ABSTRACT

This paper describes the design and initial testing of AnswerPro, a mobile academic peer support system for school pupils aged 11-16 years. AnswerPro is a mobile optimised web application that enables pupils to seek support with school work from knowledgeable peers on various subjects. This paper presents research findings from the project, and in particular, details the design elements embedded within AnswerPro that are based upon teacher and pupil interviews examining motivation, and also from research into academic motivation. A pilot study was conducted with 7 school pupils over 3 weeks. Participants then engaged in a focus group, which discussed their experience using AnswerPro and the motivational elements embedded within it. The authors’ findings highlighted some problems with the embedded motivational features. These findings have resulted in potential solutions for the next version of AnswerPro and design implications for practitioners intending to embed motivational elements in their own mobile learning tools.

Keywords: Design, Motivation, Peer Learning, Peer Support

INTRODUCTION

Mobile phone ownership and use has become widespread among young people and teenagers. As many as 75% of American teenagers (Lenhart et al., 2010) and 86% of UK children aged 8-16 (National Literacy Trust, 2010) own a mobile phone. Mobile phones, and most prominently texting, are commonly used for day-to-day communication with peers, for both social and academic reasons, with 70% of American teenagers specifically texting friends to discuss school-related activities (Lenhart et al., 2010). Prior research has shown that teenagers consider their peers as potential sources of academic support (Myers and Paris, 1978; Nelson-Le Gall and Glor-Scheib, 1985), with several studies finding that peer interaction improves academic performance (e.g. Sporer and Brunstein, 2009) and may lead to adopting their peers’ problem-solving strategies (Manion and Alexander, 1997). Therefore, it is anticipated that a system that combines the elements of mobility, social communication and learning may...
enhance pupils’ academic performance or make their help-seeking behaviour more efficient. However, pupils need to be motivated enough to use such a system frequently if they are to benefit fully (Morris et al., 2010). This paper reports on work aiming to combine research findings in the field of motivation with data gathered from interviewing pupils and teachers to inform the design of a mobile academic peer support application. The proposed system uniquely translates the literature from the psychology of motivation into the design of a peer support system. The overall aim of this research is to facilitate pupils’ peer learning through an academic peer support network presented as a website optimised for mobile access.

BACKGROUND TO THE RESEARCH

Peer Learning

Peoples’ social ties can act as potentially rich resources for information (Liccardi et al., 2007), which can be tailored to their specific needs in a more efficient manner than other resources. This has been found to be especially true for children. Various studies (e.g. Nelson-Le Gall & Glor-Scheib, 1985; Good et al., 1987) have shown that older children (from around the age of 11) consider their peers as important potential sources of academic support. This ‘peer learning’ has been shown to have many benefits such as encouraging the development of accurate and superior understanding, and promoting creative thinking (Manion & Alexander, 1997; Sporer & Brunstein, 2009). As such, social media and mobile technologies could potentially be used to support such learners, although, we believe it necessary to design specific features that would motivate pupils’ recurrent use of such systems otherwise it is possible they would not use these tools sufficiently frequently to provide an academic benefit.

Academic Motivation

Research has broadly distinguished two types of academic motivation: intrinsic and extrinsic (Ryan & Deci, 2000b). Intrinsic motivation refers to a learner’s inner self-motivation for engaging with a learning activity, such as enjoyment and general interest in the activity itself (Ryan & Deci, 2000b). Extrinsic motivation instead relies on external incentives that motivate engagement with the activity, such as rewards, or on external penalties that occur upon failure to complete a task (Ryan & Deci, 2000b). High intrinsic motivation has been found to foster high academic achievement in various studies (e.g. Gottfried, 1985). However, the relationship between extrinsic motivation and achievement seems to be a matter of some debate amongst researchers. Some consider that extrinsic motivators (namely rewards) hinder academic achievement due to them undermining the recipient’s intrinsic motivation, self-reported interest and/or free choice of the task being rewarded. Other researchers, on the other hand, believe that although rewards or penalties start as extrinsic motivators, they sometimes result in internalized values and beliefs within the learner, after they see the benefit or the outcome of the academic tasks (Deci et al., 1999.) It is also believed that motivation is more of a continuum, ranging from purely intrinsic at one end to purely extrinsic at the other. This continuum is the view adopted by Self-Determination Theory (SDT), which proposes that some forms of extrinsic motivation can be integrated and adopted within a person until it eventually becomes part of their intrinsic motivational values. This integration must be aided by the person’s sense of relatedness within the environment, of perceived competence and of experienced autonomy (Ryan & Deci, 2000a). In the context of motivation, the term ‘relatedness’ refers to the user’s sense of connection with others in a community whilst ‘competence’ is the skill in a task, and ‘autonomy’ is the ‘feeling of volition that can accompany any act’ (Ryan & Deci, 2000b, p.74).
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