

## **Peer Learning with Concept Cartoons Mediated Computer in Secondary School Economics**

**Khoo Yin Yin<sup>1</sup>**

Universiti Pendidikan Sultan Idris,  
Faculty of Management and Economics  
Block 10, Campus Sultan Azlan Shah,  
35900 Tanjong Malim, Perak,  
Malaysia.

**Khuan Wai Bing<sup>2</sup>**

Universiti Pendidikan Sultan Idris,  
Faculty of Management and Economics  
Block 10, Campus Sultan Azlan Shah,  
35900 Tanjong Malim, Perak  
Malaysia.

**Zainizam Zakariya<sup>3</sup>**

Universiti Pendidikan Sultan Idris,  
Faculty of Management and Economics  
Block 10, Campus Sultan Azlan Shah,  
35900 Tanjong Malim, Perak  
Malaysia

### **Abstract**

*Educators believe that the value of humor plays an important role in the teaching and learning process to create an interactive learning environment. Concept cartoons with the element of fun and humor that take into account the situation of daily life become one of the effective pedagogical tools in virtual learning. The purpose of this study is to examine peer learning with concept cartoon mediated-computer on students' interest and communication skills. The study was carried out at several secondary schools in Malaysia. A survey design had been applied in the study. A further investigation on least squares linear regression equation has carried out. A total of 329 secondary school students from Malaysia participated in this study. After the intervention, the findings revealed significant results on students' interest and communication skills.*

**Keywords:** Concept Cartoon Mediated- Computer, Economics, and Secondary School.

### **1. Introduction**

Educators believe that the value of humor plays an important role in the teaching and learning process to create an interactive learning environment. Concept cartoons with the element of fun and humor that take into account the situation of daily life become one of the effective pedagogical tools in virtual learning. Researchers (Normaliza, Hazlina & Roslina, 2014) found that concept cartoons are effective in enhancing students' interest. On the other hand, some educators (Naglor & Keogh, 2013) also stressed that concept cartoons are effective in providing platform for students to argue their idea through group discussions. In other words, students were able to enhance their communication skills through the argument or discussion in peers or groups.

Using concept cartoons with storylines that relate to students' daily lives can attract students' attention and enhance their interest. Hence, the usage of concept cartoons allows teachers to trace students' understanding during the peer discussion and promote students' communication skills especially for the subject of Economics.

Economics has always been classified as a difficult subject because it consists of many different of concepts, Mathematical formulas and graphs (Andreopoulos & Panayides, 2010). Furthermore, the majority of the secondary students who take Economics were the students that did not perform well in their Form 3 public assessment. When most of the students faced problems in understanding their learning, they will lose interest to the subject. Therefore, a proper learning tool that can enhance students' interest had been implemented in this study. This study was conducted to examine the Peer Learning with Concept Cartoons (PLCC) on students' interest and communication skills.

## ***Literature Review***

### **Defining Concept Cartoons**

Concept cartoons was created 25 years ago (Naylor, & Keogh, 2013). Concept cartoons are cartoon-style drawings that put forward a range of viewpoints about an everyday event (Joyce, 2006). According to Balim, Intel and Kesercioglu (2008), concept cartoons are a visual tool and drawings which enable students to participate in the learning environment and which can be used as a stimulus for argumentation in class (Balim, Inel., Ertug , Kesercioglu, 2008). Researchers also define concept cartoons as a range of viewpoints that are based on a Constructivist approach (Long & Marson, 2003). Concept cartoons are in a constructionally different format from known cartoons and although they do not contain humorous and exaggerated elements, the depiction of events and characters through drawings attribute them the quality of cartoons (Uğurel & Moral, 2006). It also leads students to reason and ensures the active participation of students in the learning process as well as establishes a strong connection between the assessment and the learning that follows this (Keogh & Naylor, 2009). In addition, Koba and Mitchell (2011) also identified concept cartoons as a way to elicit preconceptions (Koba & Mitchell, 2011).

### **Concept Cartoons Enhance Communication Skills**

Concept cartoons are a platform for students to argue about their opposing viewpoints in a non-threatening environment, thereby fostering productive argumentation and discussion (Naylor, Keogh & Downing, 2007). The students can also ask a variety of questions during the small-group talk giving direction to the course of their discussion (Egun & Dunkwu, 2013).

Using concept cartoons have positive effects on remedying misconceptions by providing social interaction process (Akamca, Ellez, Hamurcu, 2009). Dabell (2004) stressed the relationship of social interaction and communication when concept cartoons are used in collaborative learning. Concept cartoons may also be used as a starting point to encourage students to talk during class discussions and identify their prior knowledge (Khuan and Chua, 2003).

Concept cartoons legitimize argumentation via the characters (Naylor, Keogh, de Boo & Feasey, 2001). Concept cartoons act as a tool for argumentation (Kabapinar, 2009). Such concept cartoons have been used in various ways and in diverse situations to assess students' understanding of concept or as a mean to carve old students' argumentation in the case of formative assessment (Chin & Teou, 2008). Concept cartoons act as an effective stimulus for argumentation, including enabling students to co-construct arguments. They enable argumentation to take place without the need for any formal structure, specific vocabulary, or teacher intervention in managing the process of argumentation (Naylor & Keogh, 2013).

Dougherty (2002) contends that using cartoons opens more possibilities for debate because students can voice unpopular opinions without feeling that they are challenging the instructor's views. This allows the students to discuss unpopular ideas more openly because it is the cartoon making the argument, not the student. Cartoons are especially effective in engaging students in scientific dialogue. Even the quietest students in the class can be motivated to talk when a familiar cartoon character becomes the protagonist in their dialogue. Active dialogue facilitates student understanding of scientific concepts and also provides a context for teachers to recognize student's progress and learning (Song, Heo, Krumenaker, & Tippins, 2008). The results revealed that the subjects were able to interact and communicate about the content of the story in the cartoon. It can be stated that the subjects found that the cartoon had triggered them in giving their opinions and views pertaining to the cartoon (Rahim, Halim, Mamat, 2014).

### **Concept Cartoons Enhance Interest**

The new animated cartoons developed in this study for teaching both macroeconomic and microeconomic subjects have received positive feedback and many favorable comments from teachers and students. Utilization of these resources can improve learning efficiency, help students in their understanding and long term memory of the subject, engage students in their studies, and increase interest (Şengül & Dereli, 2013; Kaptan & Izgi, 2014) in undertaking economic studies amongst all other students (Zhang, 2012).

Study has shown that the use of concept cartoon had a positive impact on students, in terms of enhanced motivation and interest during their lesson (Bhowon et al., 2014). Doring (2002) also advocates the use of cartoons in the classroom and believes they help establish a positive learning environment by facilitating increased interest and engagement and by relieving anxiety, boredom, and thwarting disruptive behavior. Using cartoons as a summative assessment tool in the project is effective to enhance students' interests (Song, Heo, Krumenaker, & Tippins, 2008). A cartoon is a visual medium with humor that can be in either the form of a single picture or a series of pictures, captioned or non-captioned, printed in magazines, newspapers or books. Selected humor is not only healthy, friendly and attention grabbing but also increases students' interest and reduces tension and anxiety (Torok, McMorris, & Lin, 1999).

Very often, a picture speaks louder than words and has more impact than just reading the text. The use of cartoons has been shown to increase interest and intrinsic motivation and reduce boredom, academic stress, and anxiety (Tamblyn, 2002). The results of the study by Cho (2012) revealed that when cartoon activities have appropriate levels of difficulty and are clearly understandable, students' intrinsic motivation and interest increased, whereas mathematics anxiety decreased.

The teacher reported that students participated more readily, were full of enthusiasm and were more focused in classes with cartoon activities. Such positive feelings are likely to foster interest and engagement in learning (Bergin, 1999). Educators are beginning to view cartoons as potential educational tools, as a way to increase and arouse students' interest in any academic subjects (Cleaver, 2008). Concept cartoons are primarily intended to act as an interesting teaching and learning tool; they help to arouse students interest, yet, they have also been proven to work effectively as a cognitive and affective assessment strategy (Keogh & Naylor, 1999; Kinchin, 2004). Concept cartoons might increase student interest (Roesky & Kennepohl, 2008) in learning with the attractive characters.

### **Methodology**

#### **Research Design**

This study employed the descriptive method followed by a single equation analysis. A survey design was applied in the quantitative study. The survey had explored more about the FUN Learning Model. Interventions took eight weeks in a semester.

#### **Samples**

The study used random sampling methods as it involved intact groups to serve as sampling groups. The study employed about 329 students in northern Malaysia secondary school.

#### **Sampling Procedures**

The study employed the Form 4 secondary school students in Malaysia. About 329 students were selected from three schools from different states. The samples of this study were selected randomly according to group basis, in order to eliminate extraneous variables among the groups.

#### **Research Procedure**

Teachers' and students' preparation for using concept cartoons began well before the implementation of the actual study. Preparation includes managing the teachers' relevant skills of the new teaching method and orientating students to the new learning environment.

The storyline of the concept cartoons was created by the researcher with the element of 1 Malaysia value. A total of ten sets of cartoon were created. Three main characters in the cartoons were Mohammad (M), Ai Ling (A) and Letchumi (L). Their names were the acronym for Malaysia (MAL). A briefing was given to teachers during semester break at the end of June, 2015. A list and concept cartoons were distributed during the training session.

Teachers could use the concept cartoons during the beginning of the lesson with laptop and projector. In addition, teachers could employ the concept cartoons during students' peer discussion. Students could discuss in groups of two and apply what they had learnt. A worksheet was distributed to the students to encourage active learning. The intervention took eight weeks to complete. A set of questionnaire was administered to the students after the interventions. The survey was distributed to all the students.

### **Analysis of Students' Interest**

The findings of frequency and percentage of interest is shown in Table 1. The respondents were required to provide one response for each item. On the whole, the 329 participants comprised of a comparable percentage of students across 20 items to show their learning interest towards PLCC. Table 2 illustrated the students' level of interest and communication skills after implementing PLCC. In response of item 1: "I have great interest in learning Principles of Economics by using concept cartoon." Majority of the respondents (43.2%) selected 'agree.' However, for item 4 "I spend more time in learning after engaging with concept cartoons", most of the respondents selected 'neutral'

Overall, the findings revealed positive results from items 1-20. In sum, 36.97% of the respondents selected 'agree' followed by 29.47% with 'neutral', 22.66% responded with 'strongly agree,' 7.3% respondents selected 'disagree' and 3.6 % of the respondents selected 'strongly disagree'.

Table 2 showed the results of frequency and percentage of students' communication skills which was derived from items 21-40. The respondents have answered the questionnaire based on their own experiences. Based on Table 3, for item 26: "I always lead the discussion." The respondents selected 'neutral' indicating the highest percentage (49.8%). Furthermore, for item 22, "I can accept my peer's idea." The respondents (48.6%) selected 'agree'.

Summarizing the average percentage of the 20 items in the questionnaire, 39.84% of the respondents selected 'agree', followed by 35.2% of the respondents selected 'neutral', 18% of the respondents selected 'strongly agree', 6.16% of the respondents selected 'disagree' and followed by 1.2% respondents selected 'strongly disagree.'

Table 3 listed the mean of interest of students after intervention. Item 1 showed the highest mean (mean=4.00, SD =.85) in this section, indicating that there is great interest in learning Economics by using concept cartoons. From the findings in item 10 (mean= 3.98, SD=.86), it showed that students felt it was fun to learn with concept cartoons and discuss with peers. The mean score obtained for item 17 was quite a high mean score (mean = 3.93, SD = .95), indicating that the concept cartoons are attractive. On the other hand, item 13 (Mean =2.48, SD= 1.27) and 9 (mean =2.55, SD =1.24) obtained the lowest mean score in this survey. Researchers found that there were fair mean score throughout the other items. These items obtained average mean score which was above 3.69. The overall average mean for interest towards PLCC learning was 3.67. Figure 1 showed the overall result for mean from items 1-20.

A further analysis of t-test had been carried out to examine if the result was statistically significant. Table 4 showed the findings. The findings revealed a significant of t-value ( $t=132.196$ ,  $p=.000$ ), it indicated that the result of interest after the intervention was significant.

Table 5 listed the mean of communication skills of students after intervention. Item 1 showed the highest mean (mean=4.00, SD =.85) in this section, it indicated that there is great interest in learning Economics by using concept cartoons. From the findings, item 22 indicated the highest mean score 3.95, SD = .83 and this item sound like this: "I can accept my peer's idea." On the other hand, item 26: "I always lead the discussion" showed the lowest mean score 3.33, SD = .88. Overall, the other items lead to have the average mean of 3.68.

The mean and standard deviation of communication skills was analyzed in Table 5. From the findings, item 22 indicated the highest mean score 3.95, SD = .83 and this item is: "I can accept my peer's idea." On the other hand, item 26, "I always lead the discussion" showed the lowest mean score 3.33, SD = .88. Overall, the other items obtained on average mean of 3.68. The illustration of the mean of items 21-40 is presented in Figure 2.

The t-test had been employed in this study to examine if the result was statistically significant. Table 6 presented the results of t-test. The findings revealed a significant of t-value ( $t=118.424$ ,  $p=.000$ ), it showed that the result of communication skills after the intervention was significant.

A further analysis has been carried out by using least squares linear regression equation. A model for predicting Y from X has form; where Y is communication (dependent variable) and X is interest (independent variable). The model is,

$$\alpha + \beta_1 X + \varepsilon Y = C + X$$

The above equation involves the measure of students' communication skill and students' interest. The researcher hypothesised that the relationship between communication and interest is present: When the students' interest is high, they will communicate.

From the statistical findings, this model is significant ( $F < .000$ ), the regression equation is,

$$\text{Communication} = .975 + .737 (\text{Interest})$$

When the communication equal to 1 unit, the interest will change .737 units. From the result, it indicated the X and Y only have a mild relationship. On the other hand, communication correlated with interest. However, the interaction effect accounted for 43.2% of the variance in the students' interest in the sample data.

In addition, interest and communication skills showed a moderate positive coefficient with  $r = .659$  ( $\text{sig} = .000$ ) in Pearson Correlation.

### Discussion

Peer learning with concept cartoons enhance students' interest has been proven by the findings. The research question was explored in both quantitative and qualitative data. A 20 item close-ended survey was conducted and the results revealed that 39.84% of the respondents agreed that peer learning with concept cartoons enhanced their interest. The findings showed an average mean of 3.67 with standard deviation .92.

Analysis from the findings indicated that PLCC can enhance the students' interest. As shown in the data, it was due to interest that students' engage in PLCC. They like to spend more time in learning because it is related with their daily lives.

This finding is similar with prior research (Naylor & Keogh, 2013) that concept cartoons can enhance learning and learners tend to spend longer time on the task to sustain their levels of interest and to interact confidently with their peers. This statement proved that concept cartoons need to be conduct in group to maximise the potential of promoting students' interest. Other researchers (Zhang, 2012; Sengul, 2011 & Connor, 2009) also shared similar views. The furthur analysis by using least squares linear regression equation also indicated interest correlated with communication.

In addition, peer learning with concept cartoons enhance students' communication skills has also been proven in this study. The research question was explored through both quantitative and qualitative analyses. The qualitative data supported the quantitative analysis. The results were derived from the 20-item close- ended questionnaire indicating that the average mean is 3.69 and standard deviation .88. The 20 item survey result revealed that 39.84% of the respondents 'agree' that their communication skills were improved after engaging with PLCC.

The results revealed that PLCC enhanced students' communication skills. These findings were supported by Van Wyk (2011) and Chin and Teou (2010). From the context of the cartoons and communication in the classroom, students connected descriptive statements, and shared their point of views among peers as essential aspects to strengthening their verbal language practices (Gallavan, Webster-Smith & Dean, 2012).

In addition, the implementing of the cartoons in virtual world enabled students to improve their communication skills such as getting feedback from other students as well as increased participation and involvement in peer learning. The cartoons as a teaching strategy provide a chance for interactions, reward students for collaboration and problem solving. Furthermore, cartoons promote class discussions, cooperative learning, individual accountability, positive interdependence, and the need for group processing and feedback (Van Wyk, 2011).

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Table

Table 1: Frequency and Percentage of Students' Interest

No	Item	Frequency & Percentage					Total
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
1	I have great interest in learning Economics by using concept cartoon.	4 (1.2)	6 (1.8)	76 (23.1)	142 (43.2)	101 (30.7)	329 (100.0)
2	I know about concept cartoons.	2 (0.6)	10 (3.0)	124 (37.7)	145 (44.1)	48 (14.6)	329 (100.0)
3	My interest towards this subject has increased after engaging with concept cartoons.	5 (1.5)	15 (4.6)	110 (33.4)	146 (44.4)	53 (16.1)	329 (100.0)
4	I spend more time in learning after engaging with concept cartoons.	4 (1.2)	22 (6.7)	160 (48.6)	96 (29.2)	47 (14.3)	329 (100.0)
5	I try to discuss with my friend using concept cartoons.	9 (2.7)	21 (6.4)	91 (27.7)	125 (38.0)	83 (25.2)	329 (100.0)
6	I always hope to learn with concept cartoons again.	6 (1.8)	19 (5.8)	86 (26.1)	123 (37.4)	95 (28.9)	329 (100.0)
7	It's easier to learn Economics with concept cartoons.	6 (1.8)	9 (2.7)	86 (26.1)	132 (40.1)	96 (29.2)	329 (100.0)
8	I can understand most of the messages posed in the concept cartoons.	4 (1.2)	19 (5.8)	86 (26.1)	145 (44.1)	75 (22.8)	329 (100.0)
9	I hate to learn with concept cartoons.	75 (22.8)	105 (31.9)	70 (21.3)	51 (15.5)	28 (8.5)	329 (100.0)
10	It's fun to learn with concept cartoons and discuss with peers.	1 (0.3)	10 (3.0)	88 (26.7)	126 (38.3)	104 (31.6)	329 (100.0)
11	I can understand the Economics concept better.	2 (0.6)	15 (4.6)	100 (30.4)	138 (41.9)	74 (22.5)	329 (100.0)
12	I like to use concept cartoons for other subjects.	9 (2.7)	26 (7.9)	115 (35.0)	98 (29.8)	81 (24.6)	329 (100.0)
13	I don't feel any benefit learning with concept cartoons.	85 (25.8)	106 (32.2)	68 (20.7)	36 (10.9)	34 (10.3)	329 (100.0)
14	I feel happy to learn with concept cartoons.	7 (2.1)	13 (4.0)	100 (30.4)	133 (40.4)	76 (23.1)	329 (100.0)
15	I am looking forward to learn new Economics concepts.	4 (1.2)	13 (4.0)	94 (28.6)	131 (39.8)	87 (26.4)	329 (100.0)
16	I spend more time in learning Economics concepts.	3 (0.9)	20 (6.1)	151 (45.9)	116 (35.3)	39 (11.9)	329 (100.0)
17	The concept cartoons are attractive.	7 (2.1)	16 (4.9)	70 (21.3)	136 (41.3)	100 (30.4)	329 (100.0)
18	I like the message posed in the cartoons because it is related to my daily life.	4 (1.2)	16 (4.9)	79 (24.0)	151 (45.9)	79 (24.0)	329 (100.0)
19	The content is relevant.	1 (0.3)	7 (2.1)	100 (30.4)	144 (43.8)	77 (23.4)	329 (100.0)
20	Overall, I like this learning method.	6 (1.8)	12 (3.6)	85 (25.8)	118 (35.9)	108 (32.8)	329 (100.0)
Average of Percentage (%)		(3.6)	(7.3)	(29.47)	(36.97)	(22.66)	(100.0)

**Table 2 Frequency and Percentage of Students' Communication Skills**

No	Item	Frequency & Percentage					Total
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
21	I can present my ideas anytime.	4 (1.2)	23 (7.0)	134 (40.7)	125 (38.0)	43 (13.1)	329 (100.0)
22	I can accept my peer's idea.	3 (0.9)	11 (3.3)	70 (21.3)	160 (48.6)	85 (25.8)	329 (100.0)
23	I can accept different opinions from my peer.	2 (0.6)	11 (3.3)	77 (23.4)	154 (46.8)	85 (25.8)	329 (100.0)
24	I always discuss out of topic from the given concept cartoons.	7 (2.1)	22 (6.7)	142 (43.2)	109 (33.1)	49 (14.9)	329 (100.0)
25	I can create new ideas from the given concept cartoons.	4 (1.2)	24 (7.3)	140 (42.6)	109 (33.1)	52 (15.8)	329 (100.0)
26	I always lead the discussion.	9 (2.7)	31 (9.4)	164 (49.8)	96 (29.2)	29 (8.81)	329 (100.0)
27	I give response to my peer even when I disagree with her/his answer.	1 (0.3)	21 (6.4)	125 (38.0)	132 (40.1)	50 (15.2)	329 (100.0)
28	I always argue back with my peer if I have a different answer from her/him.	3 (0.9)	19 (5.8)	116 (35.3)	125 (38.0)	66 (20.1)	329 (100.0)
29	I understand what my peer's feelings are by reading her/his facial expression.	1 (0.3)	17 (5.2)	121 (36.8)	124 (37.7)	66 (20.1)	329 (100.0)
30	I always try to make my peer understand my ideas.	1 (0.3)	10 (3.0)	88 (26.7)	146 (44.4)	84 (25.5)	329 (100.0)
31	I will interpret with a different example if my peer cannot understand what I mean.	4 (1.2)	19 (5.8)	112 (34.0)	134 (40.7)	60 (18.2)	329 (100.0)
32	I always ask if I cannot understand what my peer is trying to communicate.	2 (0.6)	11 (3.3)	92 (28.0)	143 (43.5)	81 (24.6)	329 (100.0)
33	I can discuss with different peer.	3 (0.9)	18 (5.5)	113 (34.3)	120 (36.5)	75 (22.8)	329 (100.0)
34	I am open to receiving criticize or negative comment.	11 (3.3)	41 (12.5)	143 (43.5)	83 (25.2)	51 (15.5)	329 (100.0)
35	I prepare by organizing what I want to say to my peer.	2 (0.6)	13 (4.0)	122 (37.1)	144 (43.8)	48 (14.6)	329 (100.0)
36	I encourage my peer to give comments when she/he does not respond.	4 (1.2)	16 (4.9)	112 (34.0)	127 (38.6)	70 (21.3)	329 (100.0)
37	I know how to build a good communication situation.	3 (0.9)	27 (8.2)	125 (38.0)	115 (38.0)	59 (17.9)	329 (100.0)
38	I always listen carefully before I give comment to my peer.	3 (0.9)	12 (3.6)	100 (30.4)	132 (40.1)	82 (24.9)	329 (100.0)
39	I can improve my communication skills through peer learning.	3 (0.9)	15 (4.6)	90 (27.4)	139 (42.2)	82 (24.9)	329 (100.0)
40	I can guess the answer from my peer through her/his body language.	10 (3.0)	44 (13.4)	130 (39.5)	89 (27.1)	56 (17.0)	329 (100.0)
Average of Percentage (%)		(1.2)	(6.16)	(35.2)	(39.84)	(18.0)	(100.0)



**Table 3 Mean and Standard Deviation for Interest**

No	Item	Mean	Standard Division
1	I have great interest in learning Economics by using concept cartoon.	4.00	.85
2	I know about concept cartoons.	3.69	.78
3	My interest towards this subject has increased after engaging with concept cartoons.	3.69	.85
4	I spend more time in learning after engaging with concept cartoons.	3.49	.86
5	I try to discuss with my friend using concept cartoons.	3.77	.99
6	I always hope to learn with concept cartoons again.	3.86	.96
7	It's easier to learn Economics with concept cartoons.	3.92	.91
8	I can understand most of the messages posed in the concept cartoons.	3.81	.89
9	I hate to learn with concept cartoons.	2.55	1.24
10	It's fun to learn with concept cartoons and discuss with peers.	3.98	.86
11	I can understand the Economics concept better.	3.81	.87
12	I like to use concept cartoons for other subjects.	3.66	1.02
13	I don't feel any benefit learning with concept cartoons.	2.48	1.27
14	I feel happy to learn with concept cartoons.	3.78	.92
15	I am looking forward to learn new Economics concepts.	3.86	.90
16	I spend more time in learning Economics concepts.	3.51	.82
17	The concept cartoons are attractive.	3.93	.95
18	I like the message posed in the cartoons because it is related to my daily life.	3.87	.88
19	The content is relevant.	3.88	.80
20	Overall, I like this learning method.	3.94	.95
Average mean		3.67	.92

**Table 4 Result for One Sample T-test**

Variable	t	Sig.
Interest	132.196*	.000

P < .005

**Table 5 Mean and Standard Deviation for Communication Skills**

No	Item	Mean	Standard Deviation
21	I can present my ideas anytime.	3.55	.85
22	I can accept my peer's idea.	3.95	.83
23	I can accept different opinions from my peer.	3.94	.82
24	I always discuss out of topic from the given concept cartoons.	3.52	.90
25	I can create new ideas from the given concept cartoons.	3.55	.89
26	I always lead the discussion.	3.33	.88
27	I give response to my peer even when I disagree with her/his answer.	3.64	.83
28	I always argue back with my peer if I have a different answer from her/him.	3.71	.88
29	I understand what my peer's feelings are by reading her/his facial expression.	3.72	.85
30	I always try to make my peer understand my ideas.	3.92	.82
31	I will interpret with a different example if my peer cannot understand what I mean.	3.69	.88
32	I always ask if I cannot understand what my peer is trying to communicate.	3.88	.84
33	I can discuss with different peer.	3.75	.90
34	I am open to receiving criticize or negative comment.	3.38	1.01
35	I prepare by organizing what I want to say to my peer.	3.68	.79
36	I encourage my peer to give comments when she/he does not respond.	3.74	.89
37	I know how to build a good communication situation.	3.61	.91
38	I always listen carefully before I give comment to my peer.	3.84	.87
39	I can improve my communication skills through peer learning.	3.86	.88
40	I can guess the answer from my peer through her/his body language.	3.42	1.02
Average mean		3.68	.88

**Table 6 Result for one sample t-test**

Variable	t	Sig.
Communication skills	118.424*	.000

P &lt; .005

Figure

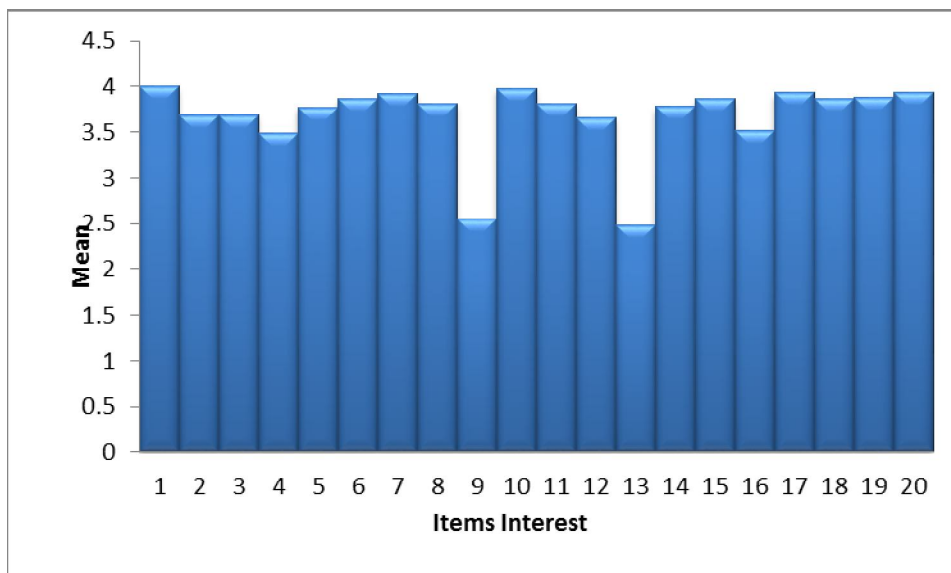


Figure 1 Mean for Interest

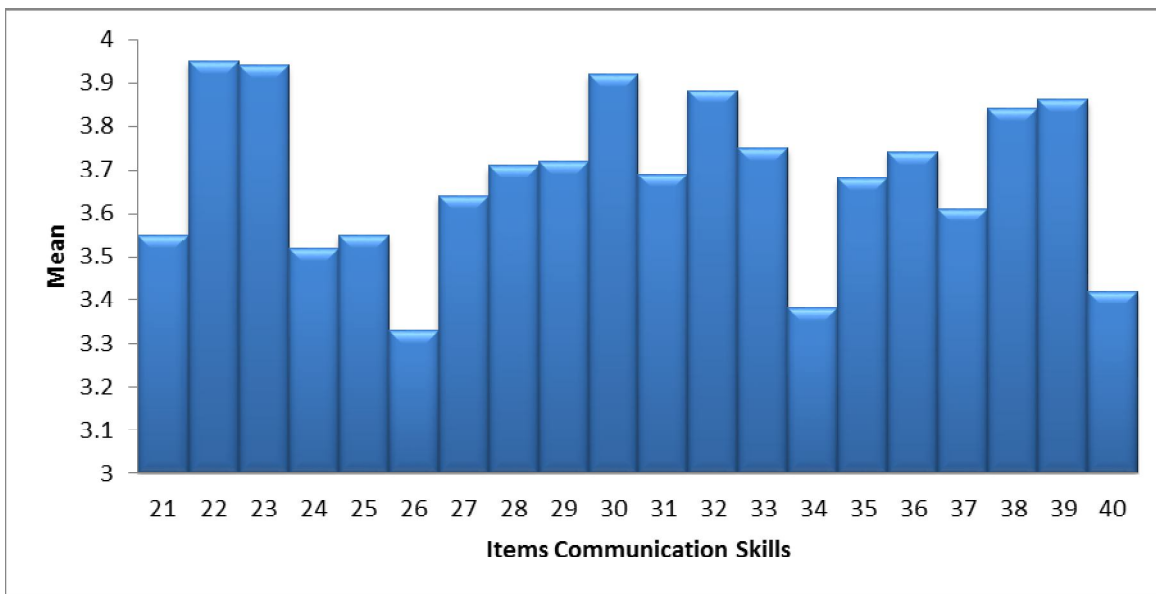


Figure 2 Mean for Communication Skills