary data which are acquired through questionnaires adopted from Noufou et al. (2014). The questionnaire was designed using a 5-point Likert scale; strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). Three independent variables (IV): altruism, organizational culture, and leadership skills, and one dependent variable (DV): the mentor's emotional willingness is used in this study.

Results

Normality Test

In statistics, a normality test is used to determine whether a data set is normally distributed. This research uses skewness to measure the asymmetry of the probability distribution of a random variable about its mean. The skewness value can be positive, negative, or even undefined. Pallant (2016) stated that -1 to 1 is an acceptable range for the data to be normally distributed.

Table 1: Skewness Result

	Skewness value
Skewness	-0.153

Based on Table 1, the measure of skewness is -0.153 and falls within the range of -1.0 and 1.0, then the research concludes that the data distribution is normally distributed.

Reliability Test

The reliability analysis was conducted by computing the value of Cronbach's Alpha for each section. The acceptable alpha value in reliability analysis is 0.7 in the ability test case (Kline, 1993). Table 2 below shows that Cronbach's Alpha values for all variables are greater or equal to 0.846. This indicates that the questions for variables in the questionnaires are valid.

Table 2: Cronbach's Alpha Values

Variables	Cronbach's Alpha	No of question
Emotional Willingness to e-peer mentoring program	0.846	3
Altruism	0.933	3
Organizational Culture	0.871	3
Leadership Skills	0.901	3

Descriptive Statistics

The descriptive analysis of this research comprises the respondents' gender. Table 3 below shows percentages of distribution of frequency for the item gender. The total number of samples is 83 and 60.2% (50) of the respondents are females while the remaining 39.8% (33) are males.

Table 3: Gender

Gender	Frequency	Percent (%)
Male	33	39.8
Female	50	60.2
Total	**83**	**100**

Inferential Statistics

In determining the objectives, a series of tests are needed to be done. To determine the significant mean difference between the mentor's emotional willingness to participate in the e-peer mentoring program and gender, an independent sample *t*-test is needed to carry out. Table 4 below indicates that the mentor's emotional willingness is equal among genders. The *p*-value of the Levene test is 0.712 ($p > 0.05$), proving that there is no significant mean difference. This indicates that the variability of the two groups which are male, and female is equal. This finding is consistent with the research carried out by Andreanoff (2016) that a student's gender has no relationship with the emotional willingness to e-peer mentoring program. So, from this research findings, it can be concluded that the gender stereotype on how they view the e-peer mentoring program does not apply to respondents.

Table 4: T-test Results for Student's Gender

		F	Sig
Gender	Equal Variances Assumed	0.137	0.712

Secondly, a correlation test is performed to determine the relationship between altruism, organizational culture, and leadership skills toward emotional willingness to e-peer mentoring program. Based on Table 5, this research discovered that there is a significant positive relationship between altruism, organizational culture, and leadership skills toward emotional willingness to e-peer mentoring program ($p < 0.05$). The *r*-value for altruism is 0.551, showing a moderate positive relationship with emotional willingness to e-peer mentoring program. In addition, both organizational culture and leadership skills have a low positive relationship with emotional willingness to e-peer mentoring programs since the *r-values* are 0.478 and 0.381, respectively.

Table 5: Pearson Correlation Results

Variable	Emotional Willingness to e-peer mentoring program	Level

	Pearson Correlation	Significant	
Altruism	0.551	0.000	Moderate
Organizational Culture	0.478	0.000	Low
Leadership Skills	0.381	0.000	Low

Table 6 shows the model summary for the regression model. The value of R Square is 0.351, a 35.1% variation in emotional willingness to e-peer mentoring program due to the independent variable altruism and organizational culture.

Table 6: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	0.593[b]	0.351	0.335	0.41396

b. Predictors: (Constant), Altruism and Organizational Culture

F-statistics was carried out to find the overall strength of the model. Table 7 shows that the value of F-Statistic is 21.652 and the *p*-value is less than 0.05 which indicates the fitness of the data used in the model.

Table 7: ANOVA Result

ANOVAᵃ						
	Model	Sum of Squares	df	Mean Square	F	Sig.
2	Regression	7.421	2	3.710	21.652	0.000[b]
	Residual	13.709	80	0.171		
	Total	21.130	82			

a. Dependent Variable: Emotional Willingness to e-peer mentoring program
b. Predictors: (Constant), Altruism and Organizational Culture

Table 8 below demonstrates the regression model result that proves only two independent variables that significantly influence the emotional willingness to e-peer mentoring programs which are altruism and organizational culture ($p < 0.05$).

Table 8: Regression Model Result

Coefficients						
Variable	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	1.91	0.387			4.938	0.000
2 Altruism	0.357	0.092	0.414		3.896	0.000
Organizational Culture	0.222	0.092	0.258		2.430	0.017

a. Dependent Variable: Emotional Willingness to e-peer mentoring program

One variable which is leadership skills (*p =0.55*) has been removed from the model using the stepwise selection method since the *p*-value is greater than 0.05. Therefore, the final regression model is shown below.

$$Y = B_0 + 0.357\ X_1 + 0.222\ X_2$$

Emotional Willingness to e-peer mentoring program $= 1.91 + 0.357\ X_1 + 0.222\ X_2$

where X_1 = Altruism, and X_2 = Organizational Culture

Conclusion

The results of this research found that the mentor's emotional willingness to e-peer mentoring program among students' genders is equal whereas the gender stereotypes on how they view peer mentoring programs do not apply to these students. The findings also revealed that there are significant positive relationships between altruism, organizational culture, and leadership skills toward emotional willingness to e-peer mentoring programs since all the p-values are less than 0.05. In addition, from the three factors considered, only two factors, altruism, and organizational culture contribute to the student's willingness to participate in the programme. This suggests that mentors are sincerely concerned with mentees' well-being after this program ends, thus helping to improve mentees' performance so that the culture of helping each other becomes UiTM student's organizational culture in the future.

Future research could be conducted by using larger samples from different courses such as Linear Algebra, Business Mathematics, and Discrete Mathematics, and involving all students to improve the generalizability of the results. Besides, the research can consider other variables, such as the mentor's motivation and credibility.

Acknowledgement

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Appendix

The link for the recorded videos of E-Peer Mentoring Programme : http://bit.ly/Recording-ePM