

Exploring What and How Learning Strategies are used In Distance Education to Improve Students' Capability of Self-Learning

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Abstract— Learning strategy is essential for effective distance learning. Distance students mainly learn on their own and, their capability of self-learning strongly affects distance learning success. To improve their learning capability, the knowledge of learning strategies needs to be provided to students. To achieve this purpose, institutions need to be aware of students' current knowledge of strategies. This study investigates these issues through focus group research. Designed record forms are used in data collection and the data are collected from both self-recording and group discussion. Findings show that there are some difficulties impacting on students' emotions, which reduces students' motivation and learning efficiency. Students hence develop their own learning strategies to maintain motivation and to improve learning efficiency. The reasons for students' difficult experience include: personal life, distance education delivery and the nature of distance education. The data indicate that individuals' capability of using strategies is various. This paper argues that institutions need to provide the knowledge of learning strategies to improve students' learning capability, and to support learners in reducing negative influences of design of distance education. Further research needs to consider the level of influences of multi-factors on using learning strategy.

Keywords—distance education, learning strategy, learning capability, motivation

I. INTRODUCTION

DISTANCE education has its particular features and some specific issues have been discussed previously, for instance, feelings of isolation and lack of motivation caused by the separation of teaching and learning (Keegan, 1996). To achieve successful distance learning, learners need to take their own responsibility for learning (Garrison, 1997). Use of learning strategies and maintaining self-motivation are the main elements contributing to distance learners' self-learning (Anderson, 2007). 'Learning strategies can be defined as thoughts and behaviors intended to influence the learner's ability to select, acquire, organize, and integrate new knowledge' (Weinstein & Mayer, 1986; Filcher & Miller, 2000, p.61). Knowing how to properly use strategies can contribute to remaining productive in the lifelong learning environment (Weiburg and Ullmer, 1995). This research project explores what and how learning strategies are used in distance learning students' experience by employing focus

group method.

II. LITERATURE REVIEW

A. Metacognitive strategies and resource management strategy

Learning strategies are categorized into cognitive, metacognitive and resource management strategies (McKeachie et al, 1986; Pintrich et al; 1993; Weinstein and Mayer, 1986). Researchers suggest that metacognitive strategy (White, 1995) and resource strategy (Filcher and Miller, 2000; Vermunt, 1996) may provide the most promising tools to enhance adult students' success in distance education.

Metacognitive strategies can simply be viewed as "thinking about thinking" (Anderson 2002). Flavell (1976, p.126) explains that 'metacognition refers to one's knowledge concerning one's own cognitive processes or anything related to them.' According to Pintrich et al (1993, p.802), 'Metacognitive strategies are assessed by one large scale that includes planning, monitoring, and regulating strategies'. The tactics which are included in planning include setting goals, skimming the material, generating questions; used in monitoring include self-testing, attention focus, employing test-taking; and used in regulating include adjusting reading rate, re-reading, reviewing, utilizing testing-taking (McKeachie et al, 1986).

The resource management strategies concern the quality and quantity of the task involvement and include resource management, study environment, effort management, and support of others (McKeachie et al, 1986). According to Pintrich et al (1993, p.802), 'Resource management strategies include a) managing time and study environment; b) effort management, c) peer learning, and d) help-seeking.'

B. Motivation and relevant psychological factors

In addition, researchers argue that practical pedagogy needs to pay more attention to psychologies (Shuell, 1996; Tomlinson, 2008). In distance learning, motivation is commonly recognised as an important psychological factor in student success (Simpson, 2008) and instructors need to maintain students' motivation to achieve successful learning (Williams, 1995; Zimmerman, 1995; Corno & Kanfer, 1993; Slavin, 2000). It is essential for distance students to be motivated to carry out their own learning strategies. To understand students' activities in using learning strategy, the

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influence of motivation need to be taken into consideration.

Motivation is the influence of needs and desires on the intensity and direction of behaviour (Slavin 2000, p.327). It is an important psychological factor in student success (American Psychological Association, 1997) and it is the psychology of happiness, flow, and personal strengths, and can allow individuals to thrive (Boniwell, 2005). Educational research based on different theoretical positions has investigated several different types of motivation including extrinsic, intrinsic, and engaged (Greeno, Collins & Resnick, 1997). Earlier behaviour research focused on external or extrinsic motivations as determinants of action (Lepper, Greene, & Nisbett, 1973). Cognitive research has emphasized internal or intrinsic motivation as the learner interacts with information and its organisation (Lajoie and Azevedo, 2006). Vermunt and Vermetten (2004, p.361) state that 'Affective activities involve emotions that arise during learning and lead to affective states that may positively, neutrally, or negatively influence the progress of a learning process.'

C. Analysis of research inquiry

To understand students' use of learning strategy, the investigation of what strategies they are using is not enough. Strategies are used to achieve their learning goals, deal with difficulties and improve cognitive efficiency. Therefore, the reasons why they use each strategy, and how and what strategies are used are important.

Use of learning strategies is impacted by motivations. Motivation is a psychological factor and is related to students' emotions. How motivation is impacted by psychological dynamics, and how it impacts on use of strategy are considered in the design of this research.

In summary, this research will focus on exploring learning strategies and the process of how learning strategies develop, i.e., drivers of using learning strategy (difficulties and its potential reasons), psychological dynamics produced by the difficult experience (motivation and emotion) and, strategies used by students.

III. RESEARCH QUESTION

Referring to the literature review above, the research question is identified as:

What strategies are used and how are they influenced by motivation in students' distance education experience at postgraduate level?

To answer the research questions, these sub-questions need to be answered:

- What difficulties are you experiencing?
- What are the reasons for these difficulties?
- How do the difficulties affect your emotions?
- How do the emotions affect your learning activities?
- What strategies are you using to deal with these difficulties and relevant influence?

IV. METHODOLOGY

The focus group method has been employed to explore answers to the defined questions. Four groups were arranged and each group involves 7-8 members. The purpose of this research was presented at the beginning of group activities. The process of the focus group was designed in four steps:

Step one: presenting the purpose of this research by the researcher

Step two: self-reviewing and recording learning experience based on a particular topic by distance learning students

Step three: group discussion of each topic

Step four: Group presentation of what strategies are mainly used by group members

In focus group research, significant data of each individual's opinions and experience could be missed or disturbed by interaction; to avoid over-intrusiveness in the process of focus group, two record forms were used to reduce the disadvantages of this research method. Students were suggested to write their own experience down before any discussion. This aims to avoid the disruption of others' ideas on individuals' reviewing process. A record form was used to collect difficulties, use of strategies and motivations.

V. FINDINGS AND ANALYSIS OF LEARNING STRATEGIES

A. Time management and planning

Focus group data indicate that time management and planning are frequently used strategies. Students state that their personal life is too busy and it is difficult to manage time between work and family life. Some individuals are working in full-time jobs; and some of them have a heavy workload. They do not have enough time to look at full learning resources. By using the strategies in managing time, students try to complete their study task in a required time scale. Time management and planning are the strategies used to dealing with these difficulties.

The activities students use in their management of time include: reading the papers on a daily basis; creating a timetable and balancing time, getting up in the early morning; 'to fit in the required time I ensure that I cover around three papers per week', creating a routine for study; breaking down tasks into smaller steps.

Time management and planning are also used in preparing assessments. For example, students start the preparation early rather than leave it until the end, it is 'good to have plenty of time before the hand-in date to allow time to prepare'.

B. Attention focus and environment management

Social influences disrupt learning and reduce motivation. Students use environment management to focus their attention on study: 'have a specific place to study', and reduce distractions of learning, for instance, 'switch off TV/movie' and 'finding right environment, such as, quiet, lighter environment'.

C. Key point focus, print out learning materials and break down the tasks

How to balance workload and the study is appeared as a difficulty in some students' experience. 'My mind tends to be on work problems and then I'm not concentrating on my studies properly because I'm too worried about work problems,' one student responded. Their strategies to deal with difficulties include: focus on core materials; and studying at a certain time (for example, early morning or night time).

To effectively and efficiently complete the learning materials, students print out the material to read. 'Once I had printed the notes I found it is easier to read the modules', one student said. They also 'break the tasks down into small pieces'.

D. Interactions, seeking support and reflection

Lack of stimulation, less material support and lack of communication are pointed out in the self-learning experience. 'Study alone can be demoralising when you don't have a group of peers to interact with'. Also, feedback is expected to reduce confusion of learning, but 'this is not done in time'.

Interactions and seeking support are the strategies used in dealing with the above difficulties. The activities of students taking part in this strategic learning include: interacting with peers (they go to pubs and discuss issues with other distance learning students by email to help each other); using discussion boards to clarify points; sending email to course supervisors and organizers when they have questions; also using blogs, and forum sections, 'if I have questions I will generally email the relevant module tutor'. Apart from interacting with instructors, students also seek support from peers, family members and colleagues. In addition, reflection is shown as a strategy in understanding the learning content; one student said his strategy is 'applying theory to the work situation'.

E. Resource management

Institution-provided resources are options for students to learn more effectively. Some students strategically use these resources in their learning. For example, 'videos are supportive for learning', 'visiting university more often', and 'attending semester conferences is helpful for preparing assignment, learning and technical support'. In addition, human recourse is considered in their experience, 'contact higher people' to obtain expected support.

VI. FINDINGS OF THE IMPACT OF RELEVANT FACTORS ON USE OF STRATEGIES

The findings show some difficulties which students are experiencing in their learning. For instance, students' personal life disrupted their learning and it is difficult for them to balance workload of jobs and study; lack of communication and guidance are commonly experienced by participants; limited time to complete tasks and poor feedback makes the learning more difficult. This section explains how these difficulties impact on students' motivations and use of

strategies.

A. The impact of emotions on motivation

Findings show that some scenarios occurred in students' experiences and this causes difficulties in learning and negative emotions. As a result, their level of motivation and learning efficiency are reduced; students hence develop their learning strategy to maintain their motivation and to improve learning efficiency. In addition, the reasons which cause the influences of emotions on the level of motivation and finally impact on the use of strategies include the problems in distance education delivery, students' personal life, and the nature of 'distance'.

B. The impact of distance education delivery on developing learning strategies

The problems of DE delivery were described as follows, the purpose of using IT systems was not clear and there is lack of instruction of how to use them; online resources such as, PDF paper and video, have the problem of accessibility, no material support, lack of communication, too many reading materials, and poor feedback during the learning process. These produce negative feelings; for example, 'email tutor who is not available for one month', 'It annoys me because distance students need as much contact as full time students but it does not seem to be like that' (one student responded). This student feels he cannot keep up with the work. In return, the negative feeling 'makes me disheartened, don't feel like I am taken as seriously as full-time students'. Group presentations show that poor comments and difficulties in accessing the resource cause confusion and unhappiness in learning.

The problems of distance education delivery cause confusion in understanding the learning content, difficulties in moving on to next piece of work, assimilation of learning materials, and limitation of time. These difficulties of experience impact on students' emotions and cause feelings of stress, demotions, confusion, annoyance, and frustration. Students use selected strategies to deal with these problems, such as:

Seeking support ('contact higher people', 'tried to obtain further guidance on using NORA', 'ask others how they've interpreted questions').

Reviewing goals (long term focus on end goals, thinking of long-term benefits),

Managing self-condition ('take a break from the work, I try to come back in a better fame of mind')

Time management ('devoting time to investigating each IT system', 'working smart, being time-efficient')

Planning (create a routine time to study (evening or weekend) and break tasks into smaller steps)

In this process, problems of DE delivery caused the difficulties in learning and had a negayive impact on students' emotions; in addition, learning activities and use of strategies are affected.

C. The impact of personal life on use of strategy

The problems of personal life were described as follows, personal and work life are too busy, laziness, problems in personal life, payment, poor broadband service at home, illness, business commitments, failing to see the full depth of the task set. Doing distance learning within a busy life makes students feel 'anxious because it's difficult to fit in everything', feel guilty about family and study, and feel overstressed and tired. These feelings make learning more difficult: 'lack of concentration on learning', 'affect on my motivation', lack of time to study, difficult to balance work and study, difficult to maintain motivation, difficult to understand the full extent of the assignment task, distractions to learning, difficulties in accessing resources, and lack of stimulation. These difficulties impact on their emotions and cause feelings of anxious ('because it is difficult to fit everything in'), tired, stress, guilt, demotion, pressure and inadequacy. These emotions impact on students' learning activities, such as overpressure, (late return of assignments, no feedback) and therefore strategies are developed by students. The strategies used by students include:

- Focusing on the core points of materials (for example, 'focus on core material upon which we have been assessed')
- Time management (for example, 'putting together a time management plan', 'finishing work in normal time and study in the morning', 'study later at night', 'make short time and make it important', 'try and plan times I can devote to learn')
- Communication (for example, 'talk things through with father')
- Environment management (for example, 'have a specific place to study, reduce distraction')
- Seeking support (for example, 'ask others how they have interpreted questions')

D. How the nature of distance education impacts on use of strategies

The nature of distance education is described as the separation, feelings of isolation and lack of communication (Keegan, 1996). The problems caused by the nature of distance are described as 'not in regular contact with others who are going through the same thing as myself', 'lack of stimulation' and 'lack of direct contact with a tutor'. These problems cause the difficulties of self-learning, experience of isolation, and getting stuck in areas of study. Students experience distraction, tiredness, and boredom, which causes feelings of guilty, stress and demotions. These negative feelings 'reduce assimilation of material and lose any interesting in materials', one student responded. These difficulties cause the feelings of boredom, 'creates negativity-feel like I can't cope/keep up with the work'. Interactions are developed to deal with these difficulties, for instance, going to pub, discussing issues with other DL students, emailing others within their company on some course and speaking to others in the work-place.

E. Summary

To summarize, student personal life, institution's influence and the nature of distance education affect students' activities of using strategies in their learning. The particular scenarios of these influences produce psychological dynamics which reduce students' motivation and cause difficulties in distance learning. Students hence develop strategies for their learning success.

VII. DISCUSSIONS

A. The significance of existing knowledge of learning strategy

The findings of strategies used in students' experience have mostly been discussed in existing literature. This indicates the significance of the knowledge of strategies to learning at postgraduate level.

In addition, the findings indicate individual's ability of using learning strategy is varied. While one individual is struggling badly with the feelings of isolation, the other one has already developed multi-strategies. Also, the same scenario produces different weight of psychological influences on individuals, while one student shows he/she is not impacted psychologically, another one presents strong negative feelings. These findings show the different levels of self-awareness and learning capability of distance learners.

Institutions are responsible for equipping their students with the knowledge of learning strategies (Vermunt, 1996). This research once more highlights the fact that institutions need to provide knowledge of learning strategies for distance students. Also, distance learners need to be aware of their own level of learning capability and using appropriate learning strategies.

B. Supporting students in reducing their difficulties

Students' difficult experiences are produced by issues in their personal life, distance education delivery and the nature of distance learning. Whilst learning is supported by providing knowledge of learning strategies, reducing these difficulties is another way to support distance learning.

Firstly, institutions need to understand the influence of personal life, providing relevant knowledge of learning strategy for maintaining motivation of distance learning.

Secondly, each distance learning programme has its particular characteristics of learning content, organisational condition and group of students. Design of distance education delivery needs to consider how to reduce difficulties for students. Designers and instructors need to have knowledge of students, and their learning experience. This is significant for improving programme design in supporting effective learning.

Thirdly, distance learning has its particular feature of isolation, flexibility and inconvenience of feedback. Students need to accept these features when their learning is restricted by timetable and geography. Being aware of the nature of

distance learning can help students have appropriate perspectives and expectations of distance learning. This will avoid negative impact on cognitive psychology.

C. Effectiveness of learning strategies need to be researched with others factors

Learning is affected by a number of characteristics of individual learners, such as, learning skills, existing knowledge, and attitudes (Talbot, 2003). In addition, findings of this research show both learners' psychology (feelings, motivation) and external factors (personal life and the nature of distance learning) that impact on students' learning activities include use of strategies.

In addition, motivation and strategies interact in students' learning process. The level of motivation affects students' activities of using strategies and, also, use of strategies is the way students maintain their motivation, according to this research. Further research needs to consider these factors in a single study to evaluate how each factor impacts on learning outcomes.

VIII. CONCLUSIONS AND RECOMMENDATIONS

This research finds that students use their learning strategies to deal with difficulties in learning and these difficulties are caused by issues in their personal life, distance education delivery and the nature of distance learning. This paper indicates that existing knowledge of strategies is significant in supporting distance learning and, to supporting distance learning needs to focus on improving the design of distance education and to be aware of the differences between traditional and distance learning.

To achieve effective distance learning, it is argued that students need to be aware of their own learning capability, to learn the knowledge of learning strategies and their relation to motivation. Further research is suggested to investigate how multi-factors interact with learning strategies and how these factors affect distance learning success.

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