

Read Review Respond – Alan Perkins

Compare and Contrast – Cox, Preston – What Factors Support or Prevent Teachers from Using ICT in their Classrooms with Tearle – A Theoretical and Instrumental Framework for Implementing Change in ICT and Education

Summary

Aim:-Through a literature search and a Questionnaire/Survey to establish most important factors to lead to teachers use of ICT in the classroom...

Cox –

- The author looks at previous evidence and links to 5 reasons that rise from this evidence on why ICT implementation in schools can at best be slow:-
 - i. The author establishes that most important is that a school and its teachers understand the need for change in a clear and organised way. Whole school support is incredibly important where all teachers feel part of the decision to change.
 - ii. Often teachers dislike to question what they are doing, maybe the 'if it isn't broke don't fix it' mentality...and beyond this, teachers basic pedagogical ideas often come from childhood and years of practice.
 - iii. Training often does not look on how ICT is placed into the curriculum rather than just technical training.
 - iv. Discipline and control ARE always every teacher's main concern within a classroom and changing teaching style can often be threatening and maybe not have any learning impact?
 - v. Resources and technical support are important but beyond this the factor of TIME.
- The author links to studies by **Ajzen** on attitude and behaviour and **Weiner** on motivation, along with **Warsaw's** studies into why people use ICT technologies in which the persons attitude towards ICT effected how useful they though the use of it was...
- Sorry - Found a nice diagram.....which looks at external variables in more detail although misses out on items like:- Requirements of National Curriculum, Training, Changes in Society, LEA, School Policies etc
- This paper focuses on the external factor of '*how teachers perceive ICT's contribution to teaching and learning*' and so how this affects their use and uptake.
- The author list a variety of factors that affect '*perceived ease of use*' of ICT including obvious examples like technical support, resources etc...
- The author then list positive and negative factors to '*perceived usefulness*' of ICT on learning and teaching – as without ICT being useful why should a teacher change their practice. Some ideas were as simple but as important as ICT makes lessons more fun.
- Interesting is the fact that also teachers will take into account their own perceived personal level if ICT usefulness as well.
- The author outlines details of the questionnaire and the sample of teachers it is sent to – and shows that it will be reviewed quantitatively and contrasted with the qualitative literature analysis.
- 60.7% questionnaires returned, Average age 42, Mostly Male, Mostly in Secondary School, 76% used ICT in home, 75% emailed at home.
- Findings included that:-
 - i. '*ICT made administration more efficient*'
 - ii. '*Hardware and Software problems often disrupt lessons*'

- iii. *'85% agreed that ICT made lessons more interesting, 90% more enjoyable'*
 - iv. *'ICT gives me more power in school'*
 - v. *'It seems foolish to attempt to work on ICT development in isolation when with a little communication, ideas can be shared, discussed and refined'*
- In conclusion the author suggests that areas such as training are as important as *'perceived usefulness factors'*, and that training must address pedagogical issues.

Summary

The author sets out that the paper will compare and contrast a theoretical framework for implementing ICT change designed from a literature review with a single (successful) practical school case study of ICT implementation.

Tearle –

- The author sets out that since the 60's it has been found that implementing and introducing ICT into schools has been difficult and continues to be difficult. The author describes a variety of reviews of this implementation and then suggests this paper will be different because it will specifically look at ICT implementation as *'a special case of managing change'* rather than from other points of view.
- The theoretical framework came from looking at literature related to management of change in any organisation along with use of ICT in schools. The author setup a database of articles over 400 with which they could cross reference and search.
- Managing Change – Key Influences:-
 - i. Adaptive culture
 - ii. A *'learning organisation rather than a controlling organisation'*
 - iii. A *'culture of collaboration'* rather than isolated competitiveness
 - iv. People working in organisation are ready for change –to which the authors suggest that with teachers this is unlikely due to a *'practical wisdom'* to continue with what works for them.
 - v. Understand the external influences that affect them and could help them
- Readiness to change can be looked at to involve a few factors including social obligation and :- *'a person's attitude, social norms and their control beliefs'*
- The author looks into research about:-
 - i. **Rogers's** five characteristics of *'rate of adoption of change: relative advantage, compatibility, complexity, trialability, observability.'* And how these can be contrasted with Duncan's 4 factors of resistance /slowing down change adoption: *'cultural barriers, social barriers, organisational barriers, psychological barriers.'*
 - ii. Other characteristics are obviously TIME and need for planning and coordination.
 - iii. The author links to the difficulty of change for teachers due to the fact that a teachers' *'teaching style(s) have been described as part of a teachers personality'* and so any change management in schools has so far underestimated how difficult it is to change teachers beliefs.
- Specific Factors as well as change management factors have to be looked at which can be broken down into, **practical factors** and **attitude and ethos**. Practical factors include: reliability, location and number of computers as well as training and the TIME to train. Attitude looks at the factors especially personal that computers and technology are worthwhile and so a teacher is motivated to use technology within their teaching.

- The author that presents his framework from this research.
- The case study is described as one of great success in its implementation of ICT within teaching and learning so that it can be compared to the theoretical framework. Interviews were held with selected staff after initial questionnaires had been returned.
- 58% questionnaires returned, 83% used ICT in lesson preparation, 81% used with teaching classes, 95% of staff reported a positive attitude to use of ICT, 31 comments on quality of planning, 60 comments about good resources, 16 comments about usefulness of external resources and networks.
- A lot of the comments from interviews were qualitative and the author discusses how the staff had a sense of pride, how the ICT technical team were very well organised slowly phasing in ICT use across departments, and considered purchase an location of ICT suites.
- From the case study a surprising outcome according to the author is the amount of comments related to external influences and help including the likes of OFSTED to spark change and ICT development.
- The author then looks at links between two pieces of research:-
 - i. Strong school management and leadership in supporting change in ICT development
 - ii. Well Planned implementation with good resourcing and time to change
 - iii. Individuals with positive attitudes to ICT and belief it will help teaching and learning
 - iv. Social obligations were strong which meant that individual beliefs were weaker than a communal sense of need
 - v. External influences such as government initiatives were a seed to all changes...

Personal Thoughts / Comparisons and Contrasts

- 6 years difference in time of writing....but I think both are still relevant...
- Both have literature reviews which are then linked with practical case study/ questionnaire analysis....
- Both papers used very positive case studies or teachers that had a positive attitude towards ICT...
- The first focuses on '*perceived usefulness*' of ICT and its affect on ICT development and change in schools whereas the second looks at 'change management' more closely
- However both show how important it is that teachers are using ICT at home and how this affects their beliefs that ICT will affect and improve teaching and learning.
- In both it acknowledges that teachers can be catalysts for change and development within ICT, but specifically in the second paper it shows how much this needs to be part of a well managed whole school initiative if it is to be more than sporadically successful.

Strengths of article/ Do the arguments resonate with my experiences?

- As a coordinator/ HoD of ICT who has a positive belief that ICT can improve teaching and learning and beyond that improve society as a whole - both articles were interesting in making me look at how the ICT initiatives that I have tried to implement in school as an innovator of change, have either failed or taken a long while to implement.

- The ideas of an adaptive culture at school are interesting if I look back at the last three schools I have worked in, all with very different whole school ethos and so beliefs which have affected the speed and influence in which I have been able to implement ICT change within each school...
- The arguments of both do resonate with initiatives that I have been implementing in my recent school – see mind-map as too a few...

<http://www.constructict.com/blog/wp-content/uploads/2006/08/BrainstormProjectIdeas/index.html>

And although Management has been supportive, the whole school and teachers are not part of the decisions due to the lack of INSET time within the school...along with other problems especially linking with the '*perceived usefulness*' of ICT especially in terms of horizontal integration in subjects such as English.

- Are the findings still true from 1999, to the present? Generally I believe so, especially with recent experiences where introducing an ICT INSET program has led to an upsurge in the lack of confidence of teachers. BUT beyond this the INSET often has to focus on technical issues, and so even when trained technically it is noticeable that teacher still do not use ICT in their teaching due to the pedagogical aspects and a lack of an idea as to why ICT would be useful.
- Both papers use case studies or teachers in which resourcing a technical support are not an issue – they are lucky, as in most schools I still recognise that for teachers technical support and reliability is an issue.
- Both articles are well structured with the contrast of practical case study research and literature review being most affective.