

# Can an information literacy teaching intervention promote self-efficacy in learners?

Dr Geoff Walton  
Senior Lecturer

Dept. of Mathematics and Information Sciences  
Northumbria University, UK

Eleanor Johnston  
Skills Tutor: Librarian  
Information Services  
Staffordshire University, UK

# What I am going to talk about

- Introduction
- Information literacy practice framework
- Self-efficacy
- Step-up to HE
- Methodology
  - Hypothesis and an exploratory research question
- Results
  - Quantitative
  - Qualitative
- Limitations
- Final words including thoughts on the next steps



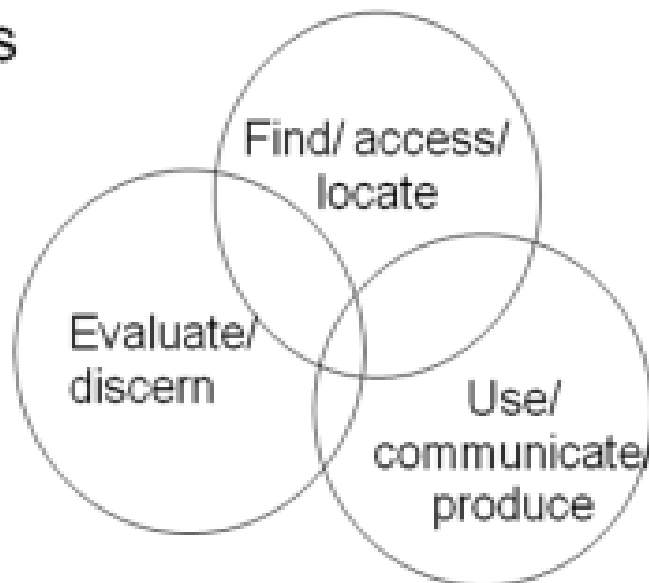
# Introduction

- A health warning – the statistical results reported here are not yet verified and so **no claims** are made
- However, the numbers and the rich data make a good story and an indication of **what might be happening** when pre-university students attend the course in question and receive some information literacy practise guidance

# Information literacy (IL) practise framework

## THREE SPHERES OF INFORMATION LITERACY

Becoming information literate takes place in a wider social context determined by roles, norms and tasks



Spheres can occur in no particular order

Each sphere triggers its own set of behavioural, cognitive, metacognitive and affective states

This framework is based on Walton & Hepworth, 2011 and 2013 and published in Walton & Cleland, 2013)

# Self-efficacy

- Concerned with people's beliefs in their capabilities to produce given attainments (Bandura, 1997 quoted in Bandura, 2006, p307)
- A differentiated set of self-beliefs linked to distinct functions (Bandura, 1977)
- Self-efficacy scales should be tailored around the particular function
- Perceived self-efficacy
  - a judgement of capability to execute a given type of performance and influence courses of action
  - Influences self-development
- Self-efficacy issue – can one take appropriate action in the face of dissuading conditions?
- E.g., it takes more cognitive effort to be sceptical and disbelieve a piece of information (especially if it contradicts your world view) than it does to accept it and move on (Lewandowsky, 2012) – can IL mitigate this?
- Research into IL and self-efficacy not new e.g., Kurbanoglu et al (2006) and recent example, Kumar & Edwards (2013) amongst others

# Step-up to HE (1)

- A short, 5 week study skills course with some tailored subject content delivered at a UK university.
- Intention to give potential students the opportunity to experience studying in Higher Education, especially those who feel they may not have the right skills for this endeavour.
- Part of a 'Widening Participation' initiative to encourage students from non-traditional back-grounds to consider attending university. (Taylor, 2012)
- Programme contains a 3 week information literacy practise intervention...



# Step-up to HE (2)

- Student centred
- We ask them what they want to learn about
- First group task, ‘tell us 10 things you wanted to know about the library but were too afraid to ask...’
- Each week has a different focus
  - Finding information
  - Information discernment
  - Communicating information – particularly around referencing (Johnston & Walton, 2014)



# Methodology

- Hypothesis
  - Participants involved in Step-up to HE (n=36), and who complete both pre and post delivery questionnaires, will gain a statistically significantly higher score in the self-efficacy post information literacy intervention questionnaire than in the pre-intervention questionnaire.
  - T-test – assumptions – test difference in means between two scores from single set of sample people
- Exploratory research question – In what ways does student feedback indicate increased awareness of information discernment? (open coding)
- Consent was obtained from all students before the research commenced.
- All were informed that they could withdraw their data at any time

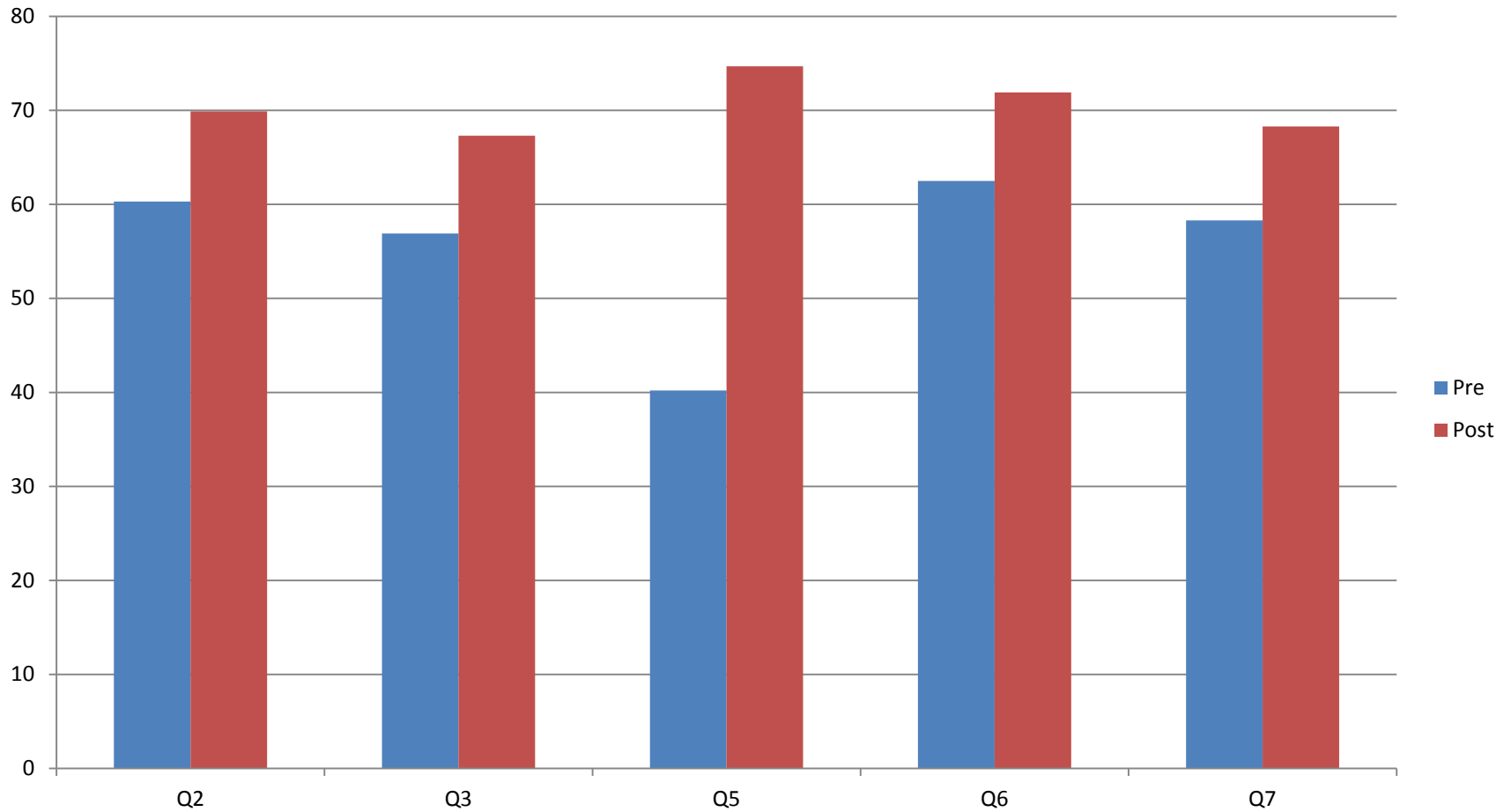
# Results: Quantitative (1)

- Q2: (n=34) *I can find information easily to complete an assignment*
  - *The two means differed significantly in the predicted direction (t= -3.602, df=33, one-tailed p= .0015)*
- Q3: (n=36) *I can make sound judgements about information and evaluate it for its quality*
  - *The two means differed significantly in the predicted direction (t= -4.155, df=35, one-tailed p < .0001)*
- Q5: (n=36) *5. I can reference my work using a recognised standard, for example, Harvard*
  - *The two means differed significantly in the predicted direction (t= -7.401, df=35, one-tailed p < .0001)*

# Results: Quantitative (2)

- Q6: (n=36) *It is easy for me to stick to my aims and accomplish my goals*
  - *The two means differed significantly in the predicted direction (t= -2.876, df=35, one-tailed p= .0035)*
- Q7: (n=36) *I am confident that I could deal efficiently with unexpected events*
  - *The two means differed significantly in the predicted direction (t= -3.969, df=35, one-tailed p<.0001)*
- NB: Between 60 and 70% of students who attend the course go on to HE. Some cohorts have 90% progression.

# Comparison of means – pre and post tests



# Results: Qualitative

**Before the session: "Write what you think 'critical evaluation for webpages' means"**

<b>Students had no concept (x4)</b>	<b>Navigation/ease of use (x3)</b>	<b>Some analysis (x5)</b>	<b>Aware of the need to analyse and judge (x3)</b>
No idea x2 Not sure Don't know	Knowing how to navigate webpages A detailed summary of a webpage User friendly/easily accessed	Testing to see faults Reflect on and document opinion To extract reliable and relevant information Evaluate whether they are safe Following opinions and conclusions	Assessing pros and cons Analysing the website looking for good and bad points Making as judgement of a web page

**After the session: "What have you learned in today's session?"**

<b>Students had no concept (x0)</b>	<b>Navigation/ease of use (x0)</b>	<b>Some analysis (x14)</b>	<b>Aware of the need to analyse and judge (x3)</b>
		I have learnt sites are not trustworthy (x4) Don't judge a web page purely on a Google quick search Peer review (x2) Do not be too quick to judge a website by its Google description To be very careful about the reliability of websites/search engines It's worth checking the author/host before looking at the content to ensure accuracy Don't trust a website who's tagline is "The truth about..." Not all .org websites can be trusted Don't believe everything you see on the net. Do your own search on subjects Provide feedback, reliability, accuracy, authors etc.	It is deciding whether a webpage is reliable or not To check: site owner, reliability, accuracy, peer evaluation, double check work before using it Learnt to be open-minded as to the reliability of websites. In evaluation interpretation will go a long way



# Limitations

- Small scale study
- Self-selecting participants
- Flawed questionnaire?
- Hawthorne/ Observer Effect – have individuals simply improved their behaviour in response to being observed?
- ...or because they just got older and more experienced?

# Final words including thoughts on the next steps

- More detailed research is required to fully establish patterns in the data.
- Furthermore, to establish the veracity of these findings, it is intended that the study will be repeated over the next two academic years.



# Last word...

- Bandura (2006, p319)

*“Knowing how to build a sense of efficacy [...] enables people to realise their desired personal and social changes”*

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