

# Effectiveness of E-learning Among Adult Learners: An Elaboration Likelihood Model (ELM) Approach



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# Overview

- When it comes to research on e-learning, the main focus tends to be on communication technology instead of how the technology can be used to enhance the learning experience of learners.
- Too often, e-learning is pushed onto students without understanding their needs and attitudes in the first place.
- To address this research need, Elaboration Likelihood Model (ELM), a persuasive communication theory, is employed as a referent theory to explore methods to improve the effectiveness of e-learning and adult learners' attitudes towards e-learning.
- Drawing on the ELM, we aim to find out how perceived usefulness (Motivation), gadget access (Opportunity) and IT savviness (Ability), affect the effectiveness of e-learning among learners.

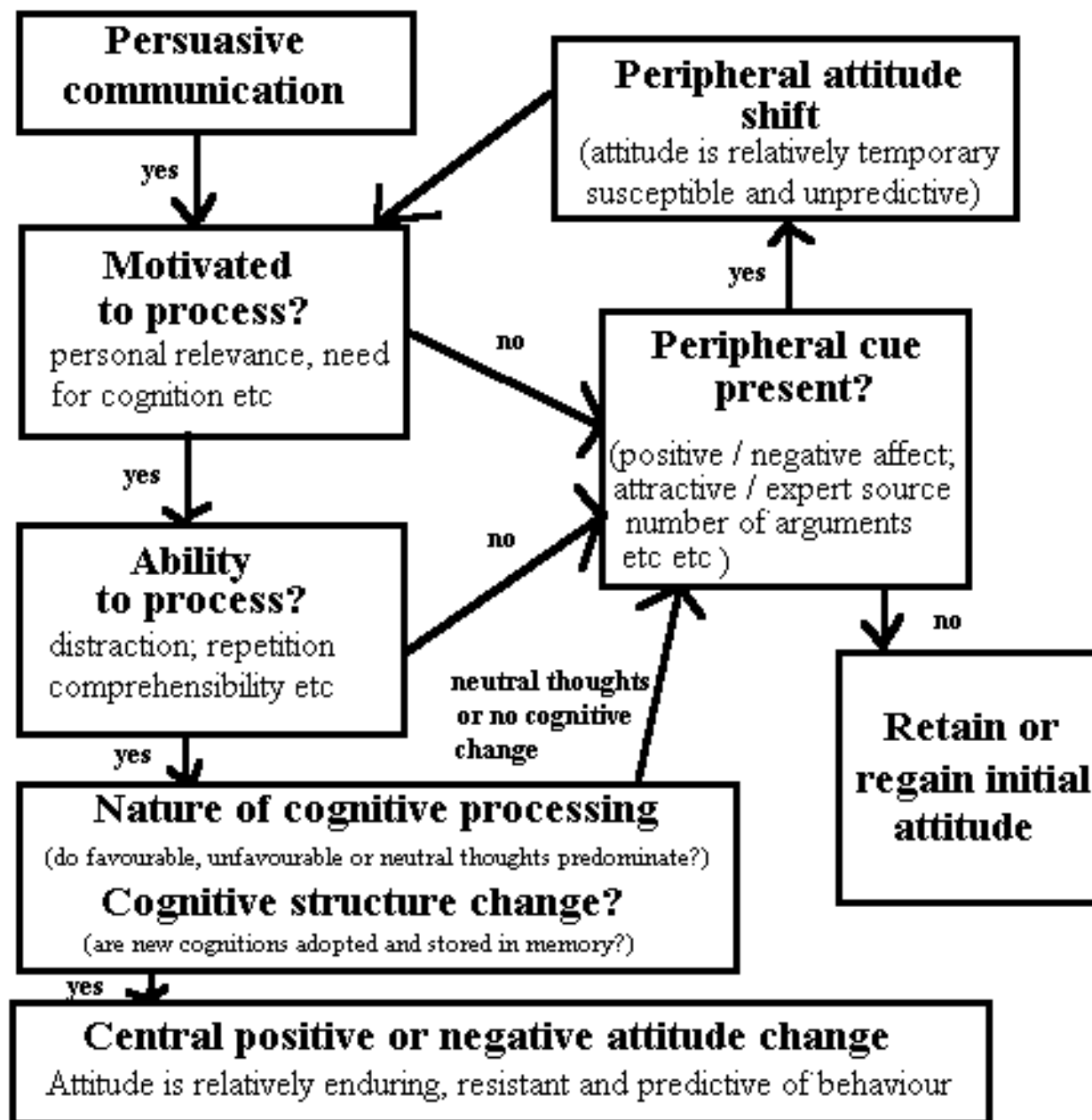
# Outline of this presentation

- Background
- The method
- Data collection
- Results
- Discussion of the results
- Concluding remarks

# Theoretical Framework: ELM

- The theoretical framework for this study is under Cognitive Paradigm, which emphasizes explanation of individual factors, such as motivations, values, attitudes, and behavior.
- ELM suggests that the degree of a receiver's involvement in information processing will result in different routes to attitude change: **central route** and **peripheral route**.
- During the process, it takes Motivation, Opportunity and Ability (MOA) for receivers to think about the message's arguments.
- Theoretically speaking, if we can increase the learners' MOA, they will tend to take the Central Route to process course materials. Their involvement in e-learning will thus be higher, which will likely result in them developing more positive attitudes towards the e-learning experience (Macdonald, 2008; Stiles, 2000; Thomas, 2007)

# Elaboration Likelihood Model



# Research Concerns

- Adult learning behaviour is reflected in the following areas:
  - learners' awareness of different learning platforms;
  - motivation to process information;
  - opportunity to process information and
  - the ability to process information.
- The research concern how perceived usefulness (Motivation), gadget access (Opportunity) and IT savviness (Ability) affect the effectiveness of e-learning among adult learners.
- The effectiveness of e-learning will be measured using Bloom's Learning Outcomes or the scale of effectiveness for learning

# Key Questions

- What is the relations between learners' MOA to processing information using social media?
- What is the perceived learning outcomes using social media?



# Data Collection Method

- The Delphi method was modified to suit the purpose of this study.
- The first round of the open-ended questionnaire with 16 questions was conducted with selected “experts” in their field i.e. lecturers/tutors who have taught for at least three years and using new media in their formal classes.
- A survey questionnaire was developed that included some of the findings culled from the open-ended questionnaire to “experts” in their field.
- This survey questionnaire was then used to collect the data of adult learners





# Data Collection Method

- For this case study, two rounds of survey were collected from the adult learners taking the module *Public Relations* in week 1 and week 6.
- These adult learners are in their final year of studies and have taken both e-courses and typical seminar courses. They are considered expert learners.
- Delphi technique is suitable for purpose of this study as it is a method to gather information from “respondents within their domain of expertise.” (Hsu and Sandford, 2007).
- The two instructors have discussed intensively with the group on the digital and social media for informal learning throughout the term.

# Data Collection Method

- From the two surveys conducted, 34 complete sets were tallied from 25 female respondents and 9 male respondents.
- The questionnaire was completed in Week 1 (Delphi A or DA) of the course and again in Week 6 (Delphi B or DB).
- Respondents who completed the survey in Week 1 but were not present in Week 6 to complete the second questionnaire were not included in the final tally.
- Incomplete sets were discarded.

# Key Findings: *Activities and Devices*

- Results in DA (Week 1) and DB (Week 2) showed a high consistency of all respondents using the Internet for email and personal communication, for searching information and for social networking.
- Slightly more than half of the respondents used the Internet for gaming purposes
- Most respondents indicated they use social media for learning both in Week 1 and Week 6.
- Respondents who are aware of social media, used social media to post questions to seek help.



# Key Findings: *Activities and Devices*

- Time spent on the Internet for leisure **ranked high** in both Wk1 and Wk6:
  - Leisure: 2 hours per day,
  - Work at 2.5 hours per day
  - Study at 2 hours per day
- Use of social media to engage in learning **fell** from 27 (Wk1) 21 (Wk2), with 3 non respondents.
- The number of respondents using all devices (desktop/laptop/Smartphone/Blackberry/Tablets/Television/peripheral devices) **increased** from Wk 1 to Wk 6
- All participants **engage actively** in email/personal communication and searching for information when they are on digital media from Wk 1 to Wk 6.



# **Key Findings:** *Relation between learners' motivation and e-learning through Social media and Internet*

- Respondents who spent > than 3 hours on the Internet for study indicated that they **strongly agree** that they **are motivated** to access information about course material from social media.
- When we compare the extent to which respondents agree to being motivated to access information through social media and whether they use social media for learning purposes, a **majority agreed they used social media for learning purposes.**
- Comparing the extent to which respondents agree that they are motivated to use social media with the ways they have used the social media services for their learning, there is an **upward positive trends** seen for posting questions and reading status updates in Week 1 and an upward trend becomes stronger for reading status posted by others in Week 6

# **Key Findings:** *Relation between learners' Opportunity and their involvement in e-learning*

- Over Week 1 and Week 6, majority of respondents agree they have the opportunity to access information through social media for learning purposes.
- In Week 1, there is an **upward positive trend** for posting questions and status updates using social media and the most frequently used services are posting questions to seek answers, read articles written by others, browse links and read status updates.
- In Week 6, there is a **clear downward trend** for joining discussion by special interest group, using an application within the social media service, browsing links shared by others and reading status updates.
  - The most frequently used service is posting questions to seek help, reading articles by others and browsing links.

# **Key Findings:** *Relation between learners' Ability and their involvement in e-learning*

- The investigation of the relationship between the extent to which respondents agree they understand course materials from social media and the types of social media that they are engaged shows a **downward trend**.
- In Week 1 and Week 6, most respondents agree to understanding course materials through social media and using social media for learning purposes.
- In Week 6, the most utilized platforms are Youtube, Facebook, Twitter, Chat Messenger and Blogging Platforms



# Key Findings: *Learning Outcomes Achieved through Social Media*

- On a scale of 0 to 10, respondents were asked to rank the various attributes of learning outcomes they have achieved in using social media. The following are results taken from a scale of 7 and above.

Learning Outcomes Using Social Media	Week 1	Week 6
<b>Knowledge</b>	41%	44% ^
<b>Comprehension</b>	41%	32% v
<b>Application</b>	38%	44% ^
<b>Analysis</b>	41%	47% ^
<b>Synthesis</b>	53%	32% v
<b>Evaluation</b>	41%	38% v



# Implications & Conclusions

- It seems that the more the respondents use the social media for e-learning purpose, it will be less likely for them to perceive that social media would help them achieve the higher level learning outcomes – Synthesis and Evaluation.
- The researchers believe that the key reason lies in the respondents' perception on social media. Most still believe that it is “informal,” hence it is not a platform for more serious learning purpose, such as synthesis and evaluation

# Implications and Conclusions

- On the other hand, there is an increase for most areas of lower-ordered Learning Outcomes -Knowledge and Application.
- The researchers believe that this is due to the fact that the social media has effectively provided the respondents with a lot of relevant information.
- This helped increase their knowledge in the subject matter.
- However, too much information on the social media has also affected negatively some users' ability to comprehend the content. This explains why there is a drop in the area of Comprehension.

# Implications and Conclusions

- The discussion on social media has also helped the respondents apply what they have learnt effectively using the same platform.
- Due to the interaction among the social media, the respondents have reported an improvement in their application and analytical skills, after six weeks of intentional use of social media for informal learning purpose.
- The researchers believe that the learners' perception has in fact played a very important role in achieving the learning outcomes by using social media.
- Most still do not perceive social media to be a serious learning platform.

**THANK YOU!**

