Effects of Technology Enhanced Teaching on Performance and Cognitive Load in Calculus

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***Abstract*—**Technology or computer-support learning allows more students to be actively thinking about information, making choices, and executing skills than is typical in teacher-centred learning. Moreover, when technology is used as a tool to support students in performing authentic tasks, the students are in the position of defining their goals, making design decisions, and evaluating their progress. The teacher's role changes as well. As students work on their technology-supported products, the teacher moves around the room, looking over shoulders, asking about the reasons for various design choices, and suggesting resources that might be used.

This study aimed to investigate the cognitive factors enhanced with the integration of interactive software Autograph in comparison to the conventional way for teaching Calculus at the secondary level. A quasi-experimental research design was used for this study with three phases implemented: 1) Introductory lesson on use of Autograph, 2) Integrated collaborative learning in using Autograph software, 3) Students performance utilizing the Autograph software was found to be more superior significantly, $t(77) = 2.58$, $p < .05$ compared to the conventional learning mode. However, conventional learners showed low mental effort as compared to the Autograph learners. These findings suggested that in utilizing any technological tools, a comprehensive measures addressing issues of instructional efficiency is crucial especially when involving large scale implementation of technology integration in teaching and learning.

Keywords*—*Technology-enhanced learning, mental load, instructional efficiency, Autograph software.

I. Introduction

The rapid progress of technology has influenced the teaching and learning of mathematics. Many efforts are being made to enhance the learning experiences of students in mathematics. In the traditional teaching of mathematics, students are passive recipients when teacher deliver complete information to them. Hoppe [10] referred to technology as information and communication technologies in a broad sense including not only computers and networks of different types, but also new electronic devices and digital media in general. Use of technology as a tool or a support for learning with others allows learners to play an active rather than a passive role of recipient of information transmitted by a teacher, textbook, or broadcast. The student is actively making choices about how to generate, obtain, manipulate, or display information. Technology use allows more students to be actively thinking about information, making choices, and executing skills than is typical in teacher-led lessons. Moreover, when technology is used as a tool to support students in performing authentic tasks, the students are in the position of defining their goals, making design decisions, and evaluating their progress. Meanwhile, with the integration of technology such as computers software, students are encouraged to get deeper understanding of concepts [3]. Furthermore, use of technology can also enhance understanding of abstract mathematical concepts by enhancing their visualization or graphic representation where it shows the relationships between objects and their properties. Deeper understanding of concepts will increase the ability of the students when working with mathematics [22]. Findings from Tarmizi, Ayub, Abu Bakar, and Md.Yunus [22] also confirmed that students who undergone integration of technology in the learning of mathematics were found to be more enthused and were enjoying their lessons more than students who had undergone the traditional approach. Consistently, students' perception on computer-supported learning were found positive Ayub, Tarmizi,Abu Bakar, and Md.Yunus [2]. They found that the mean in students' level of avoidance was lower for the group that used technology as compared the traditional group. This indicated that the technology group would not avoid using the software during mathematical learning activity. Another study by Abu Bakar, Mohd Ayub, and Ahmad Tarmizi [29] also found that mathematical softwares such as GeoGebra and e-transformation showed positive effects on learners performance.

The teacher's role changes as well. The teacher is no longer the centre of attention as the dispenser of information, but rather plays the role of facilitator, setting project goals and providing guidelines and resources, moving from student to student or group to group, providing suggestions and support for student activity. As students work on their technology-supported products, the teacher moves around the room, looking over shoulders, asking about the reasons for various design choices, and suggesting resources that might be used.

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Alagic [3]explained that every piece of technology used would reduce teaching time. However, with proper planning of the lesson and its implementation, use of software such as the Autograph or the graphing calculator would not be considered a waste of time. This misconception is common among those who have never used the tools or who have been unsuccessful in their attempts. Learning to use learning software in the context of mathematics can be a very rewarding experience, enhances teaching, and not something that would diverts from the focus of the teaching. However much has to be explored on information communication technology integration or CSCL approach in teaching and learning. Technology indeed has changed the way classrooms operate, integrating multimedia during learning, online accessibility thus making teaching and learning more interactive and participatory [7], [27] & [28].

Mohd Ayub, Ahmad Tarmizi, Wan Jaafar, Wan Ali and Su Luan [30] investigated further on the use of Learning Management System (LMS) portal for university students in learning a Calculus I course. The authors found that students showed positive attitudes toward usage of LMS portal. Among the factors related to utilization of the portal were instructors role, accessibility and learners' attitudes towards usage and learners' level of technology competency.

A. Learning Mathematics with Autograph Software

Autograph environment has 2D and 3D graphing capabilities for topics such as transformations, conic sections, vectors, slope, and derivatives. In real-time, users can observe how functions, graphs, equations, and calculations being constructed. The Autograph software evolved in the mathematics classrooms of Oundle School, in United Kingdom, and this 3rd version has come of age to embrace all the possibilities. Autograph can be used for drawing statistical graph, functions, and vector and for transforming shapes. It also enables users to change and animate graphs, shapes or vectors already plotted to encourage understanding of concept. In mathematics class, the use of Autograph software enables students to visualize and further understand mathematical phenomenon in real life.

The use of Autograph is similar to the use of Geometer's Sketchpad software (GSP) which allows learners to acquire skills and knowledge in using the computers whilst concurrently exploring the potentials of the software [2], [12] & [22]. Their findings indicated that integration of mathematical softwares in the teaching of mathematics supported with the use of learning module simplified learning and increases students understanding. Specifically, Stacey [19] contended that the use of software in mathematical learning enhanced the understanding of mathematical concepts related to variables and functions as well as provides motivation for the learning of Algebra.

B. Mathematics Achievement and Mental Load

Mathematics performance is the product of learning process. It is measured by tests or examinations. Scores, given through methods of calculations and correct answers represents performance shown in percentage. Mathematics performance in this study is based on scores obtained through a posttest given by the teacher after learning sessions for both the experimental and traditional group. Mathematics achievement assessment was also based on students level of procedural knowledge which refers to the rules, algorithms, or procedures students acquire and use to solve mathematical tasks. In addition, mathematics achievement was also based on conceptual knowledge which refers to the mathematical concepts students acquire and use to solve a mathematical problem [5].

Paas and collaborators explained that mental load is the aspect of cognitive load that refers to the amount of cognitive capacity or resources which is actually allocated to accommodate the demands imposed by the task [14], [15], [16], [17], [20], [21], [22] & [23]. Therefore, it can be considered to reflect the actual cognitive load. Cognitive load as mentioned in these studies is also referred to as mental load or mental effort which was measured and obtained while participants are working on a task.

Based on cognitive load theory, cognitive load can arise from three sources during instruction: intrinsic, extraneous and germane cognitive load [4], [14], [15], [16], [17], [20] & [21]. The first source of cognitive load is intrinsic cognitive load which is connected with the nature of the material to be learned. It is related to the integral complexity of an idea or set of concepts, and reflects the difficulty of learning the concept(s). This means that the existence of this cognitive load is due to the mental demands or the complexity of the information itself. For example, the mental calculation of 2 + 4 has lower intrinsic load than solving a simultaneous linear equation. Thus, intrinsic cognitive load is unchangeable.

The cognitive or mental load are measured based on the assumption that people are able to introspect on their cognitive processes and to report the mental effort expended [6], [11], [15] & [21]. These measures typically use rating scale techniques to report the experienced effort or the capacity expended. Paas was the first to demonstrate this finding in the context of cognitive load theory. He developed a 9-point symmetrical category Likert Scale on which subject rates mental effort used to perform a particular learning task. The rating scale was a modified version of Bratfisch, Borg and Dornic's (1972) scale for measuring perceived task difficulty. The numerical values and labels assigned to the categories ranged from very, very low mental effort (1) to very, very high mental effort (9). The use of rating scale techniques in cognitive load research sometimes appears to be questionable [6], [15] & [21]. However, it has been demonstrated that people are quite capable of giving a numerical indication of their perceived mental burden Gopher & Braune [8] [24], [25] & [26].

C. Instructional Efficiency Index

This is a term which shows the relationship between learning and test (mental) effort and performance. In the study by Paas and Tuovinen (2004), mental effort (E) was measured on a scale of 1 (very, very, low mental effort) to 9 (very, very, high mental effort) whereas performance (P) was measured as the percentage of correct answers. The relative condition efficiency (E) is then calculated as

$$E = \frac{P - E_T}{\sqrt{2}}$$

Where E_T mean mental effort when answering the test questions.

Quite a number of experiments have proven the added value of the instructional efficiency measure by showing that the differences in effectiveness are not always identical to differences in efficiency Halabi, Touvinen & Farley [9] and Salden, Paas and Merrienboer [18]. Further, these cases where the instructional efficiency scores were calculated had enriched knowledge about the effect that different instructional formats have on various aspects of the learning process.

D. Mathematical Knowledge- conceptual and procedural knowledge

Currently, there is more interest in how students acquire knowledge, how procedural and conceptual knowledge are linked and the mutual benefits of this linkage. Conceptual knowledge is defined by Hiebert and Lefevre as knowledge that is rich in mathematical relationship. It can be thought of as a connected web of knowledge, a network in which students are able to apply and link mathematical relationships to a variety of problems. Conceptual knowledge is characterised by links and a unit of conceptual knowledge cannot be an isolated piece of information. Furthermore, they emphasised that a piece of information is part of conceptual knowledge only if the holder recognises its relationship to other pieces of information. Hiebert and Lefevre note the following example of conceptual knowledge such as the construction of a relationship between the algorithm for multi-digit subtraction and knowledge of the positional values of digits (place value).

It is also assumed that conceptual knowledge is stored in some form of relational representation, like schemas, semantic networks or hierarchies [Byrnes & Wasik, 1991]. It can be largely verbalized and flexibly transformed through processes of inference and reflection due to its' abstract nature and the fact that it can be consciously accessed. Therefore, it is not only bound up with specific problems but also can be generalised for a variety of problem types in a domain [Baroody, 2003].

On the other hand, as defined by Hiebert and Lefevre, procedural knowledge in mathematics is composed of two parts namely the formal language or symbol representational of mathematics and the algorithms, or rules, for completing mathematical tasks. It means that procedural knowledge can be classified as structural knowledge and algorithmic knowledge. The former is knowledge related to the meaning and appropriate use of mathematical symbols. It implies only an awareness of superficial features, but not knowledge of meaning or underlying structure. For example, we can write the string $x + 2 = 3$ for some integer *x*, however the notation $2 + = x3$ doesn't give an appropriate mathematical statement that falls under the first type of procedural knowledge. The algorithmic knowledge refers to step-by-step instructions that define precisely how to complete mathematical tasks or exercises in a predetermined linear sequence. For example, students who are able to do the algorithm for determining the value of *x* in $x + 2 = 3$ is said to have the second type of procedural knowledge.

Procedural knowledge can also be described as the knowledge of operators and the conditions under which these can be used to reach certain goals [Byrnes & Wasik, 1991]. This type of knowledge to some degree is said to be automated as it enables people to solve problems quickly and efficiently [Schneider & Stern, 2005; Hiebert & Carpenter, 1992]. According to Baroody [5], automatization is accomplished through practice and allows for a quick activation and execution of procedural knowledge. In addition, as compared to the application of conceptual knowledge, its application involves minimal conscious attention and few cognitive resources. The automated nature of procedural knowledge implies that it is not or only partly open to conscious inspection and hence can be hardly verbalised or transformed by higher mental processes.

Earlier, technological tools have been proven to be a very important aspect of the teaching learning process. Numerous studies show that the quality of learning can be significantly enhanced when the tools are integrated with teaching. Research conducted showed that technological tools can enhance critical thinking, the level of conceptualization, and problem solving capacity. This novel technology is supposed to add value to education and to support more effective pedagogy by providing knowledge for learners and by enhancing communication that promotes learning.

The issue now being addressed is that does providing hands-on access for students to technolgy in their normal mathematics lessons improved learning among these secondary students. These include the use computer softwares to provide mathematical modeling with 2D geometry and algebra; the use of 3D geometry software to develop visualization and modeling in space; and the use of hand-held devices with data-loggers in capturing and analyzing for experimental data. This paper sets out to exemplify the importance of educational use of technology which can be used to stimulate students' excitement and interest in dry and difficult subject like mathematics.

Based on the concepts from the cognitive load theory that provided the background bases for the positive effects of the use and integration of mathematical software in mathematics teaching and learning, it was hypothesized that the integration of the use of Autograph in the teaching and learning of Calculus will reduce students' cognitive load. This will lead to a reduction of students' mental effort and hence an increase in level of students' performance and a higher level of instructional efficiency. The following conceptual framework explains further the causal relationship between the two instructional strategies with performance and mental effort.

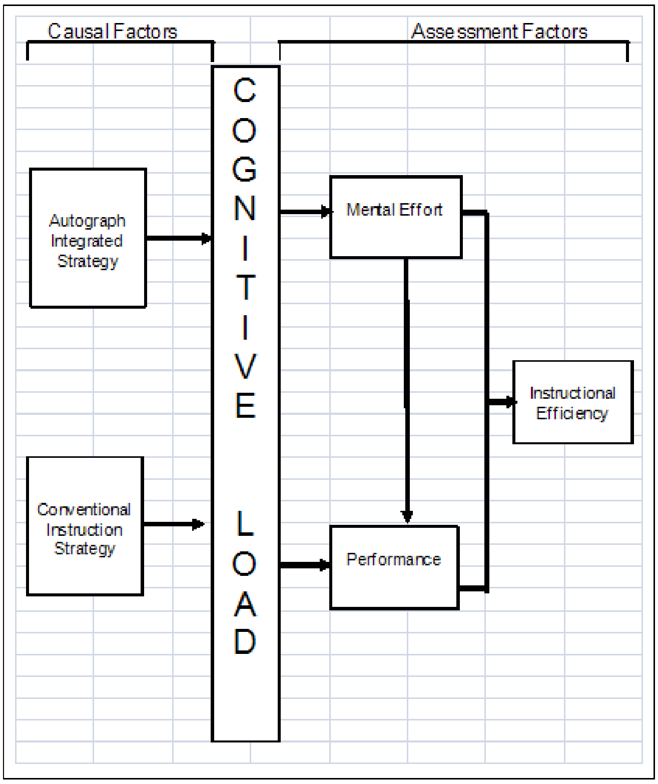


Figure 1: Conceptual Framework of the Study

Specifically, the objective of this study is to compare the effects of integrating technology in teaching and learning mathematics i.e. Autograph software on performance and cognitive load constructs in the learning of Calculus at the secondary school level.

II. RESEARCH METHODOLGY

A. Population and Sample of Study

The target population of this study was Form Four students in national secondary schools in Malaysia. The samples selected for this study were Form Four students from a randomly selected school after which permission was granted by the school management to conduct the study. The students were from intact classes and the lessons were conducted over nine weeks and the computer-supported learning was conducted in the school computer laboratory. Due to limited number of computers, the students were assign to group of three thus working collaboratively during the lessons. There were two groups, whereby Group 1 undergone the Autograph learning mode and Group 2 was the conventional learning group. The total number of students in Group 1 was 40 and Group 2 was 39 and the groups were equivalent because they are both from science stream.

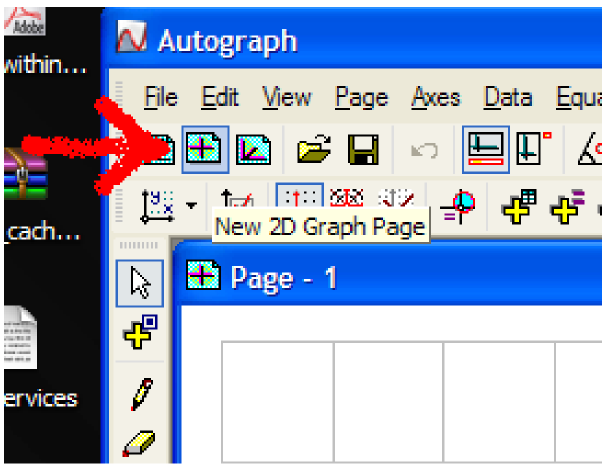
B. Experimental Phases

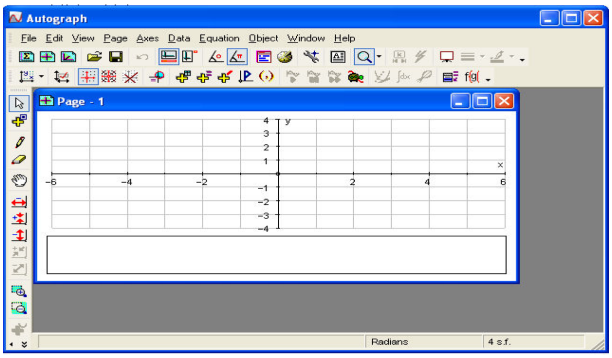
Four phases were conducted. In the first phase, the treatment groups were first introduced to the software. Each student in Autograph group was provided with one computer installed with Autograph software. In this phase, the students were required to explore and get familiar with the software and its menu and functions.

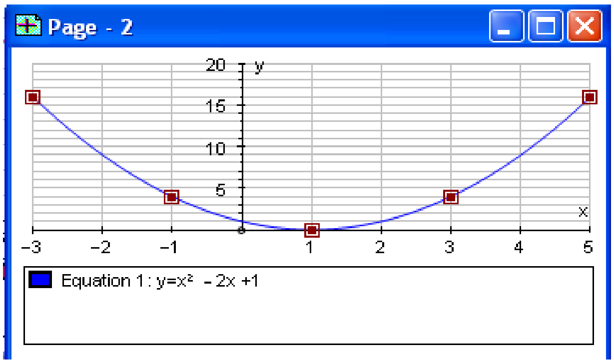
Then in second phase, students were introduced to the basic concept of Calculus at the secondary level. In the teaching and learning using software phase, students were taught with constructivist approach where they were required to use exploratory and discovery learning on the topic. During the teaching and learning phase, students were given assessment questions to evaluate extent of short term learning. At the end of the learning or treatment session, students were given an achievement test. Students from the control group were also guided by the same instructional format with one exception where the technology used was not incorporated during teaching and learning sessions. To assess mental load, students were required to state their mental effort expended or used for each question they answered in assessment and achievement test based on Paas Mental Effort Rating Scale.

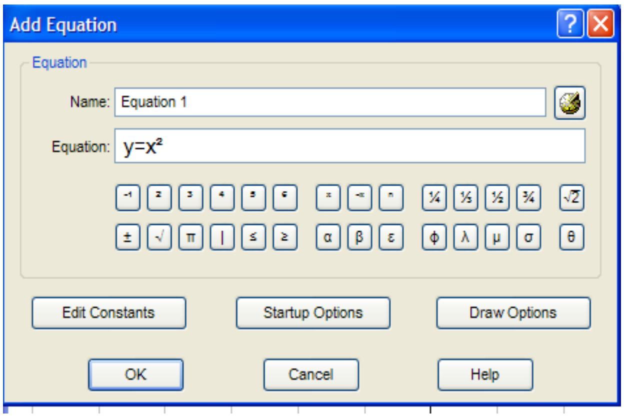
Two modules were developed to enable the students to learn about Calculus at the secondary level. One was Traditional Learning Worksheet and the other, the Autograph Learning Worksheet (example of learning activities for this group is shown in Appendix 1). The students involved were initially surveyed for their familiarity with the Autograph software. None of them in the group were found to have used Autograph. The Learning Worksheet was developed to enable the students to follow step-by-step procedures in acquiring Calculus understanding. The learning Worksheet introduced the various features in the tools necessary to explore during the learning activity.

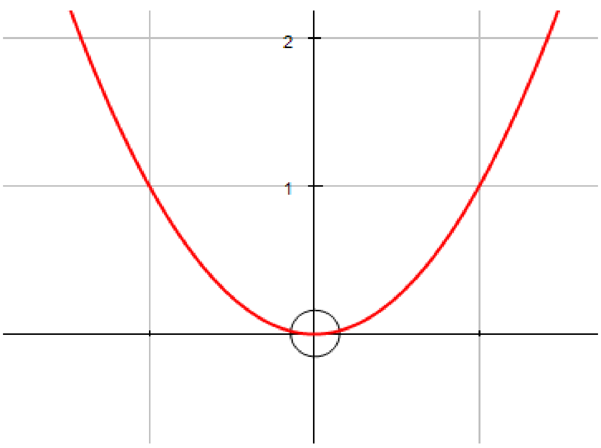
Below are examples of Autograph learning captions appeared on the computer screen:











At the end of the learning or treatment session, students were given an achievement test. To assess mental load, students were required to state their mental effort expended or used for each question they answered in assessment and achievement test based on Paas Mental Effort Rating Scale. It has 9- point symmetrical Likert scale measurement on which subject rates their mental effort used in performing a particular learning task. It was introduced by Pass (1992) and Pass and Van Merrenboer (1994). The numerical values and labels assigned into different range from 1: very very low mental effort to 9: very very high mental effort.

C. *Research Hypotheses*

Research hypotheses of this study are:

i. There is significant difference in mean performance on groups using Autograph technology and the conventional method in learning mathematics.
ii. There is significant difference in measure of mental load on groups using Autograph technology and the conventional method in learning mathematics.
iii. There is significant difference in instructional efficiency index on groups using Autograph technology and the conventional method in learning mathematics.

III. RESULTS AND DISCUSSION

A. *Results*

The means, standard deviations of the performance variable are provided in Table 1. For all statistical analysis, the 5% level of significant was used throughout the paper. The mean overall test performance for the Autograph group was 54.75 (SD = 17.05 and the mean overall test performance for conventional group was 45.54 (SD = 14.61).
The t-test of independence between groups test showed that there was a significant difference in mean test performance between Autograph group and conventional group, [t (77) = 2.58, p<0.05]. Further, planned comparison test showed that mean overall test performance of Autograph group was significantly higher than the conventional group. This finding indicated that the Autograph group had performed better in test phase than the conventional group.

Table 1: Comparison of overall performance

Group	N	M	SD	SE
Autograph	40	54.75	17.05	2.69
Control	39	45.54	14.61	2.34

Means and standard deviations of the mental load expended during problem solving of each of the test question were obtained and as stated in Table 2. The mean mental effort during test phase for the Autograph group was 24.13 (SD = 11.55) and the mean mental effort during test phase for control group was 29.77 (SD = 9.85). The independent t- test results showed that there was significant difference in mean mental effort during test between Autograph group and conventional group, $t(77) = -2.071$, $p<0.05$). Therefore, mean mental effort during test phase of Autograph group was lower from those of conventional group.

Table 2: Comparison of mental effort

Variables	Group	N	M	SD	SE
Mental effort (Test phase)	Autograph	31	24.13	11.55	2.07
	Control	31	29.97	9.85	1.77

Results depicted in Table 3 showed that the mean 2-D instructional efficiency index for control group was .1024 (SD= .918) meanwhile the mean 2-D instructional efficiency for Autograph group was .6379 (SD = 1.05). The results also indicated that there was significant difference on mean 2-D instructional efficiency index between the Autograph group and the conventional group, $t(60) = 2.138$, $p < .05$. This suggests that learning mathematics by integrating the use of Autograph was more efficient than using conventional strategy mode of learning.

Table 3: Comparison on instructional efficiency

Variables	Group	N	M	SD	SE
2-D instructional efficiency	Autograph	31	.6379	1.050	.2072
	Control	31	.1024	0.918	.1930

B. Discussion

In this study, based on the 2-D instructional efficiency index calculation, utilizing Autograph Learning Module was instructionally more efficient compared to conventional method. Hence use of Autograph has enhanced learning conditions and has reduced extraneous cognitive load which in turn can create optimal learning condition.

It maybe concluded that findings of this study were in favor of the Autograph strategy in teaching Calculus However, this conclusion should lead to further investigations. Several factors that may lend further investigations are time constraints, focus on the students' part during the teaching and learning activity, teachers' factor, and improved learning module for the students. These findings also suggested that in utilizing any technological tools, a comprehensive measures addressing issues of instructional efficiency is crucial especially when involving large scale and formal implementation of technology integration in teaching and learning. It maybe concluded that although technology can enhance learning and teaching, however it does not necessarily enhance achievement among learners. Therefore, with systematic planning of instructions and good learning package, learning mathematics using Autograph will give new view in mathematics teaching and learning.

Past studies on effects of the use of technology or mathematical softwares offers different results. Generally the results have favoured the use of technology in mathematics classroom [for example, Acelajado, 2004; Horton et al., 2004; Noraini Idris, 2004; Noraini Idris et al., 2002, 2003; Connors & Snook, 2001; Graham & Thomas, 2000; Hong et al., 2000]. However, findings from this study suggested that integrating the use of Autograph software does reduce cognitive load and lead to better performance in learning Calculus at Form Four level. These findings also suggested better instructional efficiency for the Autograph integrated mode of learning compared to the conventional mode of learning.

The findings provide a possible explanation from the cognitive load theory perspectives on the effects technology integration as being more efficient as compared to conventional learning. The use of technology somehow indicated an increase in mental load while processing the mathematics problems which in turn, result in positive or beneficial effects. This finding suggested that use of technology decrease germane cognitive load whereby the total amount of cognitive capacity was overloaded due to extra task that learners were engaged while learning Calculus. This overloading can also be attributed to new added task that the students had to be engaged. The use of the technology increase students' mental resources apart from the tedious computation, algebraic manipulation and graphing skills and hence enabled them to redirect their attention from irrelevant cognitive processes to relevant germane processes of schema construction. The qualitative data also provided evidence for the increased mental load. This interpretation is evident among students who responded that 'they just have so much to do' and 'they enjoyed the use of technology but need more time to be familiar with it'. However, the graphic capabilities using the technology help them to draw graphs, visualize graphs, and also enable students to check their answers quickly with availability of the Autograph technology, and hence facilitate them in solving Calculus problems.

It is pertinent to note that the argument only holds under certain circumstances namely the sample of students participated and the particular content area learnt in this study. Therefore, the findings can only be generalized to the similar sample of secondary school students in Malaysia and might not necessary apply to other mathematics topic. The findings indicated that the intervention of nine weeks sessions was enough to show that the technology usage is instructionally efficient. Hence, based on performance data, positive result was obtained.

IV. CONCLUSIONS

The results on performance might have been further magnified if students were very proficient with the use of the technology had been selected. Another important implication from this study is that prior training and familiarization of the technology is required to ensure efficacy in its use in teaching and learning in the classrooms. Learning both concurrently may only be effective if students already have considerable technological knowledge because when dealing with novel material, the basic characteristics of human cognitive architecture of limited working memory can't be ignored.
In conclusion, this shows that although dynamic software may provide positive impact upon learners' thus becoming potential tools in teaching mathematics in Malaysian secondary school level, the use of Autograph software need to be further considered in its utility and feasibility.

The findings from this study reaffirm Sweller's contention that the limited capacity of working memory is very important consideration when planning instructions [20] & [21]. More efficient and effective instructional designs can be developed if the limited capacity of working memory is taken into consideration. Hence, it may be concluded that Autograph integrated learning strategy is instructionally more efficient and thus is superior to conventional instruction strategy. This study shows promising implications for the potential use of Autograph software as a tool in teaching mathematics at Malaysian secondary school level.

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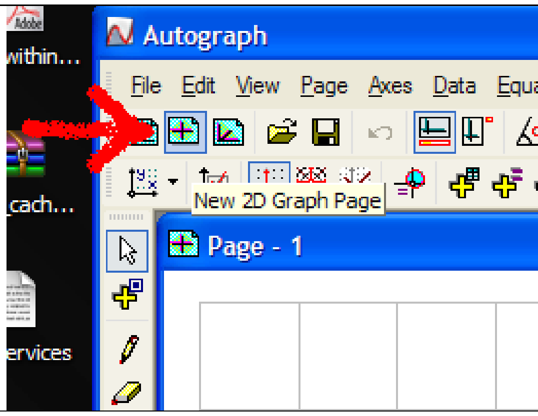
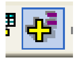
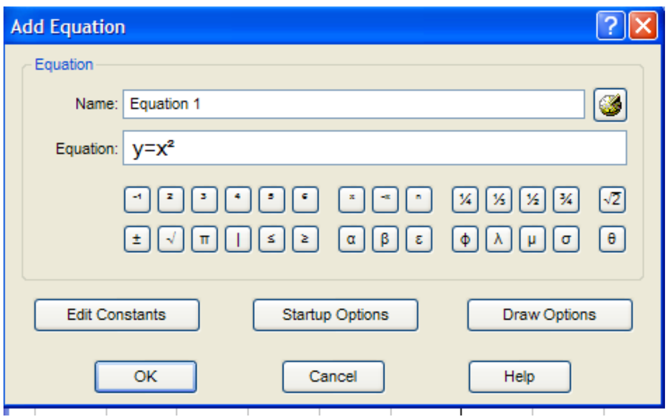
DIFFERENTIATION Appendix 1

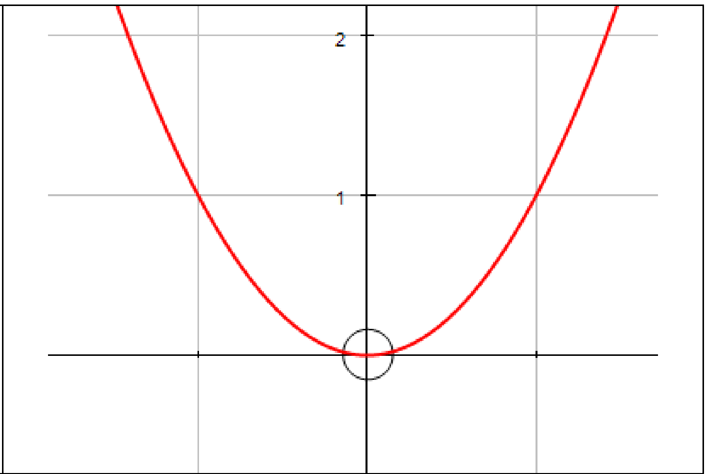
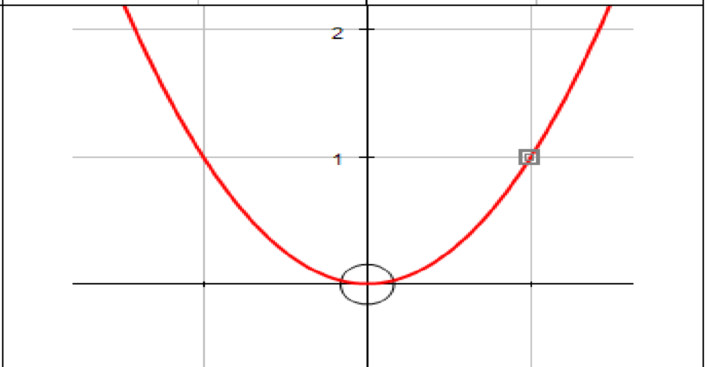
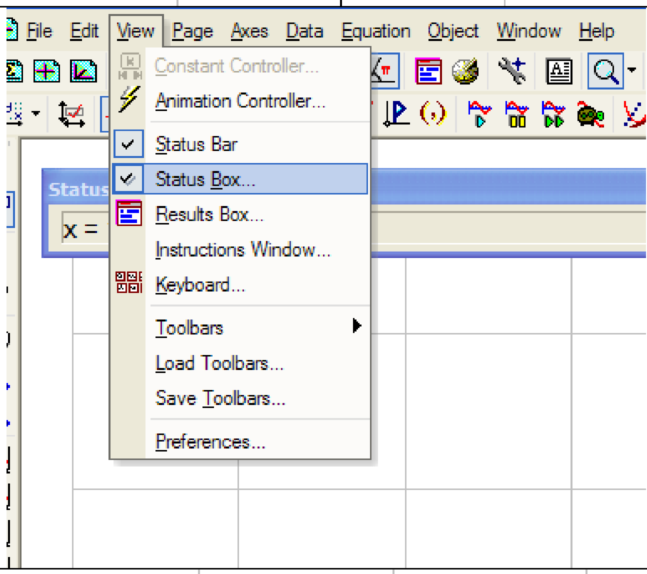
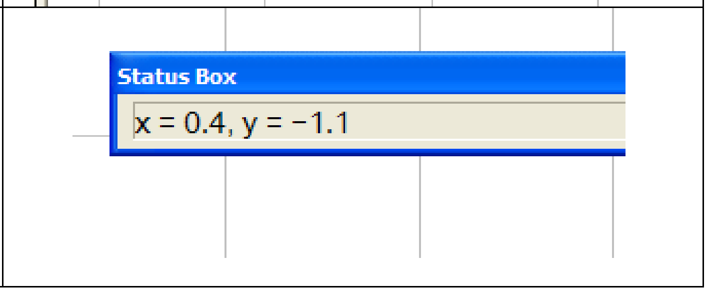
LESSON 1: Determining Limit of a Function

Learning Outcomes:
Students will be able to determine the value of a function when its variable approaches a certain value.

Students Prior Knowledge:
1. Students have learned how to find the gradient and equation of a straight line.
2. Students have learned about Cartesian coordinate and Cartesian plane.

Activity 1.1 Find the limit of the function $f(x) = x^2$, when x approaches 0.

STEP	INSTRUCTION	DISPLAY
1 To create new 2D graphing page	Open the 2D page with 2D toolbar and the standard x-y axes.	
2 To add equation	1. Click the icon  to add equation. 2. You will get beside display 3. Insert your equation	
3 To plot graph	From the given equation, your will get the graph as displayed beside.	

		
4 To insert point	Choose icon  ***Point Mode*** .Then plot point anywhere on the curve.	
5 To view the result	Click View then select Status Box option to view Status Box.	
6	Click on the graph, to adjust the point on graph, use '**Right and Left Arrow key**' on keyboard. The result of adjusted point appears on Status Box.	

Lesson Activity - Autograph

<table>
<tr>
<td>7</td>
<td>1. Fill the result in the box.

2. Examine the values of each pair of x and y.

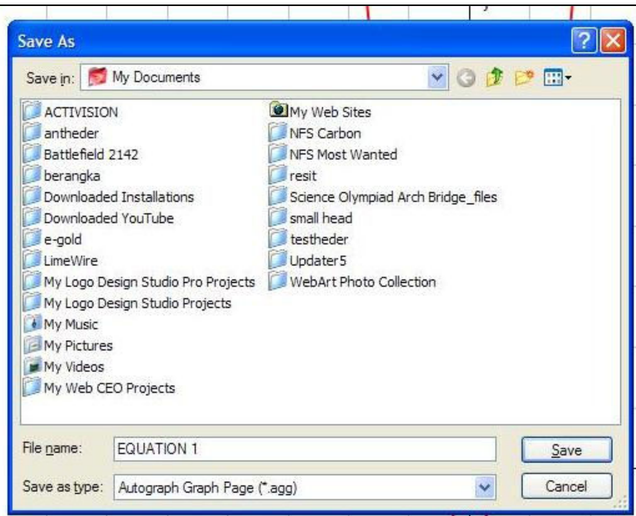
3. What can you conclude about values of x and y?

4. Teacher guide students to derive the conclusion …</td>
<td>
<table>
<tr><td>x</td><td>2</td><td>1</td><td>0.5</td><td>0.25</td><td>0.1</td><td>0.05</td><td>0</td></tr>
<tr><td>y</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

When x approaching 0, y approaching …?

Hence the answer is “1”.</td>
</tr>
<tr>
<td>8
To write the statement in mathematical form</td>
<td>Teacher conclude that …

Teacher write the statement in a mathematical form on the board</td>
<td>Conclusion of the activity :
As the x value is approaches 0, the value of y is approaches ….

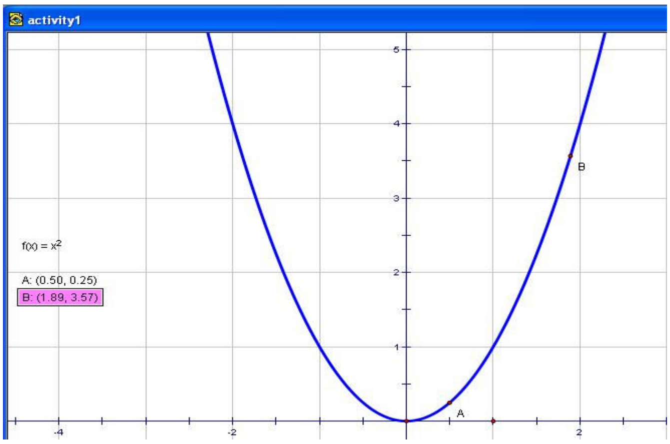
The above statement can be written as:</td>
</tr>
<tr>
<td>9
To save your work</td>
<td>Choose icon .Then save and name your work. Then click SAVE</td>
<td>
</td>
</tr>
</table>

Lesson Activity - Autograph

<table>
<tr>
<td>10
What happen to y if x approaches 2?</td>
<td>Create another point, and get its coordinate.

Drag the point towards 2, to see what happen to the value of y.

Choose some x values, and observe what the values of y are.

Write your answers in the table.</td>
<td>

<table>
<tr><td>x</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>y</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td>
</tr>
<tr>
<td>11</td>
<td>Teacher demonstrate

Without using GSP, find the limit of the function $f(x) = x^2$ as x approaches 2</td>
<td>Write your steps:</td>
</tr>
<tr>
<td>12
To write the statement in mathematical form</td>
<td>With the assistance from teacher, write the value of y.

Write the statement in a mathematical form.</td>
<td>Conclusion of the activity :
As the x value is approaches 2, the value of y is approaches ….

The above statement can be written as:</td>
</tr>
</table>