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PROCEEDING OF THE 1ST ICOPEM

INTERNATIONAL CONFERENCES PSYCHOLOGY, EDUCATION, AND MENTAL HEALTH

EDUCATION INNOVATION AND MENTAL

HEALTH IN INDUSTRIAL ERA 4.0

9TH -10TH SEPTEMBER, 2019 PADANG,
WEST SUMATERA, INDONESIA

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Preface

Izzanil Hidayati, S.Psi., M.A

General Chair Conference ICoPEM

Assalamu'alaikum Warohmatullahi Wabarokatuh

Greetings!

It gives me great pleasure to welcome you to the International Conference on Psychology, Education, and Mental Health (ICoPEM) 2019. This is the first conference held in the Psychology department, Faculty of Medicine, Universitas Andalas. The main theme of this conference is Education Innovation and Mental Health in Industrial Era 4.0. For that issues, we'll hear from our keynote speakers and invited lecturers to speak about how education and mental health in Industrial Era 4.0, and for the next session you can discuss with the presenter who sharing about their great research.

Industrial 4.0 make a significant influence on our lives. The advance of technology has changed many aspects of the living process. The influenced alternation of this development was starting from ritual in daily living like using technology in every aspect of our lives that impact education, job offers, and the values in society. One way to accommodate these changes is modification in the curriculum to face industry 4.0. The purpose of this conference is to discuss issues about the consequence of industry 4.0 in education and mental health aspect.

As the General Chair of this conference, we would like to express our gratitude to the keynotes speakers, Prof. Kate Cain from Lancaster University, Robert Lemelson, Ph.D from University of California, Seinenu M. Thein-Lemelson, Ph.D from University of California, Berkeley and Yantri Maputra, Ph.D from Universitas Andalas. Thank you also to our invited speakers, Prof. Madya Dr. Mahazan Abdul Muthalib @Taib from Universiti Sains Islam Malaysia, Dr. dr. Wirsma Arif Harahap, SpB(K)-Onk from Universitas Andalas, and Dr. Marjoni Imamora, M.Si from IAIN Batusangkar

We hope that you will enjoy the conference and that your interaction with your colleagues at this conference will stimulate a creative exchanged of ideas and will be personally rewarding. Finally, I would like to welcome you to Padang, West Sumatera. You will find many interesting destinations and kind of delicious foods. I will be all over the conference and would like to personally meet and warmly welcome every one of you

Dr. dr. Wirsma Arif Harahap, SpB(K)-Onk

Dean of Medicine Faculty Universitas Andalas

Assalamu'alaikum Warohmatullahi Wabarokatuh

Greetings!

It is my pleasure to welcome you to the International Conference on Psychology, Education, and Mental Health (ICoPEM) 2019. ICoPEM is planned as an annual event of The Psychology Department of Medical Faculty Universitas Andalas, in collaboration with IAIN Batusangkar, Universiti Teknologi MARA, Institut Pendidikan Guru Kampus Raja Melewar, and Universiti Sains Islam Malaysia. We gather in this event to share knowledge and to strengthen friendship between researchers and between societies

This year's theme "Education Innovation and Mental Health in Industrial Era 4.0" is to support the urgency of a healthy person as one of the elements to human well-being, and education to keep the pace of era 4.0. With the development of industrial which influence psychological, educational, and mental health factors of human, it is important to do the research that primarily focuses on the consequences of this development in society. This event's mission is to create an academic climate of excellence by gathering the researcher. By meeting and sharing their works, the academicians and students will be able to deepen their understanding of the issue of their interest. Hopefully, this interaction would increase cooperation among scholars in this region.

It is a pleasure we are trusted to host this event in our home this year, as a beginner we are aware of many shortages but do not decrease our effort to bring our best to you. Hope you enjoy this event and we can meet again in years to come.

Table of Content

Impacts of Contextual Teaching and Learning Towards Student's Social Network (Study on Faculty of Psychology Students of University X)

Ninawati and Monika
{ninawati@fpsi.untar.ac.id, monika@fpsi.untar.ac.id}

Psychology Faculty, Universitas Tarumanagara, Jakarta, Indonesia

Abstract. One of the learning models is contextual teaching and learning which combines the stud materials with the real-life situation. This research utilizes contextual learning process as an intervening method for participants of Early Childhood Education Psychology module. The before and after interventions were examined by using friendship and lecture network pattern. The result exhibits differences on the before and after intervention network patterns. We can conclude that the contextual learning has produced the expected outcome. Besides that, contextual learning also caused students grasping deeper understanding on the subject.

Keywords: contextual learning and teaching, friendship network pattern

INTRODUCTION

Within the education world, learning process is not only happening limited only in the school setting. A student can learn about family, school, and society. Someone can be said going through the learning process, if there is a changing behaviour which can be observed and stayed for relatively long time. In reality, the teacher must realize that there is no silver bullet learning model. As a result, the teacher must understand various learning models which can be implemented in the teaching process. Some of those models are: 1) cooperative learning, 2) contextual teaching and learning, 3) problems-based learning, and 4) team games tournament (Fathurrohman, 2015). Contextual learning emphasizes on the full process to get the study materials, then connecting them with the real-life situation. This situation forces students to implement what they learn into their life (Sanjaya, 2009). This learning model also helps students to be more productive in the society, sharpen their problem-solving capability, and social skills (Palmiotto, 2003).

Friends as part of social environment, can be found surrounding the place where someone does his or her activities. For teenagers (17-19 years old), friends can be located in their school. Shaffer (1994) explained the role of friends to teenagers as follows: a) friends as a social enforcer, b) friends as a behavioral model, c) friends as an object in social comparison, and d) friends as a critic and agent to convince the members. During a lecture, students are consequently involved in various interaction based on the exchanged information. It also happens during the interaction between students. One of the objectives of contextual learning is to improve social skills. Therefore, it is hoped that the model will influence the students' social network pattern.

The research questions for this research are: 1) How effective is contextual teaching and learning on the Early Childhood Education Psychology module?, 2) How difference is the student's interaction network on before and after joining contextual learning program?

Contextual Teaching and Learning

Students may experience difficulties in understanding a certain concept with the usual way of teaching (in example, through teacher's teaching in the class). However, they really need an understanding on the subject when it comes to the real-life situation. The contextual learning and teaching theory noted that learning process happens only when students process information or new knowledge through the ways that can be understood by themselves (through their memory, respond, and experience). Their thinking finds the meaning of the concept on a certain context naturally, by looking at the connection between logical and useful concept and context (CORD, 2001).

According to Fathurrohman (2015), contextual learning and teaching focuses on student activism

of which they do and experience by themselves, not only watching and taking note. Besides that, through this model, students' social skills will be improved. Contextual learning and teaching allows students to have first hand experience of the real world, their daily life, so they will feel the benefit of the study materials, motivation to keep studying, solid thinking, and conducive learning process. Meanwhile, contextual learning and teaching assists teachers to connect study materials with the actual problems. Besides that, this model adds potential social issues that students will face outside the school system into the study process. When the students are ready with others, then they will be able to do it within a group with their friends.

There are seven indicators of contextual learning and teaching, according to Fathurrohman (2015): 1) *modeling*, 2) *questioning*, 3) *learning community*, 4) *inquiry*, 5) *constructivism*, 6) *reflection*, dan 7) *authentic assessment*. Johnson (2007) divides contextual learning and teaching into eight components, such as: making meaningful connections, doing useful works, doing an independent learning, cooperation, creative and critical thinking, helping an individual to grow and develop, reaching high standard, making authentic evaluation. The last element asks students to use academic knowledge into the real-world context to gain a more meaningful objective.

In this research, the contextual learning and teaching method was applied on the Early Childhood Education (ECE) Psychology module. On the first six meetings, students were given materials related to children development, ECE teacher, ECE curriculum, ECE learning environment, materials related to education instruments, and materials related to storytelling for ECE students. Furthermore, students were asked to see directly the teaching and learning process at ECE. Prior going to the field, those students received observation and interview guidance which contains the study materials. Then they were asked to compare the concept and the real implementation. Besides that, in order to benefit the ECE, students also apply the education tools (APE) making materials for ECE. They made the APE and gave them to the ECE. In addition, students did storytelling activities at ECE, after they understand the technique of storytelling for toddlers. It is hoped that these actions will give students the opportunity to understand early childhood education psychology, can find the exact issues of ECE that they visited, and can socialized with ECE members, both parents and the ECE leadership.

Social Network

According to Stanely and Faust (1994), social network is a social structure which consists of set of actors, a couple of dyadic relations, and other interactions between the actors. The actors here refer to people who are involved in an environment or certain condition. Dyadic relation is a relation between two actors. Moreover, the form of network pattern, according to Burt (1992), will determine the social benefit to its members. It means someone will gain benefit because of his or her position within the social network. The situation occurs due to contacts within the network give some information, opportunities, and perspectives that can give someone a core role within the network. In general, social network is characterized as group of which its members are connected very well. Information within the group is most likely homogenic. Other general information is obtained through contact with others. Both will only be connected if there are members who own special positions (for example, bridge).

The ideal social network, according to Burt (1992), is a network that has a connection between different groups. Group is people with something in common. In general, a group consists of people with same interests or characteristics and periodically doing similar things. Some mentioned the size of a group is at least half a dozen. Others said two people (dyad) can be seen as a group (Baumeister & Bushman, 2014). Marvin Shaw (1981) noted that there is a characteristic within a group which is all the members are interacting. As a result, Shaw defined group as two persons or more interact and influence each other. A group consists of two or more interact in a relatively long time, influencing each other with certain ways (Myers, 2010).

According to Myers (2010), in Social Psychology, there is a concept of 'need to belong'. It refers to human need of building a relation with others. This need is the biggest portion in human life. Moreover, Myers argued that satisfaction in 'need to belong' related to two others human needs which are autonomy and competency. Myers also believed another element of happiness is 'feeling connected'. But, according to Roger and Kincaid (1981), it is impossible for someone to build a relation with everyone. In general, relation will only be formed between an individual with certain people, while others not. There are a lot of factors that caused it. One of them is personality. Rogers (quoted by Hjelle & Zieger, 1981) said, if someone accepts himself, he or she will also do the same to others. Supratiknya (1995) also echoed the argument, the bigger someone's personal acceptance, the bigger the acceptance to others. This will ease preserving and deepening relations with others.

METHODS

This research employs experiment on a group (one group pretest-posttest design). The participants of this research are all Faculty of Psychology students 2017/2018 academic year who took the ECE Psychology (Psikologi PAUD) module. The research setting is University X Faculty of Psychology. The measured variables are students social network based on friendship and relations that formed due to study.

Data gathering was done through two-parts questionnaire. The first part contains participants' identity. The other part consists of choices of participants' friendship relations and when they discuss issues about lecture. Participants were asked to choose maximum three names of other listed students. Those names were included in the questionnaire form.

Data gathering was also done by comparing the result of before the lecture with contextual learning and teaching as a pretest and the aftermath as posttest. The treatment to this research experiment was implemented by giving a task to students (five person per group) to visit ECE for doing observation and interviews there, making education tools for ECE students, and do story telling in the ECE. The analysis on the network pattern of these students was done through sociogram and connection level.

RESULTS

Based on the tested network pattern to the students, the author opts two topics: interaction between friends and interaction on lecture. The analysis on these two issues are done through sociogram patterns which are based on the matrix calculation. Matrix 1 reflects the amount of relations that occurred from one member of a group that chose other members. The matrixes are connected with the sociogram in sequence, for example, matrix 1 with sociogram 1 and matrix 2 with sociogram 2.

Sociogram 1

Fig. 1. Friendship (Before Intervention)
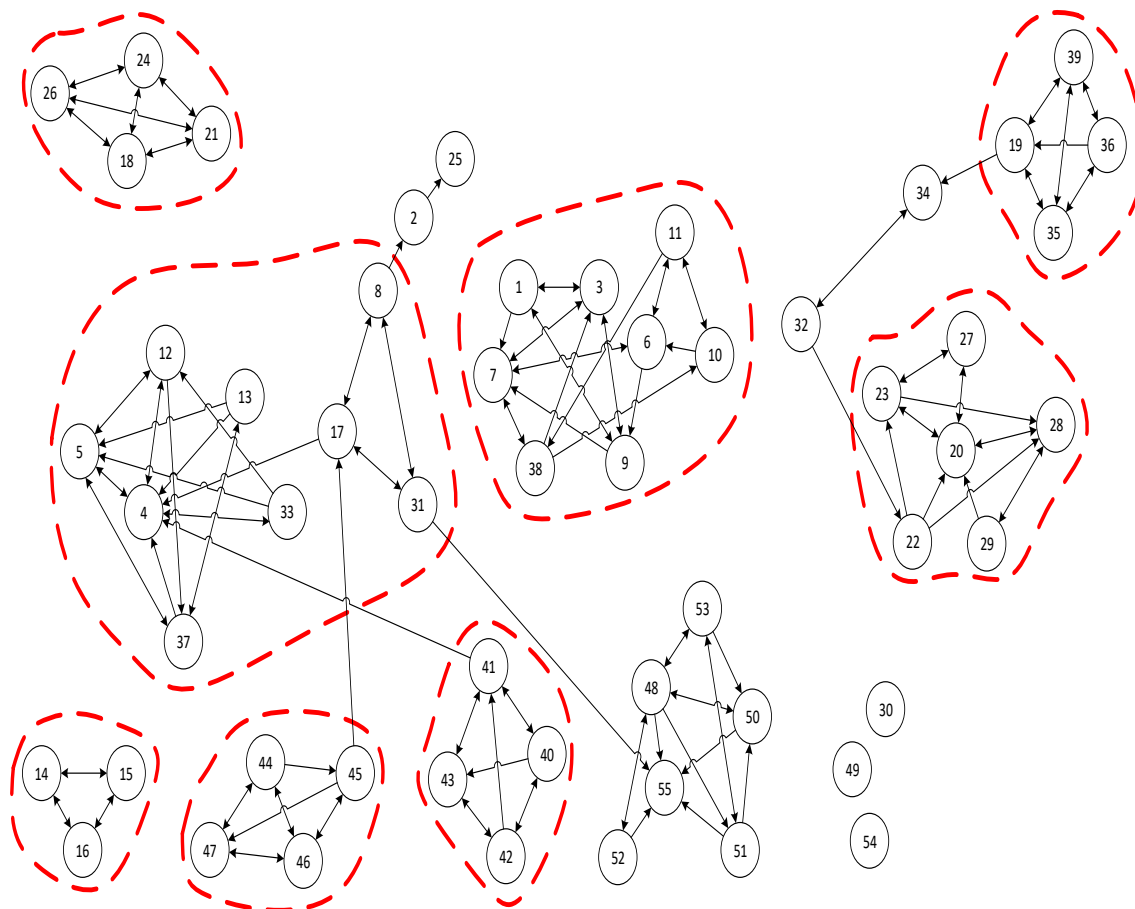
Sociogram 2
Fig.2. Friendship (After Intervention)

Sociogram 3
Fig.3. Lecture (Before Intervention)

Sociogram 4
Fig.4. Lecture (After Intervention)

Research Test Result

The interaction network pattern that listed in Table 1 is extracted from sociogram 1 until sociogram 4. The number of cliques on the between friends interaction network pattern before intervention was 9 cliques, after intervention it became 6. The decrease also occurred in the lecture network pattern of which the amount of cliques were reduced from 9 to 8 after the intervention. By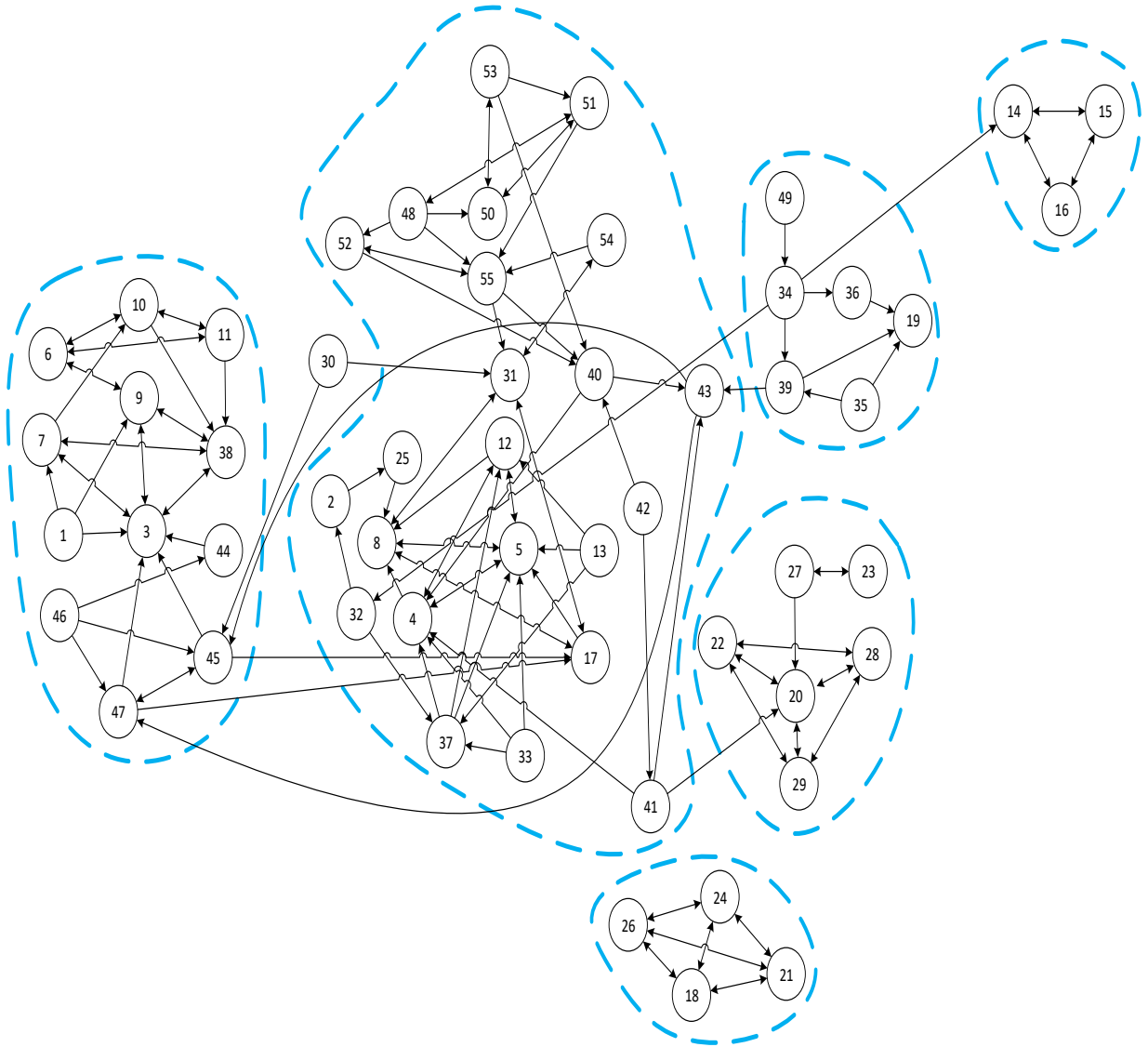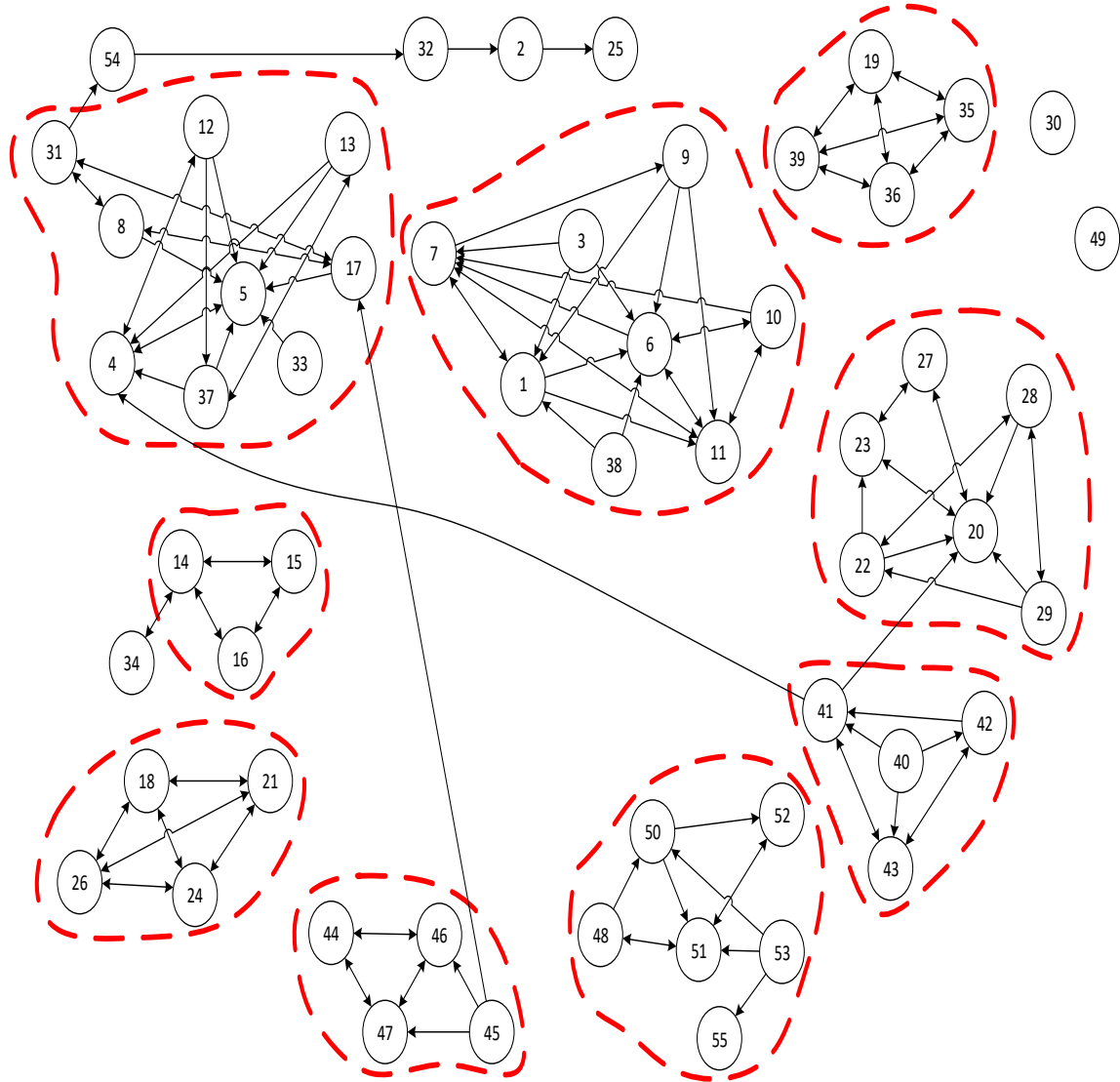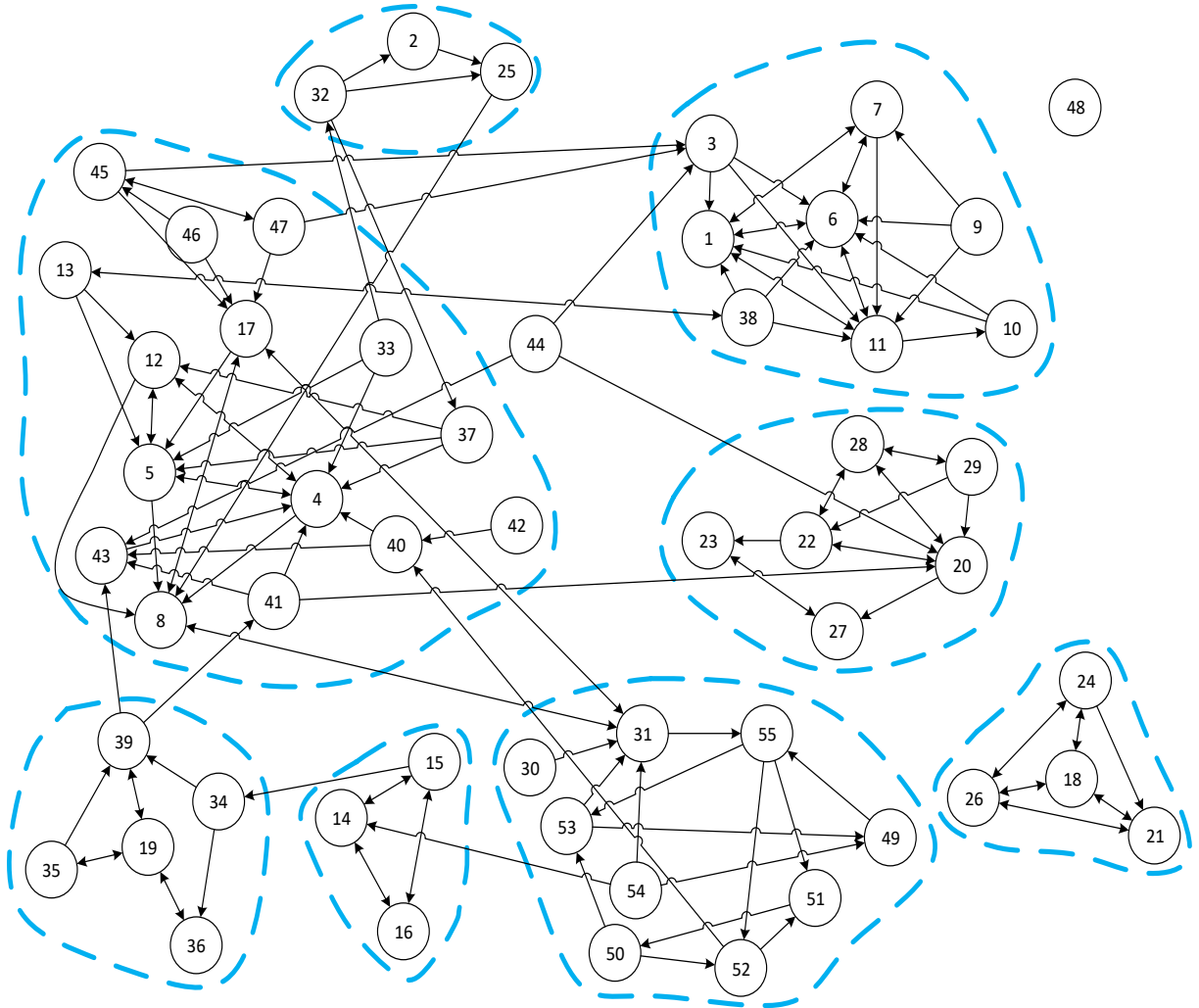 looking at the number of these cliques, we can conclude that the intervention is relatively successful because there is decrease of cliques. This means the relation between students works.

The clique connector is an individual that becomes a bridge from two cliques. This individual can be said as a 'special' person because he or she is accepted in two cliques. Besides that, the existence of connector causes clique becoming not exclusive. In this situation, the number of clique connector is improving after the intervention. On the relation between friends before intervention, there were six people. After intervention, the number became 11 persons. Even the lecture network the number aroused four times, from five to 22 persons after intervention.

Opinion leader is an individual who is picked up by five or more than five members within a group. Opinion leader is a special individual since he or she can be a source of information for those who chose him or her. Therefore, it would be better if there are many opinion leaders in every group. Table 1 displays the number of opinion leaders in between friends network which there were five opinion leaders before intervention and seven after intervention. In the lecture network, there were six opinion leaders before intervention and nine after intervention.

Meanwhile, isolate is an individual who is not included in one of the formed cliques. This isolate is an individual who is not opted by group members when asked about friends and lecture. This type of individual is not a popular person and might be not socializing with his or her peers. In a class that always has tasks and study groups, the isolate individual can be said 'not good' because does not socialize with others. From the network pattern, we can see the number of isolate was decreasing after getting intervention. In between friends pattern, there were three isolates before the intervention, and none after the intervention. Meanwhile, in lecture network pattern, there were two isolates students before intervention, and only one after intervention.

Table 1.

Interaction Pattern Before and After Intervention

No	Indicator	Before Intervention		After Intervention	
		Friends	Lecture	Friend	Lecture
1	Clique number	9	9	6	8
2	Click Connector	6	5	11	22
3	Opinion leader*)	5	6	7	9
4	*Isolate*	3	2	0	1

Information: *) chosen by five persons or more

Table 2 contains between friends network pattern before and after intervention. The table shows individuals who became click connector as bridge are the same individuals before and after individuals. Those people are number 17, 32, 34, 41 and 45. Opinion leaders on between friends network before and after intervention are individual number 4 and 5. These individuals can be used for the purpose of between friends relation process. An individual who requires a special attention is probably number 30, before intervention was an isolate, after intervention can be a liaison.

Table 2
Between Friends Network Pattern Before and After Intervention

Details		Before Intervention	After Intervention
Clique Amount		9	6
Isolate Click		3	1
Clique Connector	Bridge	6 (17, 45, 4, 41, 31, 55)	10 (45, 47, 17, 41, 20, 43, 39, 14, 32, 34)
	Liaison	2 (32, 34)	1 (30)
Opinion Leader		5 (5, 4, 7, 20, 55)	7 (3, 38, 8, 4, 17, 5, 31)
Isolate (Individual)		3 (30, 49, 54)	0

Information: number inside the bracket refers to respondent number

Table 3 contains lecture network pattern before and after intervention. As mentioned before, the number of clique connector has been increased when before intervention and after intervention. Individuals who act as click connector, both before and after intervention, are umber 17, 20, 41, and 45. Meanwhile, individuals who act as opinion leader are number 4, 5, 6, 11, and 20 with the same position before and after intervention.

Table 3
Lecture Network Pattern Before and After Intervention

Details		Before Intervention	After Intervention
Clique Number		9	8
Isolate Click		5	1
Clique Connector	Bridge	5 (4, 41, 17, 45, 20)	21 (43, 39, 41, 34, 15, 14, 54, 8, 31, 40, 52, 17, 20, 13, 38, 47, 3, 45, 32, 33, 25)
	Liaison	0	1 (44)
Opinion Leader		6 (5, 4, 7, 6, 11, 20)	9 (5, 4, 8, 17, 1, 6, 11, 20, 31)
Isolate (Individual)		2 (30, 49)	1 (48)

Information: number inside the bracket refers to respondent number

DISCUSSION

This research utilizes one class as a base for those network patterns. The network patterns are divided into lecture and friendship. Table 2 and Table 3 display the details of the network patterns before and after intervention. There are nine cliques and five separated cliques in the before intervention column. After the intervention, the number of cliques became eight and only one separated clique. This condition shows contextual learning and teaching produces a fruitful outcome. As argued by Vygotsky (in Santrock, 2011), teacher should create opportunities for students to gain knowledge together with the teacher and friends. Friends became a paramount part in someone's life, friends become part of social environment and help someone to be involved in social activities (Rakhmat, 2000).

From the research, we can see that between friends and lecture network patterns experienced a transformation before and after intervention. The transformation is deemed positive as it helps students to develop and socialize better. As argued by Fathurrohman (2015), contextual learning and teaching emphasizes on students' activities whereby students do and experience themselves, not only watching and taking note. Besides that, through this learning model, social skills of the students will be enhanced. Social skills of this research respondents have been shown signs of improvement with the increasing number of opinion leader and the abolishment of isolate. As a result, the method is successful.

The decrease of clique number after intervention also supports the success of contextual learning and teaching model. The result of this research supports findings from Palmiotto (2003) that the model helps students to be more productive in the society, increase problem solving capabilities, and social skills. One of the examples of social activities is to exchange information on lecture as shown by Table 3.

CONCLUSION

Based on the data processing through between friends and lecture matrix and sociogram, we can see that all network groups are not integrated, each of them has clique. Despite having some cliques, there is a clique connector between them. Intervention through contextual learning and teaching managed to integrate those cliques. The clique number is reduced on the between friends and lecture network patterns.

Opinion leader (who is information messenger and someone to ask) exists in each network. Paying attention to the increasing number of opinion leader after intervention, we can say that socialization as part of contextual learning and teaching is successful. The increasing number of opinion leader appears at between friends and lecture network patterns. Students supposedly are connected to one another, especially in doing lecture tasks through study group. This research reveals some students are isolate, they were not chosen or did not choose friend and when communicate about lecture. Those isolates existed in between friends and lecture network pattern before intervention. After intervention, the number of isolates was decreased, even the between friendship network pattern did not have isolate after intervention.

Contextual learning and teaching method that used as an intervention in this research shows a positive result. The success is seen from the increasing social skills amongst respondents in each group, improving cooperation as well as the appearance of individuals who act as opinion leader and click connector. Besides that, contextual learning and teacher also can help students to get deeper understanding of the subject, because they can apply the knowledge on their daily life and contribute to the environment.

This research is a continuation of the two previous studies. Based on the result, we need to pay attention to certain type of students in those networks. Therefore, next studies may explore these elements: 1) qualitative research with student participants who became opinion leaders, clique connector and isolate, 2) same research for other modules to find network patterns which might show characteristics of big city, 3) make a program for academic advisor lecturers, to give special treatment to students who need it, 4) implementing the contextual learning and teaching method to other classes. Faculty can monitor to students who require social attention to prevent risk of drop out. Besides that, we need to think about the information and the way to deliver it by looking who can be utilized as the source.

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