ARE MY ADULT LEARNERS READY FOR E-LEARNING?

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INTRODUCTION
E-learning covers a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It is technologically driven and provides a virtual learning experience synchronously or asynchronously. (Kaplan-Leiserson, 2002)
BENEFITS OF E-LEARNING

Introduction

Cost Savings
- Traveling
- Trainer fee
- Training facilities

Time Savings
- Staff time in arranging training logistics
- Time to attend training that requires absence from work

Effective Learning
- Interesting and engaging
- Improves retention and understanding

Immediate Learning
- Learn before joining
- No need for a minimum number of trainees
- Great for orientation programs

Free Resources
- Plenty of free content available
- Organizations can use existing internal resources

Repeat Learning & Refreshers
- Your eLearning course remains with you
- It can be used as and when you like

Monitoring & Evaluation
- Management can track learning progress of employees

Learn what is not possible through Training
- Learn from global resources
- Learn new skills quickly, when needed

8 Reasons to Adopt eLearning

3i Logic's eLearning infographics are meant to start and stimulate discussions on self-paced eLearning, without claiming to be definitive. For any comments or suggestions, you are always welcome to reach us via infographics@3ilogic.com

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INVESTMENT IN E-LEARNING

- Asia has the highest growth rate for e-learning in the world at 17.3%.
- Revenues reached $5.2 billion in 2011 and will more than double to $11.5 billion by 2016 (Ambient Insight, 2013).
- Singapore companies spend 20-25% of training budget on e-learning (Bashar & Khan, 2007).

- Despite large investments in e-learning and the well-documented worldwide programme dropout rates in e-learning courses, there has been little or no analysis of learner perception and readiness for e-learning among Singapore adult learners.
WHAT MAY HAVE BEEN OUR ASSUMPTIONS?

ICT infused curriculum leads to a workforce ready for e-learning

Strong ICT infrastructure leads to e-learning readiness

Adult learners are self-directed and ready for e-learning
In 1968, Malcolm Knowles proposed the concept of andragogy, which outlined the following characteristics of adult learners:

1. Independent and self-directed in their learning;
2. A reservoir of life experiences which is a rich resource for learning;
3. Readiness to learn is dependent on their changing social roles;
4. Problem-centred and interested in immediate application of knowledge;
5. Motivated to learn by internal more than external factors;
6. Need to know why they need to learn something.
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First assumption about self-direction is more a desired outcome than a given condition (Brookfield, 1986)

This means that many adults may not have learnt to be self-directed, and this could be the result of their past experiences in the traditional classrooms and the trainer-directed approaches still being used in adult training today (Khoo & Fraser, 2008)
RESEARCH QUESTIONS

How reliable is the survey in assessing e-learning readiness among the adult learners?

To what extent do the adult learners perceive their readiness for e-learning in terms of readiness factors?
LITERATURE REVIEW

Are My Adult Learners Ready for E-learning?
“the preparedness of the learner to engage and succeed in an e-learning environment”

(Watkins, Leigh & Triner, 2004)
E-LEARNING READINESS FOR ADULT LEARNERS

Level of access to technology, e.g. convenience of access in terms of timing and location.

Possession of adequate computer hardware and software for e-learning

Support from the organisation to access work-related e-learning.

1. I have access to a computer with an Internet connection.
2. I can access an e-learning module at times convenient to me.
3. I can access an e-learning module at locations convenient to me.
4. I have access to a fairly new computer (less than 5 years old) with adequate hardware (e.g. enough RAM, speakers) to run the e-learning module.
5. I have access to a computer with adequate software (e.g. Microsoft Word, Adobe Acrobat, Internet browser) to run the e-learning module.
6. My supervisor is supportive if I take e-learning courses which are related to my work during office hours.
E-LEARNING READINESS FOR ADULT LEARNERS

- Hardware and software technical skills, i.e. ability to operate a computer, use the Internet, send emails, typing
- Level of comfort in using the computer for e-learning

1. I have the basic skills to operate a computer (e.g. saving files, creating folders).
2. I have the basic skills for finding my way around the Internet (e.g. using search engines, entering passwords).
3. I can send an email with a file attached.
4. I possess sufficient computer keyboarding skills for doing online work.
5. I think that I would be comfortable using a computer several times a week to participate in an e-learning module.
**E-LEARNING READINESS FOR ADULT LEARNERS**

- Ability to take notes and internalise information being presented in online media formats such as videos.

1. I think that I would be able to relate the content of short video clips (1-3 minutes typically) to the information I have read online or in books.

2. I think that I would be able to take notes while watching a video on the computer.

3. I think that I would be able to understand course related information when it’s presented in video formats.
E-LEARNING READINESS FOR ADULT LEARNERS

- Ability to use synchronous or asynchronous communication tools to interact with other learners online, e.g. discussion boards instant messaging.

1. I think that I would be able to communicate effectively with others using online technologies (e.g., email, chat).
2. I think that I would be able to express myself clearly through my writing (e.g., mood, emotions, and humour).
3. I think that I would be able to carry on a conversation with others using the Internet (e.g., Internet chat, instant messenger).
4. I think that I would be able to follow along with an online conversation (e.g., Internet chat, instant messenger) while typing.
5. I respect opinions and information provided by others in online communities.
E-LEARNING READINESS FOR ADULT LEARNERS

- A personal attribute and a learning process
- Ability to set self-motivate, set personal goals, manage time and avoid distractions in order to complete e-learning tasks at hand.

1. I think that I would be able to remain motivated even though the instructor is not online at all times.
2. I think that I would be able to complete my work even when there are online distractions (e.g., friends sending emails or Websites to surf).
3. I think that I would be able to complete my work even when there are distractions in my home (e.g., television, children, and such).
4. When it comes to learning, I am a self-directed person.
5. In my learning, I am self-disciplined and find it easy to set aside time for reading and completing assignments.
6. In my learning, I set goals and have a high degree of initiative to achieve these goals.
Factors that would contribute to the learner’s success in e-learning, e.g. Quick technical and administrative support, frequent participation throughout the learning process, prior experiences with online technologies, ability to immediately apply course materials.

1. Quick technical and administrative support is important to my success in e-learning.
2. Frequent participation throughout the learning process is important to my success in e-learning.
3. I feel that prior experiences with online technologies (e.g., email, Internet chat, online readings) are important to my success with e-learning.
4. The ability to immediately apply course materials is important to my success with e-learning.
E-LEARNING READINESS FOR ADULT LEARNERS

- Statements comparing e-learning to traditional forms of learning
- Perceptions and attitudes have been shown to affect student motivation, ability and comfort in e-learning environments (Albert & Johnson, 2011).

1. I feel that e-learning is of at least equal quality to traditional classroom learning
2. I feel that e-learning will never replace other forms of teaching and learning. *
3. I feel a sense of satisfaction and achievement about the e-learning environment.
4. I could learn more in this e-learning environment.
5. I feel that face-to-face contact with my instructor is necessary for learning to occur. *
6. I am allowed to work at my own pace to achieve learning objectives.
7. The flexibility in e-learning allows me to meet my learning goals.
8. The flexibility in e-learning allows me to explore my own areas of interest.
E-LEARNING READINESS SURVEY

- Allows organisations to design comprehensive e-learning strategies and implement ICT goals effectively.
- The assessment calibrates the degree of ability and capacity to pursue knowledge in a specific e-learning context.
- Results will enable organisations and practitioners to implement development plans to help create informed participants in e-learning endeavours, and ultimately help them achieve success (Kaur & Abas, 2004)
- In turn, this would retain and motivate adult learners in lifelong learning using e-learning (Chu & Tsai, 2009)
METHODOLOGY

Are My Adult Learners Ready for E-learning?
Literature Review

Based on Online Learner Readiness Self-Assessment instrument by Watkins et al. (2004).

Incorporated relevant questions from other instruments.

37 item survey; grouped into 7 subscales:
- Technology Access (TA)
- Technology Skills (TS)
- Information Processing Skills (IPS)
- Online Interaction Skills (OIS)
- Self-directed Learning (SDL)
- Factors Important to your Success (FIS)
- Opinions of E-learning (OEL)

Four-point Likert scale from Strongly Agree (4), Agree (3), Disagree (2) to Strongly Disagree (1)

After the questionnaire was developed, it was pilot tested on a group of 40 participants attending a blended learning course before a validation using factor analysis and correlation methods.
SAMPLE & PROCEDURE

- 40 participants (17 males and 23 females; with 25 aged between 21-30, 10 aged between 21-40 and 5 aged between 41-50) from two blended learning programmes conducted at a training institute in Singapore in 2013.
- There were 17 participants from the one programme and 23 participants in the second programme.
- Participants were required to complete their e-learning module before attending the face-to-face workshop.
- The survey was conducted during the face-to-face workshop component of the blended programmes, on a voluntary basis.
ANALYSES

- **Factor structure** (exploratory factor analysis using principle component analysis with varimax rotation)
- **Internal consistency** (using the Cronbach’s alpha coefficient for reliability analysis)
- **Discriminant validity** (mean correlation of a subscale with the other subscales)
RESULTS AND DISCUSSION

Are My Adult Learners Ready for E-learning?
Q1. HOW RELIABLE IS THE SURVEY IN ASSESSING E-LEARNING READINESS AMONG THE ADULT LEARNERS?

**Exploratory Factor Analysis**

- Principle component analysis with varimax rotation
- Cut off factor loading score: 0.47.
- The eigenvalues produced in the extraction were examined on a scree plot and this failed to reveal a clear cut-off point.
- Ten factors with eigenvalues greater than one accounted for 81.45% of the total variance.
- With the exception of nine items (TA 1; TA 6, TS11, OIS19, FIS28, OEL 30, OEL 31, OEL 34, OEL 35), the rest of the items loaded neatly on 7 factors.
  - Factor 1 - Technology Skills (TS7-11) & one item from Technology Access (TA1).
  - Factor 2 - Technology Access (TA2-5).
  - Factor 3 - Information Processing Skills (IPS12-14) & Opinions of E-learning (OEL32-33 & 36-37) that corresponded to satisfaction with learning in an online environment.
  - Factor 4 - Online Interaction Skills (OIS15-18)
  - Factor 5 - Three items from Self-directed learning (SDL20-22)
  - Factor 6 - Three items from Self-directed learning (SDL23-25).
  - Factor 7 - Factors Important to your Success (FIS26-29).
Q1. HOW RELIABLE IS THE SURVEY IN ASSESSING E-LEARNING READINESS AMONG THE ADULT LEARNERS?

- **Reliability Analysis**
  - Cronbach’s alpha coefficient was used to measure internal consistency to assess if the subscales measure the same attribute or dimension.
  - Range from 0.731 to 0.881.
  - Minimum level acceptable: 0.70
  - Instrument is reliable.
RESULTS

Findings showed that these learners rated their Technology Skills (TS) to be the highest ($M = 3.56$, $SD = 0.44$), followed by Online Interaction Skills (OIS) ($M = 3.30$, $SD = 0.41$).

However, their Opinions of e-learning (OEL) was the lowest ($M = 2.60$, $SD = 0.40$) followed by Self-directed Learning (SDL) ($M = 2.88$, $SD = 0.48$).

DISCUSSION

- High scores in TS and OIS can be attributed to the strong ICT infrastructure in Singapore – exposure to ICT tools early in the education system and in the workplace.

- Low scores on OEL and SDL are disturbing as perception of e-learning and SDL are key critical success factors for e-learning.
  - Preference for face to face interactions
  - Traditional classroom environments cannot be replaced
  - Low confidence levels in e-learning
  - May still expect supervision by trainers (Long, 2003)
  - Past learning experiences in mostly teacher-centered environment has not adequately prepared them for SDL in today’s e-learning environment.
  - Implies unclear understanding of e-learning and negative perceptions towards it

- A gap between the learners’ perception and skills and the critical success factors for e-learning
CONCLUSION

Are My Adult Learners Ready for E-learning?
Goal of study: to explore learner readiness for e-learning in Singapore.

This study has raised key issues that are significant to the success of e-learners. Respondents indicate their readiness levels to be positive in terms of technology skills and online interaction skills, but rate themselves poorly on self-directed learning and have a poor opinion of e-learning.
LIMITATIONS

1. Pilot study - small sample size (40 participants)
2. Narrow definition of e-learning success was used – based on course ratings
3. Self-reporting questionnaires
## FUTURE RESEARCH

1. **Revise instrument**

2. **Perform confirmatory factor analysis**

3. **Use larger sample size** representative of adult learners in Singapore.

4. **Engage other stakeholders** in readiness study, e.g. associate trainers delivering blended learning courses as their perceptions, attitudes, proficiency, curriculum alignment of e-learning have been found to be critical success factors for e-learning (Ahmed, 2010).

5. **Link factors to successful e-learning outcomes**, measured by acquisition of knowledge (authentic online assessments) and transfer of knowledge or skills in the workplace (using Level 2 and 3 of Kirkpatrick’s Evaluation Model). Note that this would be costly and time-consuming to measure.
Training institute:
- Mind-set shift regarding responsibilities of a training institute – how far must we go in preparing learners to be successful in the e-learning environments we create?
- Prepare learners for self-directed learning using direct and indirect strategies (Long, 2003)
- Raise the awareness of the benefits of e-learning.
- Use blended learning approaches to reap benefits of e-learning and face-to-face interactions

Educational institutes:
- Implement overarching self-directed learning curriculum to ensure graduates entering workforce are equipped


QUESTIONS & COMMENTS?
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