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CULTIVATING ACADEMIC SELF-EFFICACY THROUGH SUPPORTIVE SOCIAL AND SELF-REGULATED LEARNING STRATEGIES FOR STUDENTS IN HIGHER EDUCATION

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ABSTRACT

This research set out to enhance engagement in computer programming, a known difficult subject area for 1st year BSc in IT students. Programming lecturing staff had strong reservations about introducing group work in their classes, claiming group work was a counter-productive learning approach. The study was framed on a mixed methods action research approach, and a number of interventions, centred on reflective learning and social learning, were introduced. The findings indicated a strong preference by students to work in groups when tackling computer programming problems, but no strong evidence was found that reflective or social learning activities enhance programming skill level. A key contribution to practice was the introduction of a student mentoring academy within the institution, with programming as a central theme.

RESEARCH PARADIGM

The empirical research studies were based on an interpretative approach, which allowed for greater freedom to include personal views and interpretations, and to form knowledge inductively from views and experiences of participants. The diagram below characterises the research paradigm for this study, which can be described as a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research (Bogdan and Biklen, 1998).

RESEARCH METHODS

The diagram below highlights the methods and tools used over the course of the action research study.

CONCEPTUAL FRAMEWORK

The conceptual framework, below, was developed from Bandura’s (1986) Reciprocal Determinism model, in which Behaviour, Environmental Factors and Personal Factors were replaced with Self-Efficacy, Social Learning and Reflection, which became the basis for developing implementation strategies to enhance student engagement.

FINDINGS

REFLECTIVE LEARNING

A reflective learning journal was provided to student participants in two of the action research studies, participants were asked to complete this journal on a weekly basis over the course of a semester. Students were not convinced of the benefits of using the journal over a long period of time, and found the activity a burden in some cases. Some viewed it as a piece of additional assessment that had no grade, furthering most to question the benefits. While some positive benefits were noticed, careful consideration is required if using such a tool for a class cohort, some individuals seemed to adapt better to this type of journaling activity than others.

SOCIAL LEARNING (PBL and PAL activities)

Problem Based Learning (PBL) and Peer Assisted Learning (PAL) were introduced to a treatment group over the course of a semester. The quotes below represent a small sample of the overall positive feedback the participants expressed in terms of their enjoyment in participating in groups when solving programming problems:

- “I learned I can work in a group. Although I most of the times would rather work alone, working in a group does make problem solving a lot easier”.
- “I enjoy programming but I’m 100% aware that my planning skills are way better than my programming skills. I wish we had more opportunities like this one to practice”.
- “Really enjoyable as I am better working with people. (I’m a really nervous person and individual evaluations makes me so nervous that I cannot concentrate)”.
- “Problem solving a lot easier”.
- “I learned I can work in a group. Although I most of the times would rather work alone, working in a group does make problem solving a lot easier”.
- “Problem based learning is a lot more fun, you are working in a group and you can learn from others”.
- “It is, however, very difficult to say this finding was directly linked to the social learning activities introduced over the semester.
- “Group work was successful, with some negative feedback associated with time allowed to complete the tasks, and the request for more help.

CONCLUSIONS

Q.1. There is sufficient evidence to suggest students enjoyed these specific approaches, and have an appetite for further action research and social learning related to group based activities, and communicating with peers. However, very difficult to say this finding was directly linked to the social learning activities introduced over the semester.

REFERENCES