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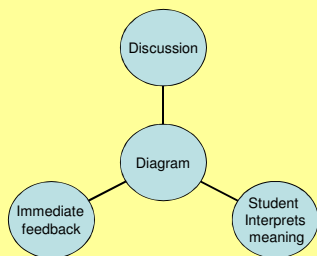This version is available at http://eprints.hud.ac.uk/id/eprint/10968/

INVESTIGATION INTO FIRST YEAR UNDERGRADUATE STUDENTS' EXPERIENCE OF LEARNING IN PARTICULAR STUDENTS' BELIEFS AND ATTITUDES TOWARDS THE USE OF VISUAL TOOLS (VT) IN ENHANCING THE STUDENTS' LEARNING EXPERIENCE

Kiara Lewis

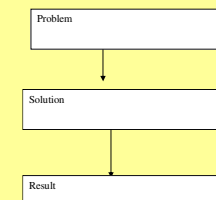**Sustain Concentration:**

making connections

student involvement

Discussion — Diagram — Immediate feedback — Student Interprets meaning

Why use visual tools?

Shape memory: By creating meaning we remember and can recall

Organise information:

Constructing and communicating meaning

Analysis and understanding

Problem → Solution → Result
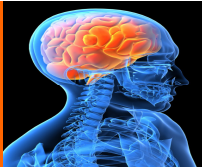
AIMS

1. What learning environment do students prefer and is this dependent on their learning style?

2. What do students perceive as the benefits of VT to learning and teaching?

3. What are the barriers to the use of VT in learning and teaching?
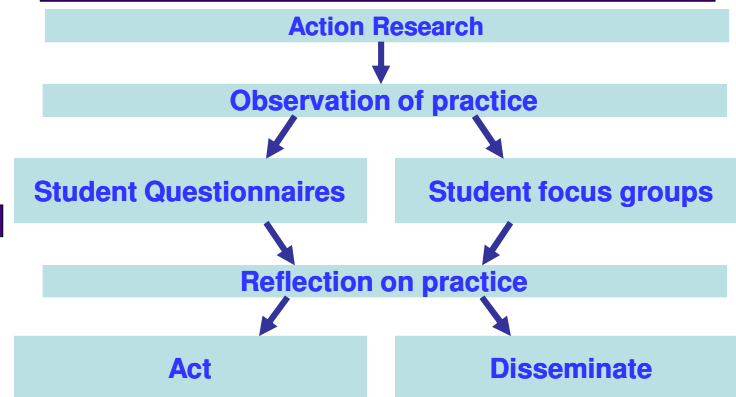
INTRODUCTION

There is a wide field of research that has investigated how students learn and how teachers can facilitate this. However, the voice of the student and their opinions on their learning process is one that is underdeveloped (Wall, Higgins and Smith, 2005). When looking at issues of student retention there are many complex issues involved, a combination of personal as well as academic issues is often implicated (Glogowska, Young & Lockyer, 2007). One particular area of concern is how students learn and some evidence suggests we lose students because they think and learn differently from those who teach them (Tanner and Allen, 2004). This suggests that finding out how students learn and how best this can be facilitated is a valuable route of enquiry.

The introduction of computers to classrooms and the use of interactive white boards are becoming increasing prevalent at both primary and secondary level (Wall, Higgins and Smith, 2005). This means that the student experience prior to University is very different to that of past students and inevitably includes the use of VT as part of the learning and teaching process.

MULTIMODAL LEARNING

There is a wealth of literature that supports that the use of multiple sensory modalities is beneficial to learning (Kratzig and Arbuthnott, 2006). Lujon and DiCarlo (2006) found that most students preferred multiple modes of delivery but the most important component was active learning. If students are involved in creating visual displays of information (visual), take part in discussions (auditory) and can manipulate models (kinaesthetic) then enthusiasm and motivation for learning is generated. Therefore it is not the learning style of the student but the teaching style of the instructor that is paramount.

THE RESEARCH PROCESS

Action Research

↓

Observation of practice

↓

Student Questionnaires / Student focus groups

↓

Reflection on practice

↓

Act / Disseminate

METHODODOLOGY

Professional development can be undertaken in many ways; within educational settings one way offered to the teacher is that of action research. As the name suggests, this type of research attempts to put research into action, to enable this, the researcher is also the practitioner. The central aim is for the practitioner to reflect on their own practice using a systematic approach to improve upon their own performance. Therefore those involved in action research enquire into their own action (McNiff, 2002). Action research has been defined by Kemmis and McTaggart (1992 cited in Cohen, Manion and Morrison 2000 p. 227) as

… action research is to plan, act, observe and reflect more carefully, more systematically, and more rigorously that one usually does in everyday life

Action research lends itself well to qualitative methods of data collection however it often employs a combination or quantitative and qualitative methods. The methodology as outlined above allowed the collection of a number of sources of information from a small sample of students in a limited time frame. The findings are limited by both of these as well as difficulties in interpreting the findings as a whole and further investigations are warranted before conclusions can be drawn.

RESULTS

Learning environment and learning styles: my research led me to believe that the students' learning style was difficult to measure accurately and was not as important as measuring the preferred learning environment: When asked about situations where they felt it was more difficult to learn, they all talked about sitting and listening, taking notes or being presented passively with lots of information. This appeared to be the case when presented with lots of information verbally or in the form of text.

"we sat and took notes – fall asleep material. It's harder to keep engaged. You get bombarded with lots of information at once and you don't know what to do with it, what order, what's it for? " Subject 1

Benefits of VT:
When asked about situations they found beneficial the students discussed situations where they were actively engaged in their learning and interested to learn. They expressed that the way I use the flipchart in lectures had been beneficial. This year I have set more directed work between lectures (whether reading an article, listening to taped interviews, using questionnaires on peers) so that students come to the session with knowledge. I have then engaged them through discussions and as a group we have structured that information through diagrammatic representation on the flipchart. This is created with the class – so is not me giving them my knowledge, we are creating meaning and through displaying it visually have been able to discuss and debate it. They described this and other active learning situations as more interesting and described it as:

"feeling less tired after a lecture" Subject 3

Barriers
a) Credible way to assess at undergraduate level?
b) VT are not requested at University and/or there is a lack of opportunity to use them
c) Students and staff unaware of how to use more complex VT
d) Student numbers and class room sizes

Conclusions

The results suggest that students learn best when actively engaged in their learning process and that VT can be employed successfully. Further use of VT requires increased knowledge of the range of VT and how they can be taught by teachers, increased recognition of their validity by students and recognition from the University of the pedagogical value of such practices.

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