

# Student perception of using screencast as an alternative media.

Alex Lee Hong Sin

International University of Malaya-Wales, City Campus, Jalan Tun Ismail, 50480 Kuala Lumpur, Malaysia.

## Summary- Crynodeb

Screencast is a screen capture recording with audio and visual instructions. This research focuses on the student perception of screencast a type of multimedia content which is watch and learn. Reference books, written notes, Adobe PDF files and e-books are conventional media which are used by students to gain information and knowledge. Screencast is a media used by lecturers to teach conceptual subjects and technical hands-on practical subjects. The research goal is to find out whether screencast is perceived by students to be an alternative form of media to gather information and apply knowledge. The research methodology uses questionnaires to survey the students to collect data on the various media sources, values, choices, feedback comparing screencast with conventional media and the usage of screencast among students. Research method is to study student perception on using screencast and students who are not using screencast. Further statistical analysis is used to determine the adoption and usage of screencast by both groups of students. The outcome of the research shows that students who are currently using screencast shows a high percentage of perceiving it as valuable, is likely the choice of use as supplementary media and is a better alternative to the conventional media. The perceptions of students who are not using screencast shows a high percentage of perceiving it as less valuable, less likely to be choice of use as supplementary media and is no better as an alternative to conventional media.

*Mae sgrinlediad yn recordiad ar sgrin gyda chyfarwyddiadau sain a gweledol. Mae'r gwaith ymchwil hwn yn canolbwyntio ar ganfyddiad myfyrwyr o sgrinlediad yn fath ar gynnwys amlgyfrwng ar ffurf gwyllo a dysgu. Cyfeirlyfrau, nodiadau ysgrifenedig, ffeiliau PDF Adobe ac e-lyfrau'n gyfryngau confensiynol a ddefnyddir gan fyfyrwyr i ddysgu a chasglu gwybodaeth. Mae sgrinlediad yn gyfrwng a ddefnyddir gan ddarlithwyr i ddysgu pynciau cysyniadol a phynciau ymarferol technegol. Y nod ymchwil yw darganfod a ystyria myfyrwyr sgrinlediad yn gyfrwng ar ffurf amgen i gasglu a defnyddio gwybodaeth. Mae'r holiadur ymchwil yn defnyddio'r holiadur i archwilio'r myfyrwyr er mwyn casglu data o amrywiol ffynonellau cyfryngol, dewisiadau, adborth gan gymharu'r sgrinlediad â chyfryngau confensiynol a defnyddio sgrinlediad ymhlith myfyrwyr. Y dull ymchwil yw astudio canfyddiad myfyrwyr ynghylch defnyddio sgrinlediad a myfyrwyr nad ydynt yn defnyddio sgrinlediad. Defnyddir dadansoddiad ystadegol pellach i benderfynu i ba raddau y mae'r naill grŵp o fyfyrwyr a'r llall yn mabwysiadu ac yn defnyddio sgrinlediad. Mae canlyniad yr ymchwil yn dangos bod myfyrwyr sy'n defnyddio sgrinlediad ar hyn o bryd bod canran uchel yn canfod ei fod yn werthfawr, yn debygol o'i ddefnyddio'n gyfrwng ategol ac yn well dewis arall i'r cyfryngau confensiynol. Mae canfyddiadau myfyrwyr nad ydynt yn defnyddio sgrinlediad ar hyn o bryd yn dangos bod canran uchel yn canfod ei fod yn llai gwerthfawr, yn llai tebygol o'i ddefnyddio'n gyfrwng ategol ac yn well dewis arall i'r cyfryngau confensiynol.*

**Key Words:** screencast, multimedia, supplementary media, conventional media

## Introduction

The importance of having individuals with high academic excellence and societal status makes academic achievement one of the most investigated issues in psychological and educational research. Many researchers have covered the use and adoption of screencast technology to enhance student learning (Betty, 2009; Bongey et al., 2006; Brown-Sica et al., 2009; Copley, 2007; Cramer et al., 2006; Falconer et al.,

2009; Gardner & Jeon, 2010; Grabe & Christopherson, 2008; McGarr, 2009; McGrann, 2005; Zhu & Bergom, 2007). The research on screencast as a supplementary media falls on the learning environment side to investigate the perception of the learner when exposed to this media use. Research on the anatomy of a screencast (Sugar et al., 2010) explores screencasts as online instructional tools. The research provided a framework for evaluating screencast instructional content. The evaluation covers the determination of effective instructional strategies of a completed screencast and the creation of a pre-production checklist. The media for student instructional strategies in the making of instructional videos started in the 1920's as visual instruction movement. As mentioned by (Saettler, 1990) that in the beginning of the 20th century, large quantity of media which are stored in school museums were visual media such as films, slides, and photographs. Therefore during that period of time, the spike of interest in using media in the school was referred to as the "visual instruction" or "visual education" started.

In an experimental study of 195 students enrolled in University of Michigan physics class, as reported by (Dey et al., 2009) students who watched a video presentation of a lecture with slides were able to apply more of what they had learned compared to students who attended the same lecture without watching video. Creation of short mini-lectures as supplementary resources to explain exercises based on Object-oriented concepts in conjunction with English language as the problem description, Java programming language and BlueJ as an object-oriented graphical representation tool. In the study by (Lee et al., 2008) concluded that the study found no significant effect using screencast during learning as well as the use of BlueJ during testing, on the student ability to write Java code with an instructional set or description in English. Research on impact of screencast technology (Green, Katie R., et al 2012) published in the Journal of Engineering Education investigated the students' perception of screencast as beneficial and results in improvement of their course performance. In the study, both the perceived benefits and real value of using screencast by students suggested that it may promote self-efficacy among the students. Further research on the students' perception of using screencast as a supplementary media is critical where students are given a survey questionnaire to find out if this hypothesis is true compared to the use of other media. This research impacts every student and teaching practices locally as well as globally. Local students reading habits are affected as they are watching the screencast instead of reading other digital media (e.g. reference books, written notes, PowerPoint, Adobe PDF file and e-book). Globally, the use of screencast as online instructional tools in the research by (Sugar et al., 2010) to help screencast developers and online instructors develop a more asynchronous learning online environment compared to face-to-face instructional strategies using PowerPoint.

This research begins with the investigation of the most frequently used media by two groups of students in the Diploma in Business Information System and Diploma in Internet Technology. The methodology is using quantitative method to measure the frequency of using screencast in addition to having reference books, written notes, Adobe PDF file, PowerPoint slides, e-books, and screencast as multimedia resources to gain information and knowledge. A professional screencast is shown to the students to make sure that all students have been exposed to using screencast as supplementary media to learn a how to create tables in Microsoft Access. Students are given PowerPoint slides, written notes, PDF files and e-book as conventional media sources. The information and knowledge content do not have to be the same as the research does not measure the achievement and effectiveness of the media in improving the performance of the student. This research is to further explore and measure the perception of student who are using screencast as a choice of supplementary media in gathering information and knowledge.

## **Research Methodology**

This paper investigates student the perception of using screencast as a supplementary media. Reference books, written notes, Adobe PDF notes may consist of Word, Excel or any other types of electronic data file and e-books are conventional media which are used by students to gain information and knowledge. Screencast is a very important media used by lecturers to teach conceptual and abstract subjects which are practical with hands-on skills (Green et al., 2012). The lack of interest shown by students to read books observed in class subject AAC3013 Database Development and Applications need to be researched further. The questionnaire survey is conducted in the practical laboratory in the campus. As the research is conducted in a close environment all the students are able to respond in the manner as independent

responses and not biased or communicated to any party during the course of filling-in the questionnaire. The researcher will be in the class to monitor and observe student responding to the questionnaire. The ethical conduct of data collection will increase the value and truth in the data collected. This will overcome the ethical issues in data collection from online submission of data on screencast used in online learning.

In this research, the focus is on whether screencast is perceived by students to be an alternative form of media to gaining knowledge and practical hands-on skills. The research methodology is to investigate the media sources, values, choices, feedback on comparing screencast with conventional media and the usage of screencast among students.

The research methodology will attempt to investigate and measure the perception of students:

- 1) Which media are the students currently using?
- 2) Which media are the most valuable to the students?
- 3) What is the choice of supplementary media?
- 4) Comparing screencast to other conventional media, which is a better media?
- 5) What is the student's choice as main media?
- 6) How would the students like to use the screencast in learning concepts or practical hands-on skills?

## Research Design.

This research design has the central issue of finding out the perception of students who are currently using screencast and those who are not using screencast. The research uses mixed-mode methods. The qualitative method to explore, user experience and usage of the screencast and the quantitative method is used to analyse the data collection from the survey questionnaire. Two groups of students are shown two screencast videos, the first video is conceptual framework of ADO.Net and the second video demonstrates the creation of tables in Microsoft Access. A research questionnaire is given to collect data immediately on their experiences after watching the screencast video.

These two groups of students will be given a questionnaire survey to measure their perception on using screencast as an alternative media. Before given the questionnaire the students will be watching two videos to help them understand the context of screencast which is conceptual instruction and the second screencast which is practical hands-on. After watching the screencast videos the students will be asked to immediately fill-in the questionnaire survey.

The analysis will examine responses of the students to the research questions given.

- 1) Which media are the students currently using?  
The responses of students in the two groups to question about the value of the media reference books, written notes, Adobe PDF notes, e-books, PowerPoint slides and screencasts have been compared. The findings suggest that there are differences among the responses of the students to which media they are currently using to learn. The students who are currently using PowerPoint slides (54%) are the highest percentages and the lowest percentages are using e-books (30%).
- 2) Which media are the most valuable to the students?  
The responses of the students on the extremely valuable media shows that reference book and PowerPoint slides share the lowest percentages (3%) of the respondents feels that it is extremely valuable whereas written notes (16%) has the highest percentages of the respondents feels that it is extremely valuable.
- 3) What is the choice of supplementary media?  
The responses of the students on the choice of supplementary media shows that (23%) of the respondents choose screencast over e-books the lowest percentages and (34%) choose screencast over written notes the highest percentages.
- 4) Comparing screencast to other conventional media, which is a better media?  
The responses of the students, shows that the screencast is perceived to be a much better media than Adobe PDF notes (7%) lowest percentages and (16%) highest percentages compared to e-books as conventional media.

- 5) What is the student's choice as main media?  
The responses of the students on the choice as main media shows that (48%) chose screencast as main media and (19%) lowest percentage e-books as main media.
- 6) How would the students like to use the screencast in learning concepts or practical hands-on skills?  
The responses of the students on using screencast in learning choose to learn concepts (40%) highest percentages and learning how to use software have the lowest percentages (23%).

## Analysis and discussion

Based on the analysis of the research findings, the students use PowerPoint slides the most as it is given as conventional media content to the students to learn basic principles and concepts in a brief and efficient manner. The respondents choose written notes as the most valuable as they use them for test and exam. As supplementary media, the choice of using screencast to learn is better alternative media than the conventional media of written notes. This indicates that information and knowledge in multimedia content is better compared to both written notes and e-books, which are static media. The responses show that comparatively screencast is a better media compared to all the other types of conventional media.

After respondents responded to comparing the screencast with conventional media, screencast has the highest percentage as the choice for main media. This may be due to the student now realised that they would like to use screencast as main media rather than as supplementary media to gain information and knowledge. The student responses shows, they prefer conceptual learning over learning software using screencast.

Limitations of the research methodology:

- 1) Does the student have Internet access to online screencast video?
- 2) Does the student have any physical disabilities?
- 3) Does the student have any time constraint to watching the screencast longer?
- 4) Does the student have any difficulty understanding the presenter's spoken language (cultural communication issue)?
- 5) Does the student have problem watching the screencast video on the projector screen due to distance or resolution of the display?
- 6) E-books have many different types and dependent on the reader application, the problem is the kindle reader e-book version is not available in Malaysia. Most commonly used e-books are PDF version or epub version.
- 7) Further research may have to overcome the limitations of the research methodology and gain a more realistic research methodology which overcomes the limitation of students who are deaf or blind and cultural differences in spoken language which will be a huge challenge to research on.

## Conclusion

Statistical analysis on the data collected is based on finding out whether the perceptions of the students who are using screencast and those who are not using screencast. The outcome of the analysis that based on students who are currently using screencast shows a high percentage of perceiving it as valuable, is likely the choice of use as supplementary media and is a better alternative to the conventional media. The perceptions of students who are not using screencast shows a high percentage of perceiving it as valuable, less likely to be choice of use as supplementary media and is no better as an alternative to conventional media. As a conclusion, the group students who are using screencast perceive it as beneficial to them and are likely to adopt it as a main media. The group of students who are not using screencast perceive as not beneficial to them as main media. They however show the interest of using it as main media. This study is important to lay the foundation to further research on the possible use of screencast technology as main media.

In future research study on how to integrate screencast technology together with other media which impacts teaching practices, digital learning media, offline and online instructional strategies will be in future research studies. With the availability of google glass, smartphone, tablet, watch, television and other ubiquitous devices which uses screencast to instruct users, the research on screencast will be far reaching and critical to all who uses technology to be kept informed and gain knowledge more quickly, efficiently and entertaining way.

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