TEACHERS' PERCEPTIONS TOWARDS THE USAGE OF COURSEWARE IN THE TEACHING AND LEARNING OF ECONOMICS AT MALAYSIAN SECONDARY SCHOOLS

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ABSTRACT: This purpose of study was to identify teachers' perceptions towards the usage of courseware in the teaching and learning of Economics at Form 4 and Form 5 levels at Penang secondary schools. Other aspects observed were the knowledge and basic skills of the teachers in the use of computer, the methods used in the teaching and learning of Economics and their perceptions towards the use of courseware in the teaching and learning process. In this study, 30 in-service teachers were chosen randomly as research samples, representing the teachers' population teaching Economics in 96 schools in Penang. This study was carried out using the quantitative approach. Descriptive statistics used include frequency, %age, and min relativity index. The findings showed that teachers teaching Economics at Penang secondary schools are receptive about the usage of courseware in the teaching and learning of Economics. They also believed that the usage could also bring benefits to the students. The results of the overall relativity index show that there is readiness among the teachers in using courseware in the teaching and learning of Economics at the Form 4 and Form 5 levels. A few suggestions for improvements in the teaching and learning process have also been put forth in this paper.

KEY WORDS: Teachers' perceptions, courseware, economics, knowledge and basic skills, computer, and teaching and learning process.

INTRODUCTION

The explosion of ICTs (Information and Communication Technologies) in Malaysia has given positive impact towards the development of the Malaysian education system. Since the inception of the computer literacy program in July 1992, Malaysia has from then started to make information technology as a culture in the nation's education (Mohamad, 2001). To produce information-savvy citizens, Malaysian Ministry of Education has introduced the Smart School Concept in 1998 to provide education with quality in its effort to maximise the attainment of the National Education Philosophy. Information technology became the main component in the implementation of this Smart School Project.

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As one component in ICT, *courseware*¹ is seen as a teaching tool that could hopefully help enhance students' understanding of the taught subjects. *Courseware* is a product that which consists of teaching materials programmed and stored in storage media such as the CD ROM (Aczel *et al.*, 2003; and Juliette & Torrisis-Steele, 2005). It is also a form of interactive multimedia that could enhance students' motivation and in understanding what they learn. The *courseware* is also a tool that can help vary the teaching methods used by teachers and also as a source for students in their learning process of Economics at the Form 4 and Form 5 levels in Secondary Schools in Penang.

STATEMENT OF THE PROBLEM

Aligned with the government's efforts in developing and improving the quality of the nation's education system through ICT (Information and Communication Technology), Malaysian education system also goes through significant innovative processes, particularly in the ways or methods of teaching practised by teachers in schools. Coursewares began to be developed for the purpose of encouraging self-learning, providing direct, and immediate responses, as well as for continuous interactions. However, the development of courseware only covers language subjects, Science, Mathematics, Pre-School, Biology, Chemistry, and Physics. Relevant courseware series for Economics has yet to be developed. Meanwhile, lecture or "chalk and talk" methods are practised in the teaching and learning process of Economics, limiting the opportunities for the students in exploring or studying the subject topics. This method of teaching also limits the opportunities for the students to learn in a more creative method.

RESEARCH OBJECTIVES AND QUESTIONS

This research aimed to provide views and suggestions on the use of courseware in the teaching of Economics for Form 4 and 5 in Penang Secondary Schools. The research objectives are: (1) to identify basic knowledge and frequency in computer usage by teachers of Economics at the Form 4 and Form 5 in Penang Schools; (2) to track current practices by teachers in the teaching and learning processes of Form 4 and Form 5 level Economics; and (3) to identify teachers' opinions on the usage of courseware in the teaching and learning of Form 4 and Form 5 level Economics.

This research is done particularly to find answers to the following questions: (1) What is the level of computer knowledge and the usage frequency of the computers by the Form 4 and 5 Economics teachers in Penang?; (2) What are the Form 4 and Form 5 teachers' practices in the teaching and learning processes of Economics?; and (3) What are the opinions or perceptions of Penang teachers towards the use of courseware for the teaching and learning of Form 4 and Form 5 level Economics?

¹ Courseware is a program that is developed and built which is stored in storage media, such as CD ROM.

LITERATURE REVIEW

J.T. Mayes and C.J. Fowler (1999) and D.G. Juliette and G. Torrisi-Steele (2005) are some of the many researchers who have done study on teachers' perceptions towards the use of courseware in the teaching and learning of Economics. J.T. Mayes and C.J. Fowler, in their research entitled "Learning Technology and Usability: A Framework for Understanding Courseware" (1999), state that the courseware framework should be aligned with the learning level. The utilisation of education software needs a different type of measurement from the usage contexts of other fields. This is because learning is a product of students' understanding of particular subjects. Thus, education software should be built according to the suitability with various learning methods. The development of courseware that has various approaches and activities must provide meaningful contexts for the subject. Therefore, a framework was shaped by the researchers to provide a guideline for the development of courseware that would fulfil the needs in the teaching and learning process.

Effective courseware is one that includes information that is extracted from the meanings in the teaching process, and in addition, the usage and learning effectiveness of the concept would include the main purpose of learning. From the viewpoint of the researchers, trials in the use of technology without evaluating the students' understanding level will produce unachievable expected products of teaching and learning. The findings of this research showed that learning can be well-observed through students' understanding level and the understanding must be developed individually through evaluations on their work or assignments. The developments of the students' understanding also depend on the students' response frequency, whilst the third one is that the learning model formation development should be according to the levels. The students' learning also relies on the personal, social and organizational contexts.

The researchers also discussed on the concept in tertiary software in which it includes the element of partial experience through dialogues in the education situations. The usage of education software is divided into three which are primary, secondary and tertiary software. In the usage of primary software, students would identify the total meaning extracted from the information presented. The secondary software stresses upon the needs for approaches that are based on assignments for learning. For the tertiary software, the usage of the software is to test each student's understanding through answering questions, opinion giving or challenging different positions. The elements raised in the research were conceptual learning and opinions on the conceptual learning which could be applied in the building of Economics courseware.

Meanwhile, R.L. Bangert-Drowns and Curtis Pyke, in "Teacher Ratings of Student Engagement with Educational Software: An Exploratory Study" (2002), state that teachers who use software for the purpose of teaching must identify differences in various student involvement quality so that they can be better in

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conducting, as well as responding to the students' learning needs. In this research, the problems in students' involvement were also identified and divided into three categories: non-involvement, unsystematic involvement, and obstructed involvement. However, the research focused on the involvement factor, which is the involvement dependency structure, apart from their interest in the subject matter, critical involvement and literacy thinking. The self-dependency structure showed the students' ability in handling and moving the software efficiently in order to achieve the objectives through the use of software. This research also provided basis for the study as students' behaviours towards the software was categorized to identify students' weaknesses based on each learning style.

D.G. Juliette and G. Torrisi-Steele, in "Pedagogies for Teaching about Puberty on CD-ROM for Student-Teachers" (2005), developed CD-ROMs with eight constructivist principles which are: (1) linking all learning activities to assignments or big problems; (2) encouraging students to develop ownership of all the assignments; (3) designing original and genuine assignments; (4) designing assignments and learning environments that represent difficulties in the environment, which then enable the students to function well at the end of the learning process; (5) providing spaces for students so that they can self-process in developing certain solutions; (6) designing learning environment to support and challenge students' thinking abilities; (7) encouraging idea testing to challenge opinions and alternative contexts; and (8) preparing opportunities to support reflections on the contents learned and the learning processes itself.

D.G. Juliette and G. Torrisi-Steele (2005) also stated that one of the benefits of using technology was the ability to encourage students to be actively involved and to express their personal reflections on certain issues. The study provided a dimension in the building of courseware, in addition to the statements on the benefits of using multimedia technology along with the eight constructivist principles and Bloom's objectives in encouraging learning and producing a variety in pedagogy.

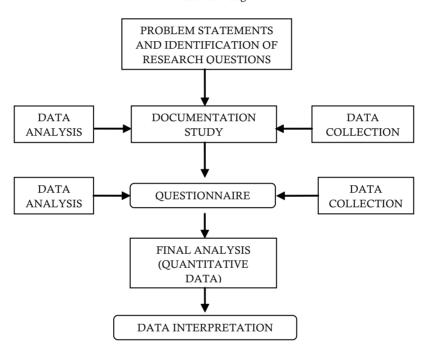
METHODOLOGY

Both the qualitative and quantitative approaches were adopted in looking at the descriptive research sample results for the purpose of providing a portrayal of the current teachers' teaching practices and their perceptions towards using a courseware for the teaching and learning of the Economics subject. The data were gathered using quantitative method following the appropriateness in presenting the quantified values, numbers, and frequencies gathered through a set of questionnaire. The research samples consisted of 30 or 31.25% of teachers teaching Economics in Secondary Schools in the State of Penang. This sample was selected randomly and it represented the teacher population teaching Economics in 96 Secondary Schools in Penang.

The questionnaire used was divided into 4 parts as follows: (1) Part A which consisted of demographic data on teachers and their profiles; (2) Part B gathered

information on teachers' knowledge and basic skills on computers; (3) Part C provided information on the current teaching and learning practices of in-service teachers teaching Economics; and (4) Part D was about teachers' opinions on the usage of courseware in Economics. The research design is as shown in figure 1 below:

Figure 1: Research Design



The data gathered were analysed using relativity index and descriptive statistics. Data that were gathered from the questionnaires were analysed using frequency analysis and relativity index. RI (Relativity Index) is calculated using the formula below (Robyler, 1988):

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RI = \sum (1n1 + 2n2 + 3n3 + 4n4 + 5n5)5(1n1 + 2n2 + 3n3 + 4n4 + 5n5)
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Where:

nx = total respondents that agreed with choice x.

x = 1, 2, 3, 4, and 5 as described below:

- 1 = The frequency of "highly disagree" (HDA) responses.
- 2 = The frequency of "disagree" (DA) responses.
- 3 = The frequency of "not sure" (NS) responses.
- 4 = The frequency of "agree" (A) responses.
- 5 = The frequency of "highly agree" (HA) responses.

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RESEARCH ANALYSIS AND RESULTS

Based on the results of the survey that was carried out, it was found that 100% of the teachers each own a computer. There are 12 teachers or 40% who also use the schools' computers. One teacher was found to use computers in cyber cafes as well. This research also showed the purposes and frequencies in computer usage by respondents as stated in the table below:

 Table 1:

 The Distribution of Respondents Based on the Frequencies and Purposes of Usage (in % age)

Purpose	Frequency (more than 5 hours per week)	Often (2-5 hours per week)	Sometimes (1 hour or less)	Never
Typing letters or other documents.	16.67%	80.00%	3.33%	
Playing computer games.		16.67%	83.33%	
Preparing teaching materials.	10.00%	90.00%		
Administering record safekeeping (marks, students' information, etc.).	16.67%	70.34%	9.99%	
Class presentations (Power Point, CD/DVD).	9.99%	76.67%	3.33%	

In addition, through the analysis done on the survey results, it is found that 29 or 96.67% of teachers surf the internet at home, and 10 or 33.33% of teachers surf it while in school and the same total of number of teachers did it elsewhere.

Support tools are an important aspect for the knowledge discourse to be conveyed by a teacher. The research result shows that 100% of teachers use blackboards and 76.67% or 26 teachers use manila cards as their teaching aids. A total of 28 teachers or 93.34% of the respondents use concrete models and the same total of respondents used pictures or graphics. Synonymous with Economics, tabled data or statistics are also used by 27 teachers or 90.00% of teachers as teaching support tools. Twenty five teachers or 83.33% teachers use flow charts and the same number utilise distributed notes. Only 16.67% of the respondents or 5 teachers use overhead projectors (OHP) in their teaching and learning process.

The results of the researchers' early survey on teachers' opinions on Penang Form 4 and 5 Economics subject courseware usage can be summed as shown in table 2 below:

 Table 2:

 Distribution of Respondents Based on Their Opinions towards Courseware Usage (in % ages)

NT.	Respons				onse %age		
No	Item	HDA	DA	NS	A	HA	
4.1	I feel confident if I use courseware in teaching Economics				83.33	16.67	
4.2	The teaching and learning processes in Economics will be more interesting with the presence of courseware because it includes a lot of coloured pictures for teaching illustrations.				50	50	
4.3	Educators must be skilful in computer usage in order to guarantee the effectiveness of courseware usage in teaching and learning of Economics.				23.33	76.67	
4.4	The usage of courseware in the teaching and learning of Economics will encourage students to be active in the processes of teaching and learning.			36.67	63.33		
4.5	The usage of courseware in teaching and learning of Economics will indirectly produce educators who are computer savvy.				43.33	56.67	
4.6	The usage of courseware in teaching and learning of Economics enable students to review notes at any time at home.			20	63.33	16.67	
4.7	The usage of courseware in teaching and learning of Economics enable students to review tutorial questions at anytime at home.			10	83.33	6.67	
4.8	With the usage of courseware in teaching and learning of Economics, students are free to do exercises without time limitations.			26.67	63.33	10	
4.9	With the usage of courseware in teaching and learning of Economics, students do not feel pressured if they do not understand the topics taught because they can learn them repeatedly using courseware until they have truly understood them.		6.67	23.33	63.33	6.67	
4.10	The usage of courseware in teaching and learning of Economics will be able to lessen students' fear because they can learn in an interesting environment.			36.67	56.67	6.66	

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4.11	With the usage of courseware in teaching and learning of Economics, the learning environment will be more cheerful.		43.33	56.67	
4.12	The usage of courseware in teaching and learning of Economics will be able to initiate student centred learning.			50	50
4.13	The usage of courseware in teaching and learning of Economics requires tedious preparation to ensure the teaching and learning objectives are met.			36.67	63.33
4.14	I feel happy to teach Economics using the courseware because it can train me to be more skilful.		6.66	43.33	50

From the research done, it is found that, in general, teachers have positive perceptions towards the usage of courseware in the teaching and learning of Economics.

ON THE RELATIVITY INDEX ANALYSIS

Table 3 below shows the relativity index analysis results which classify each item according to the fixed scales. As a whole, all items involved lean towards agree and highly agree, which show that there is a willingness for teachers in using courseware, in addition to the benefits to students, in particular.

 Table 3:

 Relativity Index (RI) Based on Opinions towards Courseware Usage

No	Item	RI	RI Classification
4.1	I feel confident if I use courseware in teaching Economics.	0.838	Highly Agree
4.2	The teaching and learning processes in Economics will be more interesting with the presence of courseware because it includes a lot of coloured pictures for teaching illustrations.	0.9	Highly Agree
4.3	Educators must be skilful in computer usage in order to guarantee the effectiveness of courseware usage in teaching and learning of Economics.	0.925	Highly Agree
4.4	The usage of courseware in the teaching and learning of Economics will encourage students to be active in the processes of teaching and learning.	0.738	Agree
4.5	The usage of courseware in teaching and learning of Economics will indirectly produce educators who are computer savvy.	0.913	Highly Agree
4.6	The usage of courseware in teaching and learning of Economics enable students to review notes at any time at home.	0.788	Agree

4.7	The usage of courseware in teaching and learning of Economics enable students to review tutorial questions at anytime at home.	0.788	Agree
4.8	With the usage of courseware in teaching and learning of Economics, students are free to do exercises without time limitations.	0.763	Agree
4.9	With the usage of courseware in teaching and learning of Economics, students do not feel pressured if they do not understand the topics taught because they can learn them repeatedly using courseware until they have truly understood them.	0.75	Agree
4.10	The usage of courseware in teaching and learning of Economics will be able to lessen students' fear because they can learn in an interesting environment.	0.738	Agree
4.11	With the usage of courseware in teaching and learning of Economics, the learning environment will be more cheerful.	0.738	Agree
4.12	The usage of courseware in teaching and learning of Economics will be able to initiate student centred learning.	0.9	Highly Agree
4.13	The usage of courseware in teaching and learning of Economics requires tedious preparation to ensure the teaching and learning objectives are met.	0.925	Highly Agree
4.14	I feel happy to teach Economics using the courseware because it can train me to be more skilful.	0.888	Highly Agree

From the relativity index as shown in table 3 above, and consistent with the frequency analysis, teachers seem positive about using a courseware for the purpose of teaching and learning of the Economics subject. Research shows that the courseware does not only give benefits to the students, but teachers could also vary their teaching methods and carry out more activities that are interesting and fun.

From the questionnaire data analysis, the research results could be summarized as follows: (1) There is high computer usage for the purpose of presentations in classes which are done 2-5 hours per week; (2) The majority of teachers have basic computer knowledge and possess their own computers, as well as use the internet; (3) Teachers are still fully dependent on textbooks as teaching resources; (4) The usage of support tools for teaching and teaching and learning activities that are not technology based are widely used but the teaching method is not varied and is limited; (5) The frequency in training provision is once a week; (6) The research results show that Economics teachers, generally, have positive perceptions towards courseware usage in the teaching and learning of Economics; (7) Economics teachers also have positive opinions on students benefiting from the teachers use of courseware in the teaching and learning process; and (8) The results of the overall relativity index fall in the agree and highly agree classifications which indicate that there is willingness among teachers to use courseware particularly as they are of the opinion that it would benefit the students greatly.

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DISCUSSION AND CONCLUSION

Research done shows that the usage of technology, particularly courseware, has brought many benefits in improving the effectiveness in the processes of teaching and learning.

Courseware is an important tool in varying the teaching and learning methods for Economics for Form 4 and 5 in Malaysian Secondary Schools. The use of courseware in the teaching and learning process can help strengthen the students' understanding. It can also assist teachers' computer skills. This would help fulfil the plan in integrating technology into education.

From this research, it has been found that few researchers have dwelled in doing research in the Economics subject taught in schools in Malaysia. Hence, there has not been much development in the teaching and learning approaches used by Economics teachers in Malaysia. Unlike the Mathematics and Science or the language subjects, the Economics subject taught in the Malaysian schools has not received much attention at all. The development in the teaching and learning approaches for Economics has been minimal compared with other subjects like Science, Mathematics, Languages, and others. This is clear when a comparison is made between these subjects in the aspects of teaching support tools usage, as well as computer and technology usage.

This research on teachers' perceptions towards courseware usage would be useful as a basis for the building of the Economics courseware. It is suggested that in-service teachers and pre-service teachers be trained to use computers effectively. Further research is suggested on the opinions of teachers on the use of courseware to teach Economics subject in rural schools in Malaysia.

Views and the perceptions of teachers on the needs of a teaching courseware for the Economics subject should be given serious consideration by the Ministry of Education. It is hoped that the development of courseware for the Economics subject is given due consideration by the Ministry.

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