

An Exploratory Study on Peer Learning Using Concept Cartoons

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Abstract

This aim of the study was to explore a new peer learning method by using concept cartoons mediated computer. The storyline of the concept cartoons was created by the researcher with the element of One Malaysia value. This study was employed descriptive quantitative method and 40 secondary school students from Malaysia was the sample. The instruments was a set of questionnaire. A five point Likert scale was constructed on each item. Principal axis factor analysis with varimax rotation was conducted to assess the underlying structure for the 40 items questionnaire for interest and communication skills. The assumption of normality, linear relationship between pairs of variables and the variables' being correlated at a moderate level were checked. A team of experts in education was verified the content validity of the questionnaire. The Cronbach Alpha coefficient was used to calculate the reliability of the questionnaire. The results revealed significant findings regarding students' communication skills and interest in learning using concept cartoons. The majority of the students said that concept cartoons assisted them in their learning activities. The results also revealed that the instrument was valid and reliable. Future research on this topic could be carried out with animated cartoons series in various fields.

Keywords: Concept Cartoons, interest, communication skill, secondary school, descriptive, factor analysis

Introduction

From an educational perspective, learning method has played an important role to expanding, extending students' knowledge and understanding of various subject content. The benefits are beyond our imagination such as fostering students' interest in learning (Vogler, 2004) and enhancing their critical thinking (Van Wyk, 2011) as well as questioning ability (Vogler, 2004). It has given us the opportunity to reach effective learning outcomes and meet the demands of recent education system.

An interactive learning environment that enhance students' thinking, such as concept cartoons that are related to students' daily life and which can attract their attention should be brought into the classroom lesson. According to Akamca, Ellez and Hamurcu (2009), concept cartoons always attract students' attention in focusing daily lesson and encourage discussion and argument among students. Hence, the usage of concept cartoons allows teachers to keep track of students' understanding and thinking to avoid the occurrence of misconceptions.

Furthermore, students can debate their ideas, engage in interactive dialogic talk in a group setting where they can activate their thoughts, question each other and exchange ideas (Chin & Teou, 2009) in the subject that needs conceptual understanding such as economics. This kind of discourse that involves argumentation has been advocated by a number of educators (Erduran & Dagher, 2007). This method not only enhances the nature of learning but also promotes communication skills (Mohd Hasril, Isma Atiqah, Fathin Liyana & Norhayati, 2016) and enhances their learning interest. Therefore, using cartoons in the economic classroom inspires creativity as well as provides opportunities for students to share their views. The main purpose of the study is to examine students' communication skills and interest.

Literature Review

Concept cartoons enhance communication skills

Concept cartoons are a platform for students to argue about their opposing viewpoints in a lively environment, thereby promoting constructive argumentation and conversation (Naylor, Keogh & Downing, 2007). The students can also asked a variety of questions during the small-group talk giving direction to the course of their discussion. This was established through some 'question-answer couplets' where a question posed by a student would elicit one or more responses from peers. These 'serious' questions would activate argumentation about concept related to the concept cartoon, push the students to deeper levels of thought, and help to advance their thinking (Chin & Teou, 2009).

In using concept cartoon, the teacher needs to accept students' ideas, allow interactions, and encourage thought and debate through provocative questions. This dialogic approach continues until students produce their solutions for finding out correct idea, implementing it, and interpreting the findings (Zhang, 2012).

From the context of the cartoons and communication in the classroom, students connected descriptive statements, point of view, agenda, advocacy, adversarial actions, provocation, and inquiry as essential aspects of social study concepts strengthen their language arts practices (Gallavan, Webster-Smith & Dean, 2012).

The effectiveness of the concept cartoons enabled the students to improve their social skills. These social skills were interpreted as interpersonal soft skills such as the abilities to bargain, persuade, discuss and decision making. Ideas from other students can show that discuss with the concept cartoons in the classroom is acceptable, and also provides positive reinforcement for cooperate with others to accomplish the goal of the activity. The cartoons as a teaching method provide opportunity for interactions, encourage students for collaboration and problem solving. In addition, cartoons enhance class discussions, cooperative learning, individual accountability, positive interdependence, and the need for group processing and feedback (Van Wyk, 2011).

Concept cartoons enhance students' interest

The researcher believed that concept cartoons enhance students' learning interest. Connor (2009) found that cartoons help the students who have difficulty in quickly processing large tracts of written text or dialogues, and increase both learning efficiency and students' interest in learning. Cartoons have been used in a variety of ways in facilitating learning. These include enhancing motivation in learning (Perales-Palacios & Vilchez-Gonzalez, 2005). Concept cartoons appear to offer an innovative approach to gaining access to the students' ideas and to providing possible starting points for relevant investigations. They appear to provide a possible means of offering opportunities for learning at a variety of levels and of enhancing students' interest and motivation (Dalacosta, Kamariotaki-Paparrigopoulou, Palyvos, & Spyrellis, 2009).

The use of cartoon has been shown, supported by other studies, to have a positive impact in terms of learning and interests (Khalid, Meerah, & Halim, 2010). Thus, using the strategy will attract more students to learn the difficult subject, which forms the core subject. Eulie (1969) states that when cartoons are used in teaching, it can create and maintain interest. It was found that students liked concept cartoons very much, their interest in the lesson increased and they believed they could do mathematics lesson (Sengul, 2011). Concept cartoons help teachers to grasp their students' conceptual development as they provoke the students to learn; and keep them interested (Huang, Liu, Lin, ve Istanda, 2006).

Concept Cartoons have been found to be highly motivating for groups of learners of all ages and backgrounds and in a variety of circumstances, including those students who have emotional and behavioral difficulties. Learners tend to spend longer time on the task, to sustain their levels of interest and to interact confidently with their peers (Naylor & Keogh, 2013). Sadowski and Gulgoz (1994) looked at the effects of content-related cartoons in classroom teaching. They provided students with cartoons for the topics covered in their social psychology class. Cartoons were discussed at the beginning of the class and mentioned at relevant intervals during class. Students reported positive attitudes toward the use of content-related cartoons in the class such as making class more pleasant, increasing attention, and being a useful teaching device.

Methodology

Research Design

This quantitative study employed the descriptive method. The study utilized about 40 Form 4 students in a secondary school of the northern Malaysia. The samples of this study were selected randomly according to group basis, in order to eliminate extraneous variables among the groups.

Instrument

A set of questionnaire with 45 items was used as the instrument of the study. The questionnaire was constructed by the researcher based on the new learning model. The questionnaire consisted of three parts: 5 questions on demographic information, 20 questions on interest and 20 questions on communication skills. Each item was constructed on a 5- point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Validity and Reliability Test

Content validity of the questionnaire was established by a team of lecturers in education. The reliability of the questionnaire was estimated by calculating the Cronbach alpha coefficient which was at the value of .906. These results showed a high reliability standard because an instrument with the coefficient of 0.70 and above was consider reliable (Sekeran & Bougie, (2010). Therefore, all the items are reliable and usable.

Factor Analysis

A further investigation has carried out on factor analysis. Assess the underlying structure for the 40 items questionnaire for interest and communication skills by using principal axis factor analysis with varimax rotation. Before conducting for factor analysis, the assumption of independent sampling was met. The further checking of the assumption of normality, linear relationship between pairs of variables and the variables' being correlated at a moderate level. Three factors were requested based on the items were designed to index three constructs: communication skills, interest and pleasure. After rotation, the first factor accounted for 20.54% of the variance, the second factor accounted for 17.61% and the third factor accounted for 5.19%. Refer to Table 1 display the item for the rotate factors with loadings less than .40 omitted to improve clarity. The first factor, that is communication skills, had quite strong loadings on the first ten items. The first item "I encourage my peer to give comments when she/he does not respond" indicated the highest loading in this factor. The second factor was interest had high loadings on the next three items. "It's easier to learn Economics with concept cartoons" had the highest loading in second factor. The third factor which was index pleasure from learning with concept cartoons. "I don't feel anything benefit me learning with concept cartoons" had its highest loading from the pleasure factor.

Table 1: Factor Loading for the Rotated Factors

Item	Factor			Communality
	1	2	3	
I encourage my peer to give comments when she/he does not respond.	.683			.563
I am prepared by organizing what I want to say with my peer.	.677			.563
I know how to build a good communication situation.	.670			.558
I always try to make my peer understand my ideas.	.662			.633
I can improve my communication skills through peer learning.	.655			.597
I always listen carefully before I give comment to my peer.	.643			.536
I will interpret with different example if my peer cannot understand what I meant	.619			.519
I always argue back with my peer if I have different answer from her/him.	.613			.574
I understand what my peer's feeling by reading her/his facial expression.	.603			.519
I can discuss with different peer.	.602			.545
I always ask if I cannot understand what my peer are trying to communicate.	.580			.561
I show respond to my peer even I disagree with her/his answer.	.575			.477
I accept difference opinion from my peer.	.546			.644
I present my ideas anytime.	.543			.527
I always lead the discussion.	.507			.519
I can accept my peer's idea.	.507			.624
I can create new ideas from the given concept cartoons.	.493			.529
I am open to criticize or negative comment.	.477			.399
I always discuss out of topic from the given concept cartoons.	.465			.421
I can guess the answer from my peer with her/his	.433			.399

body language.		
It's easier to learn Economics with concept cartoons.	.752	.648
I always hope to learn with concept cartoons again.	.730	.677
I feel to learn with concept cartoons.	.725	.637
I like to use concept cartoons for other subjects.	.612	.512
My interest towards this subject has increased after engaging with concept cartoons.	.608	.506
I can understand most of the message poses in the concept cartoons.	.606	.526
I know about concept cartoons.	.594	.468
It's fun to learn with concept cartoons and discuss with peer.	.584	.517
I have great interest in learning Economics by using concept cartoon.	.562	.455
Overall, I like this learning method.	.549	.593
I try to discuss with my friend with concept cartoons.	.537	.436
I spend more time in learning after engaging with concept cartoons.	.529	.412
The concept cartoons are attractive.	.523	.574
I can understand the economics concept better.	.517	.553
I like the message poses in the cartoons because is related to our daily life.	.491	.493
The content is relevant.	.461	.550
I don't feel anything benefit me learning with concept cartoons.		.830 .588
I hate to learn with concept cartoons.	.659	.565

Research Procedure

The teachers and students' preparation for using concept cartoons began way earlier before the actual study employed. Preparation included giving training to the teachers' proper skills of 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 One Malaysia value. The purpose of instilling 1 Malaysia value is to stress national unity and ethnic tolerance. The values of One Malaysia are perseverance, a culture of excellence, acceptance, loyalty, education, humility, integrity, and meritocracy. However, the cartoons was drawn by a local cartoonist.

A briefing was given to the teachers during the school semester break at the end of March 2015. A check list and concept cartoons were distributed during the training session. The teachers used the concept cartoons mediated computer at the beginning of the induction set lesson. In addition, the teachers employed the concept cartoons mediated computer during students' group discussion. The students discussed in groups of two and applied what they had learnt. Students were allowed to use internet for searching materials during discussion. A worksheet was distributed to the students to encourage active listening. The concept cartoons are cute and user friendly.

The intervention took eight weeks to complete. The students answered in a self-reported questionnaire after the interventions.

Result

The result of the communication skills questionnaire was reported in Figure 1. The majority of the respondents selected “agree” (49.6%), the next highest being “neutral” (28.2%), “strongly agree” (15.3%), followed by “disagree” (5.3%) and “strongly disagree” was at 1% .

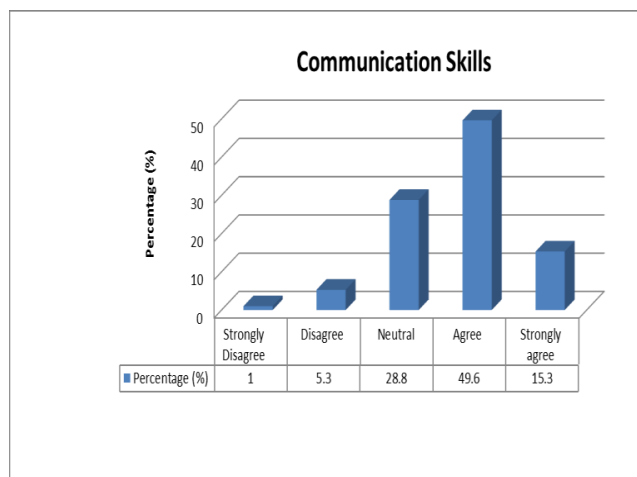


Figure 1: The respondents’ response for the communication skills’ questionnaire

The overall score indicated the majority of the respondents (41.2%) selected “agree” in the 20 item questionnaire on interest in Figure 2, the next highest was” strongly agree” (22.2%) followed by “neutral” (17.6%) , “disagree” (10.8%) and “strongly disagree” was at 8.2% .

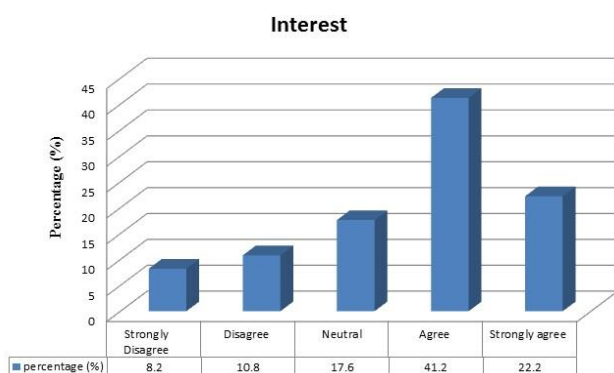


Figure 2: The respondents’ response for interest questionnaire

Discussion and Conclusion

The present study used a questionnaire that was developed by the researcher as one of the instruments. This questionnaire has proven the validity and reliability during the pilot test.

The findings indicated that majority of the respondents enhanced their communication skills and interest when they learned the economics lesson with the concept cartoons mediated computer. This result shows the effectiveness of the concept cartoons in enhancing communication skills and interest when students learned with their peers.

The present results suggest that learning through concept cartoons has potential for future development. Future research on this topic could be carried out with animated cartoons series in various fields.

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