

Working paper – first draft

Self-regulated learning and time perspective as predictors of academic performance in undergraduate Economics studies.

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1.1 Background, motivation and literature framework

Economic education is needed for an economic system to function effectively and to utilize scarce resources optimally. All the choices made by individuals as consumers, producers, investors, voters and government are linked to the performance of the broader economy (Mishkin, 2008: 1; Robinson, 2007:144).

South African tertiary institutions have, since 2000, experienced an increase of 4,2% per annum in the enrolment of students in Higher Education. The enrolment for B.Com degrees has also increased at universities in South Africa (HSRC, 2008: 1; IEASA, 2012: 14, 15).

Economics forms the basis of all the B.Com degrees offered at universities and at the University of the Free State. The pass rate for the undergraduate Economics courses, at the University of the Free State, has been dismal for the past couple of years. The pass rate for Ekn 114, Ekn 214 and Ekn 314 were respectively 34%, 42% and 35% in 2011(Department of Economics, UFS). The low pass rate in all the Economics undergraduate courses has prompted the question of which cognitive and non-cognitive factors predict academic performance in Economics?

Several studies have been done on different predictors of academic performance. Numerous factors such as general intelligence, previous academic achievement, self-efficacy, interest in the work, personality factors and health, physical and social

environments, psychological strengths, personality traits, course experience, effort, motives, learning strategies, perceived control, motivation and self-regulation (Van der Westhuizen et al., 2011; Smrtnik and Maya, 2011; Diseth et al., 2010; Ferla et al., 2009; Ning and Downing; Mayes et al., 2009; Diseth, 2003) and its influence on academic achievement have been researched.

Literature (Ransdell, 2001:359-360; Leeson et al, 2008:630-631; Furnham, 2003:50-53) indicates the importance of both cognitive ability and non-cognitive variables as indicators of academic achievement. Research has indicated that at higher levels of formal education, non-cognitive factors seem to become more relevant in predicting academic achievement (Furnham et al., 2009: 771).

This study intends to focus on the effect of self-regulated learning (SRL)(Puustinen and Pulkkinen, 2001; Boekaerts,1999; Pintrich, 1999; Winne ,1996; Zimmerman, 1999) and time perspective (Leondari, 2007; De Volder and Lens, 1982; Mckenzie and Schweitzer, 2001) as predictors of academic performance in under-graduate Economics studies.

Self-regulated learning (SRL) is concerned with how students generate and regulate their own learning. The theory of self- regulated learning (Zimmerman and Martinez-Pons: 1990, 51; Zimmerman and Martinez- Pons: 1986, 284) describes students who use self- regulated learning as motivationally, cognitively, meta-cognitively and actively regulating their own learning to reach their academic goals. SRL theories seek to explain students' differences in motivation and application of learning strategies. SRL is determined by personal processes, the environment and behaviour. Self-regulated learning encompasses the following processes (Pintrich: 2004, 386) namely: planning

and goal setting; monitoring; control and regulation; being reactive and reflective.

Students which employ SRL will also be inclined to plan for the future, work towards set goals, striving for future accomplishments; this characteristic is also known as having a future time perspective.

An individual's ability to move into the past, present and future through the use of emotion and cognition is considered as a unique ability of humankind and is called time perspective. Previous studies (Leondari, 2007; De Volder and Lens, 1982) have indicated that time perspective of an individual influences the behavior of the individual, and that academic achievers are characterized by more optimistic attitudes and a greater concern for future goals. This study anticipates that students who have a future time perspective will perform well academically, because a person's perception of time influences judgments, decisions and actions of the individual. The relationship between future goals, motivation and various cognitive motivational measures, all aspects of SRL, and performance measures can be expected to be positive; indicating that the interrelatedness of SRL and a future time perspective can directly or indirectly influence academic performance (Phan: 2009, 156 -158).

1.2 Statement of the research question

The research question this study will investigate is: To what extend does self-regulated learning and time perspective predicts the academic performance in undergraduate Economics studies?

1.3 Hypothesises

The following hypotheses were tested in the study:

Null hypothesis (H₀): Self-regulated learning and time perspective does not predict academic achievement in second year Economics.

Research hypothesis (H₁): Self-regulated learning and time perspective predicts academic achievement in second year Economics.

1.5 Research design and methodology

1.5.1 Identifying the variables

1.5.2 The independent variables

This study has two independent variables namely: self-regulated learning and time perspective. SRL will be measured by the Motivated Strategies for learning questionnaire (MSLQ) and time perspectives will be measured by the Zimbardo Time Perspective (ZTPI) Inventory.

1.5.3 The dependent variable

The dependent variable for this study is the academic performance of students registered for EKN 214 and is measured as their final mark achieved for the course.

1.5.4 The confounding variables

The confounding variables for this study will be: age, gender, ethnicity and the psychosocial background of the students. These variables will be measured by means of a biographic questionnaire and the Psycho-Social questionnaire, controlled and built into the design as independent variables (McMillian and Schumacher, 2006: 118).

1.6 Research design

The design will be a quantitative, non-experimental survey- type design based on a post-positivistic paradigm (Clark, 1998: 1245).

1.7 Sampling

The population for the study is all registered under-graduate students in Economics. The sample for this study will consist of a convenience sample of all second year students registered for Economics 214 at the University of the Free State.

1.8 Data collection

The following questionnaires will be used as measuring instruments:

- Biographical questionnaire
- The Psycho-Social Questionnaire (PSQ)
- The Motivated Strategies for learning Questionnaire (MSLQ)
- The Zimbardo Time Perspective Inventory (ZTPI)

The data will be administered during lecture time. The final marks of the students will be obtained from the department of Economics.

1.9 Analysis of results

Results will be analysed by using regression analysis, analysis of co-variance, descriptive statistics, the Pearson correlation and the univariate and multivariate statistics of the SPSS software package.

1.10 Measuring instruments

1.10.1 Biographical questionnaire

The biographical questionnaire provides information on factors such as gender, age and ethnicity.

1.10.2 Psycho-Social Questionnaire (PSQ)

The PSQ (Viljoen, 2007) assesses the psycho-social factors: emotional support, socio-economic situation, environment conducive to learning and depression during childhood. The questionnaire also measures the present life dimension in terms of the respondent's financial situation, romantic relationships, family relationships, depression and fear of having contracting HIV/AIDS.

1.10.3 Motivated Strategies for Learning Questionnaire (MSQL)

The Motivated Strategies for Learning Questionnaire (MSLQ) is a measure of self-regulation (Zimmerman: 2008, 169). Researchers use different constructs of self-regulated learning to suit their specific purposes. This study uses the MSQL as measurement of self-regulatory learning of Economics on the second year level.

The Motivated Strategies for Learning Questionnaire (MSQL) (Duncan and Mckeachie, 2005: 119; Mills and Blankstein, 2000: 1195,1196; Pintrich and DeGroot, 1990: 33,34) assesses a student's motivation, study habits, and learning skills for the course.

The motivation section is based on three general motivational dimensions: expectancy, value and affect. Expectancy indicates the student's self-efficacy in terms of their beliefs

in their ability, expectancy of success, judgments of ability to do the task and confidence in one's ability to do the task. The value component focuses on why students engage in the specific academic tasks. And the affect component determines the student's level of test anxiety. The learning strategy section is based on three dimensions namely: cognitive, metacognitive and resource management. Cognitive strategies refer to the student's use of strategies in the processing of information. Metacognitive control strategies refer to strategies used by students in controlling and regulating their own cognition. The strategies include planning, monitoring and regulating of learning activities. Resource management includes the strategies used in controlling resources such as time, an appropriate place to study, regulation of effort, peer learning and seeking help.

The motivation section consists of 31 items which provides six sub-dimensions. The six sub-dimensions are as follows:

- (1) Intrinsic goal orientation which indicates the degree the student perceives her/him for participating in the course for reasons such as seeing the tasks as a challenge, out of curiosity or to master the tasks.
- (2) Extrinsic goal orientation which measures the student's reasons such as rewards, grades, performance and competition for doing the course.
- (3) Task value measures whether the student finds the course useful, interesting or important.
- (4) The expectancy component comprises of:
Control of learning beliefs measures whether the outcomes are determined by one's own effort.

(5) Self-efficacy indicating the confidence a student has in his or her ability in doing the course.

(6) The affect component is measured by:

Test anxiety and provides a cognitive and emotional component.

The 50-item learning strategies section provides nine sub-dimensions measuring the study skills and strategies. The items measured include:

(1) rehearsal,

(2) elaboration,

(3) organization,

(4) critical thinking,

(5) metacognitive (planning, monitoring, and regulating),

(6) time and study environment,

(7) effort management,

(8) peer learning and

(9) help-seeking, as indicators of learning strategies.

1.10.4 Zimbardo Time perspective

The Zimbardo Time perspective questionnaire (Volder and Lens, 1982; Alessio et al., 2003) measures individual multiple time perspectives. The 55 item questionnaire has three sub-dimensions indicating past, present and future time perspectives.

2. Self-Regulated Learning

2.3.1 Background

Since the beginning of public schooling educators have been intrigued by the differences between students' modes of learning and academic achievement. In the early 19th century differences in academic achievement were attributed to intelligence and diligence. At the turn of the 20th century, with the emergence of psychology as science, individual differences in educational functioning became the focus of attention. Scholars, which include Dewey, Thorndike and Montessori (see 2.8), recommended that the curriculum should be adapted to accommodate individual differences (Zimmerman, 2002:65).

Self-regulated learning, as a new perspective on students' learning, emerged as a mayor topic during the 1970s and 1980s. Research on metacognition and social cognition provided new insights to students' individual differences. "Metacognition is defined as the awareness of and knowledge about one's own thinking (Zimmerman, 2002: 65)". Social cognition refers to the social influences on learning. The consequent research led to attributing differences in academic achievement to the lack of applying a process of self-regulated learning. Students applying self-regulated learning processes are more likely to succeed academically and view their future more optimistically (see chapter 3).

2.3.2 Defining self-regulated learning

Self-regulated learning has been defined in several ways:

"Self-regulated students are self-regulated to the degree that they metacognitively, motivationally and behaviorally are active participants in their own learning process (Zimmerman, 1989: 329)".

“Self-regulation refers to self-generated thoughts, feelings, and behaviors that are orientated to attaining goals (Zimmerman, 2002:65)”.

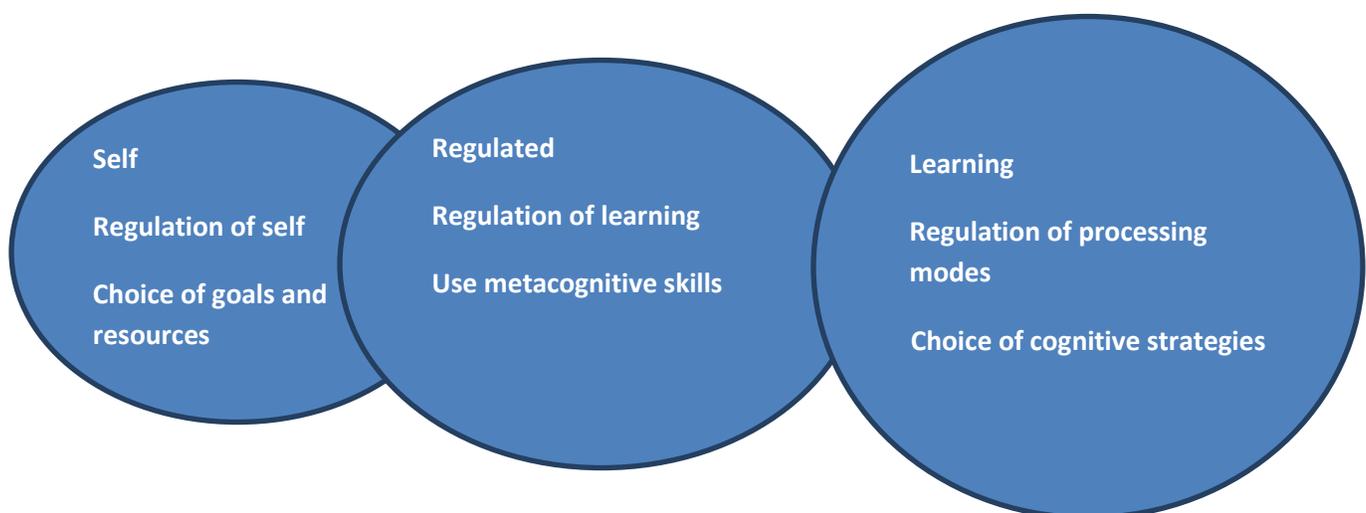
Self-regulated learning is an inclusive perspective on learning and includes cognitive, motivational, affective and social contextual factors (Pintrich, 2004: 386).

Self-regulated learning is a deliberate choice to achieve specific goals, the development of self-regulated strategies, a process to achieve those goals and the willingness to change strategies (Dowell and Small, 2012: 142).

Self-regulated learning is the process where the individual take the initiative to identify needs, formulate goals, identify human and material resources for learning, choose and implement learning strategies, and evaluate outcomes (see illustration 2.1) (Ultanir, 2012: 201).

Self regulation refers to the ability of students to develop knowledge, skills and attitudes which can be applied to learning situations (Boekaerts, 1999: 446).

Illustration 2.1 Self-regulated learning



Adapted from Boekarts, 1999: 449

Discussion

Definitions regarding self-regulated learning differs according to researches theoretical orientations. However, a few common conceptualizations emerged namely that participants are metacognitively, motivationally and behaviorally involved in their own learning. Metacognitive processes refer to the planning, setting of goals, organizing, self-monitoring, and self-evaluation throughout the process of learning. Students are therefore able to be aware and knowledgeable about their approach to learning. Motivational processes include self-efficacy, self-attributions and intrinsic task interest. The behavioral processes relates to the creation of an environment conducive to learning, seeking advice, self-instruction and self-reinforcement to contribute to the learning process (Zimmerman, 1990: 5).

Characteristics of students who apply self-regulated learning are described by Montaliro and Torres (2004: 3, 4) as follows:

- Being familiar with cognitive strategies, such as repetition, elaboration and organization to assist in transforming, organizing, elaborating and recovering information.
- Know how to plan, control and direct their mental processes towards personal goals (metacognition).

- Employ a set of motivational beliefs and adaptable emotions such as a high sense of self-efficacy, adoption of learning goals, positive emotions towards tasks, and the capacity to control and modify these beliefs and emotions.
- Planning and control time, effort, learning environments, and help-seeking to contribute to a favorable learning environment.
- Control and regulate academic tasks.
- Use strategies to avoid external and internal distractions from performing tasks.

Self-regulated learning can therefore be described as a self-directed process by which learners transform mental abilities into academic skills.

2.3.3 Self-regulated processes during learning

It is important to distinguish between self-regulation processes and self-regulated learning strategies in defining self-regulated learning. Self-regulation processes include perceptions of self-efficacy, goal-setting, planning, monitoring, control, reaction and reflection of the learning process. Self-regulating strategies (see 2.13) involve the actions and processes to acquire information or skills that relates to agency, purpose and instrumentality perceptions by learners.

Self-regulated learning is concerned with how individuals regulate their own cognitive processes within an educational setting (Puustinen and Pulkkinen, 2001: 270 – 277). Self-regulating students are proactive learners who incorporate self-regulated processes (goal setting, self-observation, self-evaluation, self- reflection and self-adoption) with learning strategies (study time management, using resources, managing the environment) and self-motivational beliefs (self-efficacy, intrinsic interest) (Cleary

and Zimmerman, 2004: 539). These students will regulate their academic behavior in four phases (Winne, 1996: 331, Winne and Hadwin, 2008) namely: forethought planning and activation; monitoring; control and; reaction and reflection (see table 2.3). These phases occur simultaneously and dynamically with interaction between the different phases. The following section explains the four phases of self-regulated learning.

2.3.3.1 Fore thought, planning and activation

The first phase, fore thought, planning and activation, sets the stage prior to engaging in activities such as studying or applying any learning strategies. This stage includes the setting of goals, strategic planning as well as beliefs such as self-efficacy, goal orientation, intrinsic interest and outcome expectations. This stage includes activities such as specific objectives for the task, activating prior knowledge about the material and metacognitive knowledge, the activation of motivational beliefs and emotions, planning the time and effort required for the task, and activating perceptions regarding the task and class context (Torrano and Torres, 2004: 6).

2.3.3.2 Monitoring

In the second phase of monitoring students will implement their strategic plan and use different self-monitoring techniques (self-questioning, writing down grades) to keep track of their progress. This phase contributes to the gathering of information to evaluate the effectiveness of the strategic plan and improve or adjust future learning attempts (Cleary and Zimmerman, 2004: 539).

2.3.3.3 Control

During the third phase of control (Cleary and Zimmerman, 2004: 539, Torrano and Torres, 2004: 6) activities encompass the selection of thought control strategies, motivation and emotions, as well as regulating time and effort, and control of the different academic tasks. Students will practice the skills they have observed and obtained in a self-controlled manner. To ensure optimal learning students should use the skills and strategies that are represented in the successful self-regulated learning model.

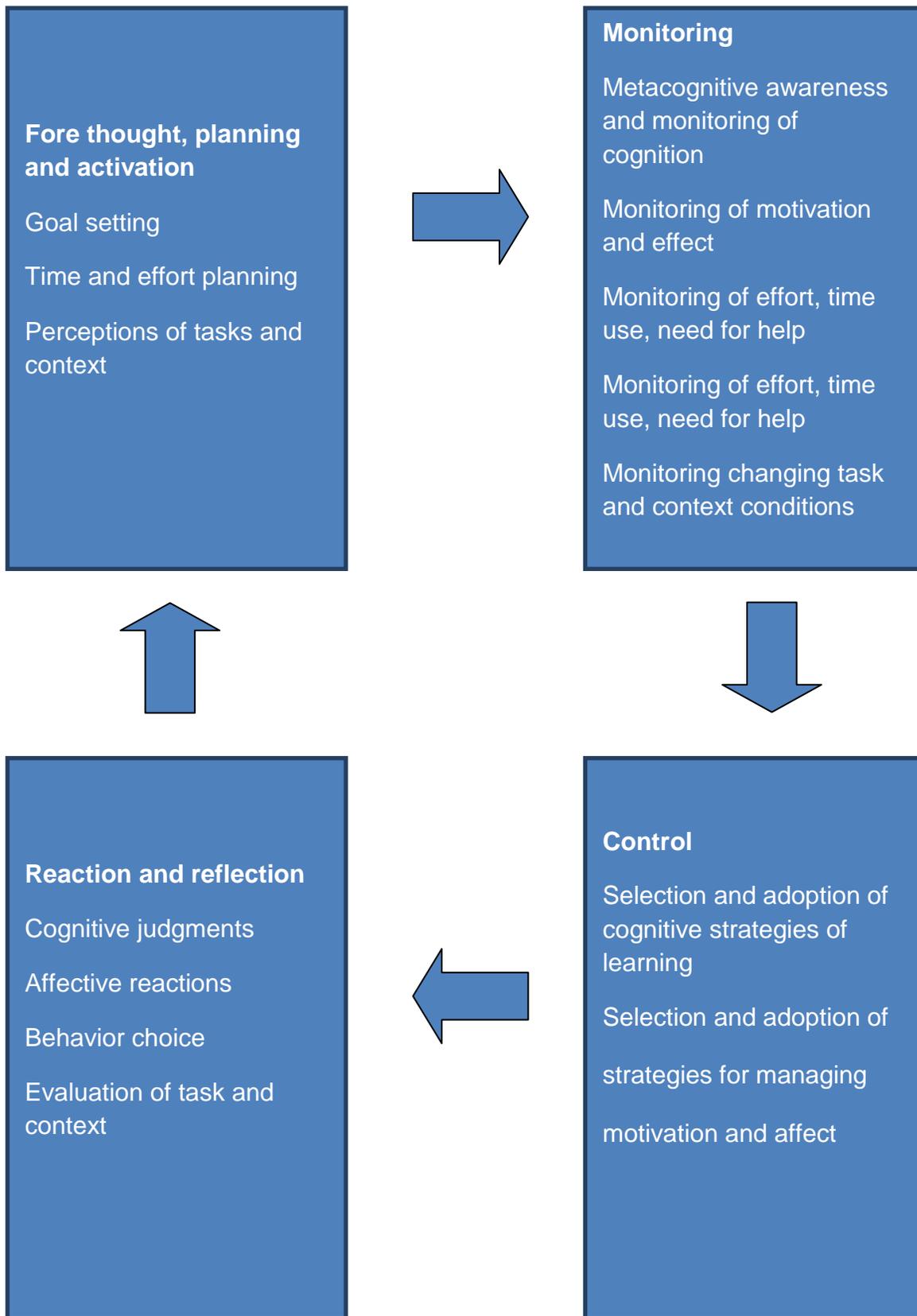
2.3.3.4 Reaction and reflection

In the final phase (Zimmerman, 2002: 68), of reaction and reflection, the student judge and evaluate his/her task execution. By comparing the outcomes with previously set benchmarks students will reflect on future behavior regarding the whole process of learning. The student will therefore gather information to evaluate the effectiveness of the strategic plan and improve or adjust future learning attempts. In this phase the student applies self-judgment and self-reaction activities. Self-judgment includes comparing the outcomes with criteria which is referred to as self-evaluation. Also part of self-judgment is casual attribution which refers to beliefs about the causes of failures and successes during the learning process. Self- reaction is used by students to adopt or modify their behavior of learning. Self-reaction encompasses feelings of self-satisfaction and could result in a positive effect in reaction to the academic outcomes. Higher levels of self-satisfaction will contribute to higher levels of motivation, whereas lower levels will reduce further efforts of learning. Self-reaction may result in students responding by being defensive and withdrawing from learning activities. Or students can

react by adopting more effective strategies of learning to enhance academic performance.

The four phases are characterized by distinctive learners' self-regulating activities (Pintrich, 1999: 459-470) namely cognitive, motivational and affective, behavioral and contextual activities. Zimmerman's Social Cognitive Model of Self-regulation (Zimmerman, 1999: 330- 337) integrates covert personal (self), behavioral and environmental events as determinants of SRL. Covert self-regulation involves monitoring and adjusting cognitive and affective states. Behavioral self-regulation includes the self-observing and adjusting of strategies process. Environmental self-regulation consists of observing and adjusting the environmental conditions or outcomes. Students who apply these self-regulation activities display high levels of motivation and achievement.

Illustration 2.2 Phases of Self-Regulated Learning



Future time perspective

A future time perspective (Hilpert et al., 2012:230) is characterised by planning for and the achievement of future goals, and having a sense of purpose. The behaviour of the individual is therefore influenced, motivated and directed by a future time perspective. The focus is on future goals and rewards, and individuals are willing to give up current pleasures to achieve their ultimate goal or reward. Present tasks are valued in terms of the anticipated future value. This person's view of the future influences context-specific perceptions and actions.

3.3 Future time perspective

The following section discusses the relation between goal setting, motivation, self-regulated learning and future time perspective.

3.3.1 Goal setting, motivation and future time perspective (FTP)

Students have numerous long- and short-term goals ranging from achieving good grades or obtaining a qualification to getting a good job, building a career, starting a family and making a contribution to society. In the setting of goals, students may look beyond the present situation and see the value of the academic tasks they perform as meaningful and contributing to achieve their goals. Individuals select goals according to their perceptions of the future (Lang and Carstensen, 2002:125; McInerney and Liem, 2008:2).

Goal theorists (Simons et al., 2004a:334) suggest two contrasting goals, **which an individual may have**, in the academic setting, namely a task mastering or learning goal

and a performance or ego goal. The learning goal, also referred to as an intrinsic goal, correlates with behaviour outcomes that facilitate learning, a higher level of efficacy, effort, interest and the use of better cognitive and meta-cognitive strategies. The performance or extrinsic goal is concerned with getting good grades, pleasing others and being rewarded for the work done. It is not clear whether striving for performance would also lead to the use of better cognitive and meta-cognitive learning strategies.

The theories on motivation (McInerney and Liem, 2008:2; Phan, 2009:156–158; Simons et al., 2004a:344) do not distinguish how students' perceive the present or the future, but focus on the students' achievement goals and personal satisfaction. The goal theory (McInerney and Liem, 2008:2; Simons et al., 2004a:344) suggest that learning goals versus performance goals predominate different motivational patterns and learning styles. The goal theory is a mechanism of how future goals are prioritized and valued. The emphasis of the goal theory is on the immediate value of learning. The goal theory and future time perspective (FTP) theories differ on two points. Firstly, the goal theory emphasises the immediate effect of learning, while the FTP theory values learning for the future. Secondly, the goal theory concludes that having a future time perspective may have negative consequences, resulting in fewer motivational and behaviour patterns. But, given the nature of future goals, students must be able to assess their actions in terms of a long-term perspective. The relationship between future goals, motivation and various motivational cognitive and performance measures can be derived as being positive; indicating that the interrelatedness of these constructs can directly or indirectly affect academic performance.

Individuals with an FTP (Bembenutty, 2010:3) set certain goals that they strive for within a certain time range. The goals will determine the plans, strategies and actions of the individuals to achieve the goals.

Research by McInerney (2004) and Simons et al. (2004a:344, 345) examined the relationship between the effects of a short- and long-term perspective on motivation. Thinking about the future includes the setting of future motivational goals, plans and projects and the initiation of current actions to achieve these future goals. Having a future perspective entails a cognitive exercise in valuing the current actions in terms of the contribution actions will have on obtaining the future goals and the influence a future perspective will have on motivation and achievement. In this case, current behaviour is seen as instrumental in achieving both immediate and future goals, in comparison with individuals with a short-term perspective who value current activities less in terms of achieving future goals.

Simons et al. (2004b) also examined the role a future perspective has on motivation, goal setting and academic performance. Their evidence indicates that a future time perspective correlates positively with learning performance and with the continuation of activities in achieving future goals. The correlation is also applicable to the relationship between intrinsic future goal framing, deep learning, motivation and performance. The study by Simons et al. (2004b) concludes that goal setting can be manipulated by lecturers and facilitators to encourage student learning and motivation.

Future time-orientated individuals tend to have a sense of purpose (Bembenutty and Karabenick, 2004:36) and the rewards or gratification of present activities can be

delayed for the future. These authors are of the opinion that delayed gratification depends on the perceived value of the delay and the individual's perception of his/her ability to achieve the future goal. Once individuals have made the decision to delay gratification, a set of cognitive and resource management strategies are employed to obtain the future goal. The holding of a future goal contributes in giving meaning to required academic tasks. Academic activities or tasks are viewed within the context of future goals such as a future career or value to the community. Valuing future goals contributes to the individual's self-regulatory behaviour to achieve future goals. The setting of future goals therefore gives a sense of purpose and direction to activities and to individuals.

Several studies (Bembenutty, 2010:4; Kauffman and Husman, 2004:3, 4; Mello et al., 2009:540; Phalet, Andriessen and Lens, 2004:82–85) support the notion of motivational value of future goals in an academic setting. Their assumption is that students' motivation is influenced by their concept of the future. Students' concept of the future has a positive effect on their motivation to learn and their academic performance. The FTP influences the students' attitude towards their current academic tasks. Learning and achieving are therefore not only intrinsically motivated, but also future-orientated. An FTP emphasises the importance of future goals for present learning. Being future-orientated enhances students' motivation, persistence and academic performance. When doing activities or developing behavioural projects, individuals are motivated by future goals. FTP is regarded as a cognitive-motivational concept (Simons et al., 2004b:123), the cognitive aspect referring to the anticipation and direction of actions towards a more distant future. The dynamic aspect (Simons et al., 2004b:123) refers to

ascribing higher valence to goals for the future. Individuals with an FTP are expected to be more motivated, than individuals dominated by other time perspectives, when doing their present activities based on the value that will be derived from achieving the future goals. Being future-orientated implies that an individual is intrinsically motivated and perceives current activities as instrumental in obtaining the future goals.

3.3.2 Future time perspective and self-regulation learning

Definitions of self-regulation are diverse, but can be summarised as “the process of exerting control over oneself in order to align with a desired standard” (Barber et.al., 2009:250). Self-regulated learning (Bembenutty and Karabenick, 2004:36; Shell and Husman, 2001:481, 482) within an academic context entails self-generated thoughts, feelings and actions towards attaining academic goals. Self-regulated learning is being related to an FTP or the ability to delay gratification (Bembenutty and Karabenick, 2004:36). It is therefore assumed that students with an FTP in terms of future academic goals will also engage in self-regulated strategies of learning. The motivated strategies of learning (MSL), such as organisation, rehearsal, elaboration, use of resources, regulation of the study environment, planning, scheduling effort and help seeking are frequently used by students with an FTP. Students who engage in self-regulation of their motivation, cognition, environment and behaviour are also successful in reaching their academic goals. Therefore, the belief is that the FTP students bring to the academic environment is presumed to influence their motivation, self-regulation and academic achievement.

The relationship between future goals and self-regulated learning is not that clear. Student may value their future goals, but can still be unmotivated in terms of achieving academically. McInerney and Liem (2008) identify three psychological, motivational components, namely perceived value of schooling, perceived academic competence and academic motivation that could explain why students' future goals may or may not lead to the application of self-regulated learning.

3.3.3 Future time perspective and self-efficacy

A distinction is made between outcome expectancy and efficacy expectations (Bembenutty, 2010:6,7), meaning that, although individuals may anticipate that certain actions will lead to certain outcomes, doubt in their capabilities may lead to them not performing the task. The perceived self-efficacy will determine the choices the individual makes, the effort and persistence allocated to the task. Self-efficacy is therefore important in the **pursuit** of future goals, where students with high self-efficacy will continue despite experiencing difficulties in academic tasks and they will stay focused on their future goals.

3.2.4 Future time perspective and academic achievement

According to Horstman and Zimitat (2007:706, 707), having a future time perception is associated with deep conceptual thinking, employing deep approaches to studies, more intensive persistence and better performance in an academic environment. Students will achieve better results by identifying future goals, being motivated, being aware of their abilities and believing that their effort will lead to improved academic results.

Peetsma and Van der Veen (2011:482) report that the time dimension is important for learning motivation, because motivation positively influences learning behaviour and academic achievement. A future time perspective is therefore seen as an important component in motivation for students to learn, complete tasks and strive for better academic achievements.

Results and discussion of results:

Reference list:

Reference list:

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