

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

This chapter reviews the previous literature presented on motivation. The literature focuses on five main themes within the field of motivation. These are namely: (1) understanding into the concepts behind the different approaches and theories of motivation; (2) the different types of motivation that exist and how each effects the academic achievement levels of students; (3) gender differences and their effect motivational orientation and academic achievement within aspects of literacy and numeracy; (4) the phases of students' development as they progress from lower to upper primary school and its effect on motivational orientation and academic achievement; and (5) teaching practices that have been found, through previous research studies, to increase motivation in students. While this chapter reviews the past findings that have contributed to the literature within these five themes of the motivational field, gaps are also investigated within these domains of the motivational literature. These gaps formulated the questions for this research study. Figure 2.1 illustrates this overview.

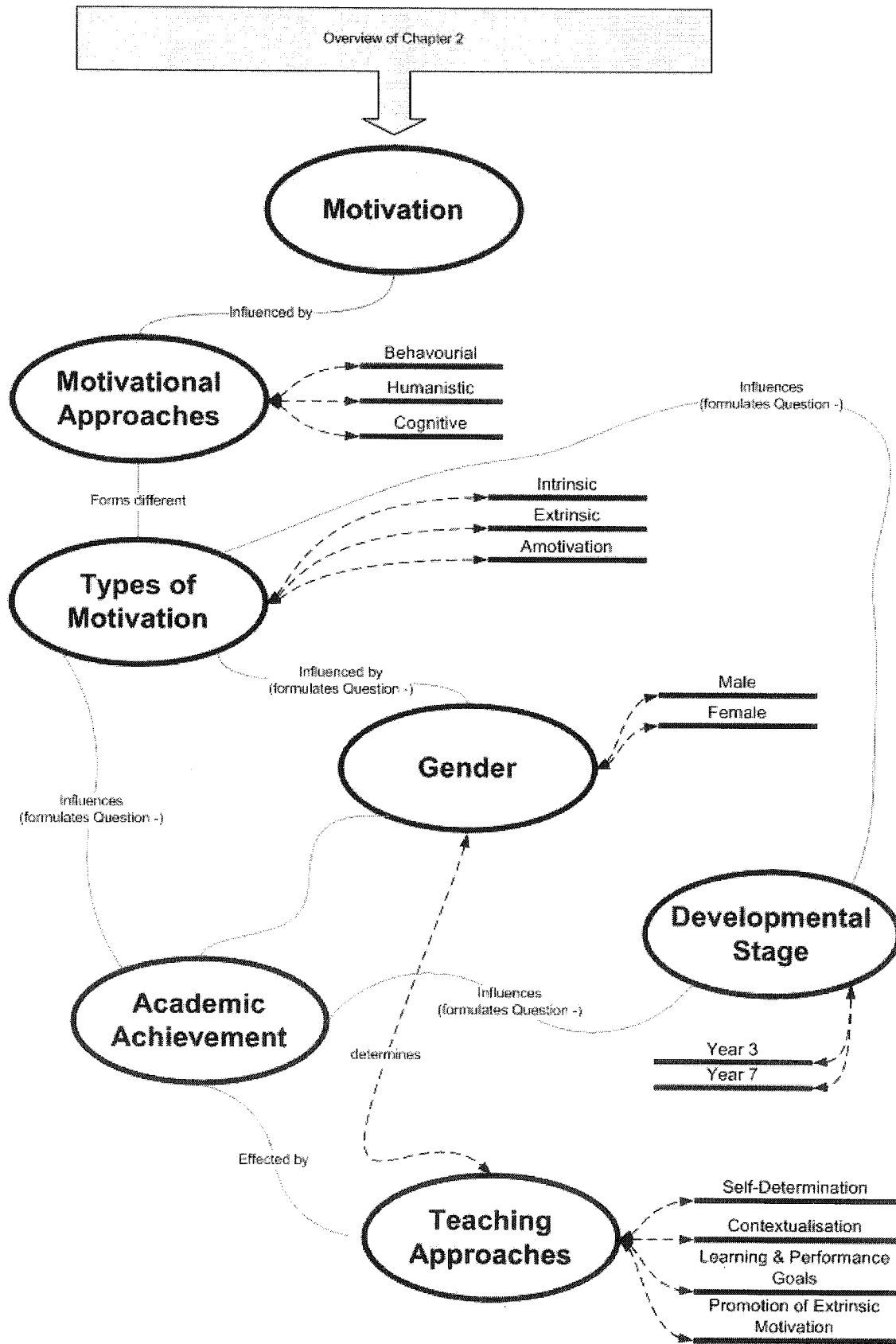


Figure 2.1. Overview of Chapter 2

2.2. MOTIVATION

At this point, it is important to describe the theories and empirical studies in the area of motivation to identify the key issues that arise and current findings within the field. In searching for key literature, it is significant to note that much of the latest research has been conducted in the United States of America. The majority of research on motivation has also focused on students aged within and beyond the developmental stage of adolescences. To examine the research on motivation, we need to define what motivation is and how motivation affects students' participation at school. A look into the terminology, approaches, and a definition, needs to be explored.

At some stage in our lives, we have all been motivated to get something done, whether it be motivation to lose weight in order to fit into an outfit or training hard to become an elite athlete in a particular sport. All of us have also experienced procrastination when we have been uninterested in completing or accomplishing a task.

Motivation affects us all. No matter what age one is, when completing a task and ensuring that it is done, it all relies on one's motivation. From a young child being self-motivated to learn how to walk, to an adult being pressured to perform well and improve their skills to get a job promotion, humans will have some form of motivation to perform an act. Motivation is the important factor into why we do these things. So why are some people motivated to do some things but are not to do others?

Motivation is the internal state that instigates, arouses, directs and maintains behaviour (McInernery & McInernery, 2002; Woolfolk, 1995). It is what makes or inspires us to do something or to continue doing it. Researchers suggest that motivation is related to such things as curiosity, persistence, learning and performance (Vallerand, Pelletier, Blais, Briere, Senecal & Vallieres, 1992; Deci & Ryan, 1985).

When discussing motivation in relation to academic achievement, researchers focus on three basic questions:

What causes a person to initiate some action?

What is the level of involvement in the chosen activity?

What causes a person to persist or to give up? (Pintrich, Marx & Boyle, 1993)

It should be noted that when discussing motivation, academic motivation is not an individual state, *perse*, but rather it grows out of a complex web of social and personal relationships (Goodenow & Grady, 1993). This is why it is such an important factor in the educational field, where classroom environment and school climate have countless effects on a student's motivation. Maltby (1995) agrees by stating that,

Motivation is a broad concept, overlapping several other terms which describe influences on the energy and direction of our behaviour. These include attention, needs, interests, attitudes, aspirations, engagement, goals and incentives. These are sometimes called affect variables. (p. 307)

Affect variables cover a wide spectrum of factors. Sometimes these variations are affected by interest and values, ability and effort. At other times, the variation could be related to sex differences (i.e., girls appear to be more highly motivated to language activities while boys' motivation appears to be more focused towards construction activities); or it might reflect a cultural or ethnic difference (e.g., Aboriginal children appear less motivated to academic work compared to Chinese children); while another variation in motivation could be connected to such factors as socio-economic or family background (McInernery & McInernery, 2002, p. 208). It is important to examine and accommodate these factors when conducting any form of research into students' motivation. As can be seen, motivation is a very complex and multifaceted phenomenon. Motivation is effected by the whole world or existence of the student. For example, it can be influenced by both their background and the context in which a student is immersed. This can include such factors as their parents, culture, environment, gender or even just their interests. All of "these experiences [affective variables] orient the individual in new learning situations, sometimes positively and sometimes negatively" (McInernery & McInernery, 2002, p. 208).

Since motivation is affected by many outside factors or affective variables, it is important to focus on a basic meaning and understanding of motivation, that is, how it directs or, "energizes and guides behaviour towards reaching a particular goal"

(Sansone & Harackiewicz, 2000, p1). As Maltby claims, “energy and direction are at the centre of the concept of motivation” (1995, p307). However, motivation is complex and, “we cannot hope to understand the full complexity of these forces [affective variables], but we can come to understand better some elementary dynamics that are more or less likely to facilitate or impede an individual’s interest in learning in the classroom” (McInernery & McInernery, 2002, p. 208). For this study, the elementary dynamics will be the three different types of motivational orientation, namely intrinsic, extrinsic and amotive.

2.3. MOTIVATIONAL APPROACHES

When investigating motivation, it is important to understand the various theories and approaches employed by different researchers. Before delineating the different types of motivation, it is important to identify the different approaches employed by researchers, as each, impacts on an understanding of the differing types of motivation. This thesis will now present the three general approaches to motivation. These are: (a) a behaviourist stance; (b) a humanistic viewpoint; and (c) a cognitive approach.

2.3.1. Behavioural Approach - Reinforcement

Behaviourists believe that motivation can be increased, decreased, maintained or even extinguished by the effects of external influences (Maltby, 1995). Reinforcement affects people’s motivation by engaging them through positive reinforcement to work hard or perform well to obtain a reward; or, in the reverse, through negative reinforcement to avoid a form of punishment (Seifert, 1999). It has been found that, “children and adults alike will strive to attain certain desirable outcomes and to work extremely hard to prevent or forestall negative events” (Maltby, 1995, p. 326). This process is otherwise known as operant conditioning (Skinner, 1953; 1989), which encompasses both the theory of learning and the theory of motivation. “The principle that human beings are highly sensitive to the consequences of their actively emitted behaviour is one of the most thoroughly validated and researched principles emerging out of modern psychology” (Maltby, 1995, p. 326).

Motivation is often viewed along a continuum of extrinsic to intrinsic motivation. The behaviouristic approach is often identified with extrinsic motivation. Extrinsic motivation depends on external rewards, such as grades or privileges. Woolfolk states that, 'behaviourist tend to emphasis extrinsic motivation caused by incentives, rewards and punishment' (1996, p359). 'Primary reinforcers' such as food and water satisfy basic physiological needs, whereas 'Secondary reinforcers' include things like praise, grades and money (Henson & Eller, 1999). Behaviourists argue that students are motivated because they can earn a reward and that this can include the love of learning. Behaviourists believe that when a reinforcement works effectively, it can be considered to be motivating to the student. The reinforcement has motivated the student to complete a set task (Premack, 1965).

In Extrinsic motivation, the source of a student's motivation lies within the anticipated outcome and not the actual task itself (Woolfolk, 1996). Task engagement is seen as a means to an end. A student will often care very little for the task itself, however will value the things that are contingent on completing the task (Maltby, 1995). Contingent reinforcement means that the reinforcement is dependent on a certain situation or a certain condition of response. For example, when a teacher says that a child will receive a gold star if they get all their spelling right, then the teacher is making the reinforcer (the gold star) contingent on a particular result (getting all one's spelling right). Many researchers have noted the great effects on the process of changing behaviours when using consistent contingent reinforcers (Kazdin, 1994; Kohn, 1993; Wolery, Bailey & Sugai, 1989). "Contingency management is providing reinforcement under the proper circumstances and withholding reinforcement when those circumstances are not appropriate" (Maltby, 1995, p. 232). Through this process, it is believed that these reinforcers increase ones extrinsic motivation and therefore subsequent engagement in the activity (Cameron & Pierce, 1994).

Some educators and researchers are opposed to the use of rewards, as they fear that it will reduce students' level of intrinsic motivation (Kohn, 1993). Others however, believe that if rewards are contingent, then intrinsic motivation is not so detrimentally affected (Cameron & Pierce, 1994). When using reinforcement as a motivator, it should be noted that what one student considers a reinforcer, may in fact be a punisher for another student. It should also be noted that most students do not

respond to the same reinforcer on every possible occasion. The questions, therefore, are: (1) which reinforcers really do work; (2) for which students do they work; and (3) under what particular circumstances do they work. Many behaviour management strategies, for example, are based with this behavioural approach.

Although a highly validated theory in modern psychology, some theorists see behaviourism as merely a way of controlling people (Kohn, 1993; 1996). Arguments have been made that although a validated theory, behaviourism lacks: (1) a realization that students have a choice; and (2) an understanding that students may want to learn. It also entails a focus on completing the task rather than why students actually want to complete the task, a factor not reflected in a behaviourist approach to motivation. A humanistic approach gives further insights into motivation.

2.3.2. Humanistic Approach – Maslow’s Hierarchy of Needs

Humanistic approaches to motivation focus mainly within an intrinsic orientation of student motivation (Henson & Eller, 1999). It emerged as a response and reaction to the behaviourist view. A humanist approach to motivation is based on the affective characteristics of people. It focuses on how people feel about themselves, others, and, internal rewards like the concept of pride and satisfaction in one’s accomplishments (Henson & Eller 1999). Humanist views stress that intrinsic motivation is created by the need for personal growth and fulfilment (Woolfolk, 1996). One of the most influential theories based on a humanistic approach to motivation is Maslow’s (1968, 1970) ‘needs theory’.

Maslow’s theory explains how humans are motivated. He believed that the tension caused by unfulfilled needs motivates people to act. He also stated that, “the most important single principle underlying all development” is the gratification of needs. When a need is not satisfactorily fulfilled, people focus and direct their attentions towards fulfilling them better. It is for this reason that Maslow noted that needs qualified as a form of motivation. Whether a need is biological or physiological, it will gain a person’s attention and “energize” or give “direction” to their actions until that particular need is satisfied. Thus, from this stance motivation is internal to the individual or intrinsic.

It is conjectured that Maslow's hierarchy of needs progresses through seven basic human needs. These are the need for: (a) Physiological – nourishment, sleep & shelter; (b) Safety – freedom from danger, anxiety and threat; (c) Love – from parents, teachers and peers; (d) Esteem – confidence and mastery of goals; (e) Knowledge and understanding – curiosity, exploration and desire to obtain knowledge; (f) Aesthetic – beauty; and (g) Self-actualisation – developing and maintaining capacities to enhance themselves.

According to Maslow, people need to fulfil lower needs in order to focus or direct their attention towards higher needs. That is, we cannot expect people to aim for satisfaction of higher-level needs if their lower needs are not met. For example, if a child is hungry or sleepy, the teacher will have very little chance of that child seeking to fulfil a need such as knowledge and understanding (Henson & Eller, 1999). A key factor of Maslow's theory is that the needs are cyclic. This means that while needs are fulfilled at a certain time, they will not stay fulfilled indefinitely. This indicates that it is, therefore, necessary for people (including students) to continually fulfil their needs and thus always be motivated towards something. It also shows that some needs, like love and esteem (peer and social motivation), will take precedence above needs for learning.

Maslow classified the first four needs as 'deficiency needs', and stated all humans experience these needs. If these deficiency needs are not met, then a student's ability to learn during a typical school day is dramatically limited. The last three needs are classified as being needs. Once deficiency needs are met, then a student's motivation increases to satisfy their 'being needs'. Maslow also argued that being needs are never completely satisfied. Once a student has temporarily met their being needs, their motivation will continue to increase in order to seek more fulfilment. Their desire to learn will only increase. Within teaching, it would be the teacher's job to identify which need a student is wishing to fulfil and encouraging the development and satisfaction of that need.

In summary, the humanistic view on motivation, based mainly in Maslow's needs theory, suggests that people are motivated to achieve goals through life because of the tension that exists within a human to persevere and accomplish unfulfilled needs. However, while this approach adds dimensions to our understanding of motivation

that focus on one's needs, it fails to take into consideration the student's own search for meaning, and the impact that this has on one's motivation. Therefore it is necessary to examine a more cognitive and thought-focused theory behind motivation.

2.3.3. Cognitive Approach – Attribution Theory

Cognitive psychologists stress a person's motivation is relative to an active search for meaning, understanding, and competence (Henson & Eller, 1999). A cognitive approach is concerned with the impact of a person's explanation into their actions. Cognitive approaches are based on the assumption that a person's thoughts, motivates them and determines the way in which they respond. Bandura (1986), a founder of the cognitive approach, stressed the importance of the factors of personal feelings and one's perception. He also attempted to bridge the gap that exists between the various approaches to motivation. Bandura suggested that motivation is affected by thoughts, such as 'can I succeed?' or "what will happen if I fail?" Theories such as the self-efficacy theory and goals theory exist within this cognitive approach. Henson & Eller (1999) stated that, "cognitive approaches suggest that students can be motivated to perform well, not only because of rewards such as grades or praise, but because of factors such as interest, curiosity, the need to obtain information or solve a problem, or the desire to understand' (p. 370). From these researchers, it is suggested that the theories behind a cognitive approach are centred within intrinsic motivation. This paper will now explore the three cognitive theories of motivation include: (a) Attribution theory; (b) Achievement motivation theory; and (c) Social cognitive theory.

Attribution theory is a key theory in the search for understanding of why events happen. Weiner (1979) explained that a student's motivation is influenced by the way in which they answer and interpret questions about the causality of their success and failure. According to his research, Weiner attributed four major causes for success and failure: namely, "a person's effort; the difficulty of the task; luck; and a person's ability" (Henson & Eller, 1999, p.376). Other causes that influence success and failure can include mood, fatigue, illness, and the bias of the person who is evaluating the performance. Weiner classified the major causes into three main domains: locus of control; stability; and controllability.

The first dimension of causality is locus of control, which consists of two types of control, namely internal and external (Dweck, 1986). Students who display an internal locus of control believe that they are responsible for their own behaviour and thus influence their success and failure. They attribute this to their own efforts and ability. However, a student with external locus of control believes that their performance is dependant on luck, the difficulty of the task, or other things that are beyond their control. Students who show a high level of internal locus of control tend to not give up easily on tasks and are more likely to persist with the task (Ball, 1982). Students who demonstrate a high external locus of control are more likely to display learned helplessness following a number of failures (Seligman, 1975). The second dimension of causality is stability. Assumptions about stability refer to whether a student attributes success and failure to factors that are temporary or lasting, that is, stable or invariant and fixed, and as unstable or changing situations (Henson & Eller, 1999). Students who demonstrate stable causality attribute success and failure to such things as ability, effort and task difficulty, while unstable causes could include factors like mood and luck. The final domain of causality is that of controllability. Performance is dependant on controlled factors like effort or an evaluator's bias controlled by either student or another person responsible for the task, or uncontrolled factors, like those of ability, mood or luck (Henson & Eller, 1999).

Achievement motivation theory is defined as actions and feelings related to achieving an internalised standard of excellence (Atkinson, 1964). Student who are self-reliant, take responsibility for their own actions, take calculated risks, plan prudently, and conserve time, tend to have strong achievement motivation (deCharms, 1976). Therefore, achievement motivation may be a good indicator of a student's academic success. Atkinson (1964) noted that achievement motivation is a tendency to approach an achievement goal minus the tendency to avoid failure. He highlighted through the 'expectancy x value' theory that interactions between personality and environment determined and motivated behaviour. He also noted that each student has a tendency to achieve success while trying to avoid failure. Students with high achievement motivation will persist on a task even if they fail because they will want to improve. That is, their motivation will increase. However, students with low achievement motivation will decrease in motivation if they experience failure. With

success, both students with high and low achievement motivation will increase their motivation because they have proved their ability.

Social cognitive theory is related to both attribution theory and achievement motivation theory. As Dweck (1986) explained, social cognitive theory focuses on people's beliefs about their own intelligence. The theory focuses on four domains, namely: (a) people's theory of intelligences (being either fixed or able to be changed); (b) students' goals (either performance goals related to judgements about competence or learning goals related to understanding and mastering new skills); (c) people's confidence in their ability (which is either high or low); and (d) behaviour pattern (being adaptive and mastery-orientated or maladaptive and helpless). Dweck suggested that the behaviour patterns of all students, whether mastery orientated or helpless, affected their classroom performance. Students who display mastery-orientated motivational behaviour patterns have high persistence when faced with challenging tasks, while those with helpless behaviour patterns show a lack of persistence.

The behaviourist, humanistic and cognitive approaches provide us with some insights and theories behind motivation. However, to understand the effects of motivation, we must examine the different types of motivation and how they influence human behaviour.

2.4. TYPES OF MOTIVATION

As noted by Deci & Ryan (1985), there are three types of motivation: intrinsic, extrinsic, and amotivation. Brophy (1988) stated that a student's motivation to learn is when, "a student tendency to find academic activities meaningful and worthwhile and to try to derive the intended academic benefits from them. Motivation to learn can be construed as both a general trait and a situation-specific state" (pp. 205-206). As Brophy (1983, 1988) suggested, a student's motivation to learn is both: It is general as a disposition toward learning for its own sake, and situationally specific as depending on such factors as learning and experience. A student's general motivation to learn is associated with internal factors, such as interest and curiosity, while their situational motivation is considered closely associated with external factors, such as classroom environment and social factors. It is for this reason that most motivational research has focused on intrinsic and extrinsic motivation, referring

back to the general trait or internal factors of learning and the situational-specific state or external factors of learning. These will also be the main focus of this research. Amotivation, which is closely related to learned-helplessness, is often not examined by researchers as it has only been a major focus of the work of Vallerand and colleagues (1991, 1992, 1993, 1995), and has, in the last decade, become a current focus in motivational literature under this specific term. For this reason when examining the literature on the effects of motivation, the main focus will be on intrinsic and extrinsic motivation.

Intrinsic motivation is the natural tendency to pursue personal interests and exercise capabilities and in doing so, seek out and conquer challenges (Deci & Ryan, 1985). It can also be considered something that is done, "because the activity itself is rewarding" (Woolfolk, 1995, p. 332). Intrinsic motivation is when a student, performs an activity for their own sake from which pleasure comes for the activity itself (Berlyne, 1965; Deci, 1975; Gottfried, 1985). It is when a student experiences: pleasure from the learning process itself (Berlyne, 1965; Gottfried, 1985), curiosity (Berlyne, 1971; Maw, 1971), success in learning of challenges and difficult tasks (Lepper, 1983; Pittman, Boggiano & Ruble, 1983), persistence and mastery (Harter, 1981; Nicholls, 1983), and involvement (Brophy, 1983; Nicholls, 1983; Sweet & Guthrie, 1996). Academic intrinsic motivation is concerned with enjoyment of school learning and an orientation to master challenging tasks (Gottfried, 1985).

The three types of intrinsic motivation are the intrinsic motivation to know (to do something for the pleasure and satisfaction experienced while learning), to accomplish things (to do something for the pleasure and satisfaction experience while trying to accomplish things), and to experience stimulation (to do something in order to experience stimulating sensations). (Vallerand, Pelletier, Blais, Briere, Senecal & Valleries, 1993, p. 160-161)

Intrinsic motivations are goals that are internal to the learner (Deci, Vallerand, Pelletier, & Ryan, 1991). The goals include such things as involvement, curiosity, social interactions, and challenge (Sweet & Guthrie, 1996). It is believed that, intrinsic motivations appear to be imperative for learning and are long lasting.

"In contrast, when we do something in order to earn a grade or reward, avoid punishment, please the teacher, or for some other reason that has very little to do

with the task itself, we experience extrinsic motivation” (Woolfolk, 1995, p. 332). “A reward (extrinsic motivation) is an attractive object or event supplied as a consequence of a particular behaviour” (Woolfolk, 1995, p.333). Its objective is to persuade the learner to engage him or herself academically in an activity. As mentioned before, much of extrinsic motivation is the basis to the behaviourist approach to understanding motivation.

The three types of extrinsic motivation are external regulation (to do something because one is pressured by someone to do it), introjected regulation (to do something because one pressures him-herself to do it), and identified regulation (to do something because one has decided to do it although it is not fun). (Vallerand, et al, 1993, p.161)

Extrinsic motivations that students have reported include compliance, recognition, competition, and work avoidance. These extrinsic motivations do not regenerate, thus having a temporary effect upon learners (Sweet & Guthrie, 1996).

“Finally, amotivation refers to the absence of intrinsic and extrinsic motivation” (Vallerand, et al, 1993, p. 161). It is also closely related to ideas about learned helplessness. Learned helplessness is the expectation that all one’s efforts will lead to failure. Students do not see why they are engaging in an activity and see the results of the task as uncontrollable to them. Therefore, their motivation does not exist.

Each individual has a propensity to exhibit a combination of these motivations and this is often dependent on the context in which they are engaged (Brophy, 1983, 1988). Although these constructs are not discrete, each has a significant role to play in one’s academic achievement (Adelman & Taylor, 1986; Deci, 1975; Gottfried, 1985; Keeves, 1986; Thokildsen, Nolen & Fournier, 1994).

2.5. MOTIVATION AND ACADEMIC ACHIEVEMENT

Before further investigating the effects of motivation on academic achievement, it is necessary to first define academic achievement. There are many definitions used within research on achievement, however it typically includes a combination of the following:

Students' grades, grade point average, standardised achievement test scores, cognitive and academic competence, orientation towards school, engagement, teacher ratings or student performance, academic competence, and graduation from secondary and post-secondary school (Rosenzweig, 2001, p. 4).

For the purpose of this study, academic achievement will be based on academic success gauged by standardised achievement test scores. The academic areas covered are the foundational subjects of Mathematics and English. As aforementioned, Literacy and Numeracy have been documented by the Government and other educational officials as key components of a well-rounded education. It is expected that, "every child leaving the primary school should be numerate, and able to read, write, and spell at an appropriate level" (MCEETYA, 1997). This is the basis of the standardised test created by the Queensland State Government to observe and monitor the development of students within these two academic fields and, therefore, will be the instrument to measure a student's academic achievement within this study.

Many studies have tried to identify the activities and factors that lead to high academic achievement. Motivation has been sighted as an important factor in a majority of these. "There is considerable controversy in the motivational literature over what the goals of motivation should be" (Thorkildsen, Nolen & Fournier, 1994, p. 476). One of the main goals should focus around academic achievement. To increase academic achievement, it is preferred that motivation (of some kind, or another) needs to take place (Deci, 1975; Deci & Ryan, 1985; Gottfried, 1985; Lepper & Greene, 1978). It is for this reason, that many researchers consider motivational orientation as an important factor in determining students' academic success (Adelman & Taylor, 1986; Covington, 2000; Deci, 1975, Schunk, 1991). Therefore, the implication for teachers is that to help children to achieve academic success, one should encourage their motivation (Adelman & Taylor, 1986; Gottfried, 1985). Research, within this field tends to reveal that academic motivation positively influences academic performance (e.g. Grolnick, Ryan & Deci, 1991; Guthrie, Wigfield & VonSecker, 2000; Keeses, 1986; Ntoumanis, 2001; Skinner, Wellborn & Connell, 1990). "Enhancing motivation means enhancing children's valuing of effort and a commitment to effort-based strategies" (Ames, 1992, p. 286), thus, also

enhancing their academic achievement. A student, who notices their effort towards academic goals is more likely to succeed and therefore more likely to have a positive effect on their academic motivation. It shows that those who attribute achievement to effort (i.e., 'I succeeded due to effort') internalise their motivational influences, and are therefore more likely to achieve their desired outcomes. Internal or intrinsic motivation is therefore believed by many researchers to have a positive influence on the outcomes of a student's academic success (Deci & Ryan, 1985; Gottfried, 1985).

2.5.1. Intrinsic Motivation and Academic Achievement

As a common goal for educators is to help all students reach their full potential, no matter what their ability level is. It is suggested that this can be done through fostering children to be intrinsically motivated (Deci & Ryan, 1985; Gottfried, 1985). Many researchers agree that students operating out of intrinsic motivation have more likelihood to achieve academically (Deci & Ryan, 1985, Deci, Vallerand, Pelletier, & Ryan, 1991). Due to this, intrinsic motivation is cited as an important part of educational goals. "Some claim that intrinsically motivated behaviour is better than extrinsically motivated behaviour, which depends on observable rewards" (Gage & Berliner, 1991, p.351), mainly, because it leads to higher success in academic achievement.

Intrinsic motivation, within academic fields, is found to be significantly and positively correlated with a students' achievement (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991; Gottfried, 1985). A reason suggested for this correlation is believed to exist, "because children who experience a great deal of academic intrinsic motivation enjoy learning and show task persistence and a mastery orientation, [showing that] it is reasonable to expect them to strive to learn more and show higher achievement than those who experience relatively less intrinsic motivation" (Gottfried, 1985, p.632). Results of Gottfried's (1985) empirical studies with adolescents supported hypothesis that academic intrinsic motivation is positively and significantly related to students' school achievement as measured by both standardized achievement tests and teacher assigned grades.

Much of the research, within this field, suggests that for adolescent students to function more effectively in schools, they should have a high level of intrinsic motivation (Adelman & Taylor, 1990; Dev, 1997; Gottfried, 1990). This means that

students achieve not only academically, but also in all aspects of their school environment. A student's success in different subject areas influences their intrinsic motivation (Brophy, 1983; Harter, 1978). It is for this reason that some researchers see the whole motivation process as cyclical, in that intrinsic motivation tends to lead to better academic achievement, and students who achieve well academically are more likely to be intrinsically motivated due to this previous success.

Academic intrinsic motivation is based on Deci & Ryan's (1985) theoretical perspectives of 'autonomous academic motivation' in which students strive for the need for competence and self-determination (see also, Woolfolk, 1995). As intrinsic motivation is a significant construct in a student's education and academic achievement, the schooling environment (including teachers) should foster this important motive (Gottfried, 1985). Fortier, Vallerand, & Guay (1995) suggest that a direct way to improve a student's academic ability is to increase the student's academic motivation. This can be achieved by increasing a student's academic competence (via encouragement and positive feedback) and/or their academic self-determination (by providing choices in learning tasks).

"Intrinsic motivation to learn is wonderful to behold, but its roots often lie in extrinsic reinforcement, received when the activity was first started" (Gage & Berliner, 1991, p.350). Bruner (1996) however suggested that extrinsic motivation might be necessary to get the learner to initiate the learning process. That is, when initial interest in a task is low, rewards can increase the likelihood of academic engagement and performance of important academic tasks (Lepper & Hodell, 1989; Loveland & Olley, 1979; McLoyd, 1979). However, "learning will be far more long-lasting when it is sustained by intrinsic motivation than when it is driven by the transitory push of external reinforcers" (Sprinthall & Sprinthall, 1990, p. 523).

2.5.2. Extrinsic Motivation Undermines Intrinsic Motivation

Extrinsic motivation does not regenerate and because of this, many who study this topic agree that extrinsic rewards undermine intrinsic motivation (Deci, 1975, Harackiewicz, Manderlink, & Sansone, 1984, Kohn, 1991, Lepper & Greene, 1978). It is suggested that extrinsic motivation undermines students' intrinsic motivation, thus extrinsic motivation could be perceived as having a negative effect on their motivation to achieve. Students will only achieve for the reward or external factor. The learning

that is occurring is 'situationally specific'. It is the desire to have our own wishes (intrinsic motivation), rather than external rewards or pressures, that determine our actions (Deci & Ryan: 1985; Deci, Vallerand, Pelletier, & Ryan: 1991). For this reason, many who study this topic agree that extrinsic rewards undermine intrinsic motivation (e.g. Deci, 1975; Harackiewicz, Manderlink, & Sansone, 1984; Kohn, 1991; Lepper & Greene, 1978). Students themselves seem to agree with this. As found in Nolen and Nicholls (1993) research, most second and fifth graders thought motivation would be enhanced if the teachers encouraged students and helped students find their work meaningful (e.g., by promoting cooperation, increasing interest, giving responsibility to students, encouraging thought and improvement, and minimizing pressure). Students themselves noted the importance of internalising their learning. This is why some psychologists fear that rewarding students for all learning will cause the students to lose interest in learning for its own sake (Deci, 1975; Deci & Ryan, 1985; Kohn, 1993; Lepper & Greene, 1978). Lepper, Greene & Nisbett (1973) emphasised this with their "over-justification hypothesis." This hypothesis states that one's intrinsic motivation for an activity may be undermined by inducing the individual to engage in the activity as an explicit means to an external goal. It is due to this, that many studies have observed and demonstrated the risks associated with rewarding children who are already interested in the task (Loveland & Olley, 1979).

Both deCharms (1968) and Bem (1972) suggested that extrinsic rewards decrease high intrinsic interest in an activity because, upon receipt of these rewards, the perception that one is engaging in the activity because of self-propelled interest is superceded by the perception that one is engaging in an activity because of the reward (McLoyd, 1979). Intrinsic motivation is associated with pleasure derived from the learning process itself, curiosity, the learning of challenging and difficult tasks, persistence, and a high degree of task involvement (Berlyne, 1971; Csikszentmihalyi & Csikszentmihalyi, 1988; Gottfried, 1985, 1990; Harter, 1981; Lepper, 1983; Nicholls, 1983; Pittman, Boggiano, & Ruble, 1983). By introducing an extrinsic reward, this initial intrinsic motivation decreases.

Many researchers discourage the use of extrinsic motivation within the classroom. Some writers discourage the use of praise, that is, feedback that focuses students'

attention on the self rather than on the task (Butler, 1987, 1989; Covington & Berry, 1976; Dreikurs, Grunwald, & Pepper, 1982; Henderlong & Leeper, 2002; Ryan & Deci, 1989). Some researchers argue against practices that promote competitions because competition encourages students to become preoccupied with global ability rather than effort (Hirsch: 1988). Frequent findings have reported that a significant negative effect could be caused from some kind of praise that had been given (e.g. Boggiano, Main & Katz, 1988; Danner & Lonky, 1981; Pittman, Davey, Alafat, Wetherill & Krarner, 1980; Ryan, 1982; Smith, 1976).

Although, “reinforcements (rewards) can increase the probabilities of behaviours that occurred just before the reward is administered...rewards [can] also have the potential for undermining performance” (Pressley & McCormick, 1995, pp.112-113). Lepper and Greene (1975) found that, the effect of presenting activities in the “context of a system of extrinsic incentives...may be to undermine that intrinsic interest in those activities” (pp. 484-485). This external incentive may cause a decrease in academic achievement due to the undermining effect upon children’s intrinsic motivation. In other words, when initial interest in the rewarded activity is high and when the reward to perform the behaviour is so prominent, this could be constructed as a bribe (Pressley & McCormick, 1995). This can be seen by those people who consider an external rewarding system as unethical, with such statements as, “Reinforcement is bribery!” and, “Rewarding children spoils them; it makes them work only for rewards.”

Kohn (1993) argues that, “applied behaviourism, which amounts to saying, ‘do this and you’ll get that,’ is essentially a technique for controlling people. In the classroom, it is a way of doing things to children rather than working with them” (p 748). Kohn goes on to contend that rewards are ineffective because when the praise and prizes stop, the behaviours stop too. “Rewards (like punishment) can get people to do what we want...But they rarely produce effects that survive the rewards themselves...They do not create an enduring commitment to a set of values or to learning; they merely, and temporarily, change what we do” (1993, p 748). “All of this means that getting children to think about learning as a way to receive a sticker, a gold star, or a grade (or even worse, to get money or a toy for a grade, which amounts to an extrinsic reward for an extrinsic motivator) is likely to turn learning from an end into a means.

Learning becomes something that must be gotten through in order to receive the reward” (Kohn, 1993, p. 785).

Many researchers have also acknowledged the important role of parental socialization in the development of children’s intrinsic motivation (Boggiano, Barrett, Weiher, McClelland, & Lusk, 1987; Gottfried, 1986, 1990; Harter, 1981). Parents, who initiate a child’s motivation with rewards, may then cause a decrease in their future interest in school situations that do not offer reward incentive programs. Zimbardo agrees against this by stating that, “when extrinsic reward is given, the motivation becomes extrinsic and the task itself is enjoyed less. When the extrinsic rewards are withdrawn, the activity loses its material value... The moral is: A reward a day makes work out of play” (1992, p. 454, italics in the original).

Rewards are expected to involve, manipulate and inherently have contradictory effects on intrinsic motivation (Condry, 1977; Deci, 1975). Some researchers believe rewards to be powerful high-impact tools that, in the hand of practitioners with an understanding of their psychological meaning and their potential, can be used to produce both positive and negative effects (e.g. Grolnick, Deci & Ryan, 1991; Ryan, Deci & Grolnick, 1995; Vroom & Deci, 1992; Williams, Deci & Ryan, 1995). Extrinsic rewards have been found to have a positive, negative, or no effects on intrinsic motivation (Cronbach & Sno, 1977; Deci & Ryan, 1985; Lepper & Greene, 1978). When receiving an extrinsic reward for engaging in a task, it may influence (1) an individual’s expectations that further extrinsic rewards may follow task engagement in the future, (2) an individual’s sense of personal competence and task mastery, and (3) an individual’s attributions of personal control versus extrinsic constraint (Lepper, Keavney & Drake, 1996). Thus, extrinsic rewards reinforce the fact that rewards have either a positive or a negative effect, depending on the way they are administered. “The only negative effect of reward on intrinsic motivation occurs mainly when rewards are tangible and promised to individuals without regard to any level of performance” (Cameron & Pierce, 1996, p. 45). Students themselves determine how rewards will affect their academic achievement and motivation levels. Although there are many negative effects of extrinsic motivation on intrinsic motivation, there are also some positives in implanting extrinsic motivators.

2.5.3. Extrinsic Motivation and Academic Achievement

The literature values the notion that teachers should foster intrinsic motivation and make learning as personally meaningful as possible (Csikszentmihalyi, 1990; Nicholls, 1989). However, “meaningful learning can only take place if students willingly and actively construct knowledge” (Thorkildsen, Nolen & Fournier, 1994, p. 482), and in certain circumstances, rewards are needed in order to initiate interest.

Although many disagree with the use of extrinsic motivators, some see the importance that they may play in the initiating academic achievement levels. As Donatelle and Davis suggested, “rewards or reinforcers may initially come from others (extrinsic rewards), but as you see positive changes in yourself, you will begin to reward and reinforce yourself (intrinsic rewards)” (1996, p. 25). This shows that initial external rewards may be required to inaugurate motivation in an academic task. However, even Donatelle & Davis (1996) warn about the overuse of such reinforcers.

One commonly finds general statements condemning reinforcement and/or rewards (Cameron & Pierce: 1994: p 395), which leads “teachers to resist implementing incentive systems in the classroom” (Cameron & Pierce: 1994: p 397). However, some researchers advocate the use of rewards to encourage effort among unwilling learners (e.g., Brophy: 1987; Cameron & Pierce, 2002). Cameron and Pierce (1994) suggested that, reward does not decrease intrinsic motivation and “the only negative effect appears when expected tangible rewards are given to individuals simply for doing a task” (p 394). Therefore, Cameron & Pierce stated that, “overall, the results indicate that reward does not negatively affect intrinsic motivation” (p 391) and that “in terms of rewards and extrinsic reinforcement, our overall findings suggest that there is no detrimental effect on intrinsic motivation” (p 394).

In Thorkildsen, Nolen and Fournier’s (1994) empirical study, they found that one group of adolescent students valued meaningful learning and favoured practices that promote the desire to understand new ideas. Another group valued a dutiful commitment to education and favoured practices that promote effort, while a third valued extrinsic rewards. They found that,

most children said that encouraging a task focus was effective (98%)...Most children also indicated that rewarding students for effort was effective (81%)...Rewarding excellent performance was judged to be effective

(70%)...Public praise for excellent performance was sometimes judged as effective (50%) (1994, p. 482).

Cameron & Pierce (1994) indicated that rewards could be used effectively to enhance or maintain an individual's intrinsic interest in activities. They also denied that rewards could be perceived as controlling by their human recipients and thus not have positive effects. This could be seen in a statement by Cameron and Pierce who argued that, "reinforcement does not interrupt intrinsic motivation for low interest achievers" (1994, p. 393). Zajonc has also repeatedly shown that increases in the mere exposure to an activity may increase a person's liking for new activities (1968, 1980). Thus, initiating engagement through extrinsic motivation may cause a steady foundation to their intrinsic motivation for the activity.

Many researchers that argued against the use of external rewards to increase intrinsic motivation also suggested that it might play a role in the initial interest in activities in selected circumstances. It is considered that, purely informational feedback about one's performance would not be expected to reduce subsequent intrinsic motivation, but a verbal reward that is construed as manipulative should, and does, have this effect (Boggiano, Main & Katz, 1988; Deci, Koestner & Ryan, 1999; Pittman, Davey, Alafat, Wetherill & Kramer, 1980; Ryan, 1982). As shown, "verbal rewards show a positive effect on intrinsic motivation, whereas tangible rewards (overall) show a negative effect" (Lepper, Keavney & Drake, 1996). That is, "if a reward initially produces differences in the amount or the nature of engagement with the activity, those differences in themselves influence the individual's subsequent involvement with the activity" (Lepper, Keavney & Drake, 1996). External rewards may benefit intrinsic motivation.

"Results indicate that verbal rewards (praise and positive feedback), can be used to enhance intrinsic motivation" (Cameron & Pierce, 1994, p. 384). When tangible rewards (e.g. gold stars, money) are offered contingent on performance on a task or are delivered unexpectedly, intrinsic motivation is maintained. A slight negative effect of reward can be expected when tangible rewards are offered without regard to level of performance (Cameron & Pierce, 1996). McLoyd (1979) demonstrated that individuals offered a non-contingent, tangible reward had an increase in intrinsic motivation when the task was not interesting, while Williams (1980) indicated that the

negative effects of tangible, expected, non-contingent rewards could be offset by offering an attractive reward. Many researchers suggest that the use of rewards is only to be utilized under select circumstances (Biehler & Snowman, 1986; Brophy, 1987; Cameron, Banko, & Pierce, 2001). Therefore, it can be deduced from these findings that, “teachers have no reason to resist implementing incentive systems in the classroom” (Cameron & Pierce, 1994, p 397), as long as they understand the contingencies that need to be considered when implanting them. In other words, “the detrimental effects of reward are limited and depend on multiple moderators... (I.e. type of reward, reward expectancy, and reward contingency)” (Cameron & Pierce, 1996).

Deci (1971) found that whereas tangible rewards may decrease intrinsic motivation, verbal rewards might enhance intrinsic motivation. Deci (1972) also suggested that non-contingent rewards produce little change in intrinsic interest. Lepper, Greene and Nisbett (1973) agreed with these findings. Ryan, Mims, & Koestner (1983) found that when performance-contingent rewards (which are given only if one attains some standard of performance) were administered with an autonomy-supportive style, they enhanced their intrinsic motivation; however, when they were administered with a controlling-style, their intrinsic motivation decreased. With regards to these findings, “overall, the present review suggests that teachers have no reason to resist implementing incentive systems in the classroom” (Ryan & Deci, 1996, p. 397). However, it should also be noted that the importance of the situations in which rewards are offered often play an important role in subsequent effects on a student’s intrinsic motivation.

“Overall findings suggest that there is no detrimental effect [of extrinsic rewards] on intrinsic motivation,” (Cameron & Pierce, 1994, p. 394), and extrinsic motivation causes no negative effects on intrinsic motivation. This directly contradicts dozens of narrative reviews of the same literature (e.g. Bates, 1979; Deci & Ryan, 1985, 1987; Kohn, 1993; Lepper & Hodell, 1989; Morgan, 1984; Quattrone, 1985; Rummel & Feinberg, 1988; Tang & Hall, 1995) who, only agree with external rewards being used to initialise interest.

Extrinsic rewards can have a beneficial effect on later intrinsic motivation if: it is a non-contingent extrinsic reward, an unexpected extrinsic reward, or an intangible

extrinsic reward (e.g. diffuse, implicit, social, and verbal). Rewards that provide salient evidence of one's competence or ability at an activity are more likely to have a positive effect on intrinsic motivation. "It is important to remember [however], that some students in some situations actually show decreases in performance because of extrinsic rewards" (Gage & Berliner, 1991, p.352).

2.5.4. Summary

Overall, rewards are regarded as a negative effect upon intrinsic motivation. This can be seen through various studies (Bates, 1979; Deci & Ryan, 1985, 1987; Kohn, 1993; Lepper & Hodell, 1989). It has been said that, "non-contingent rewards (behaviourally defined) have a significantly negative effect on intrinsic motivation" (Cameron & Pierce, 1994, p. 392). It has also been noted that, "performance-contingent rewards can have negative implications for subsequent interest" (Harackiewicz, Manderlink & Sansone, 1984, p. 292), that is, making initial interest decrease (Ryan, Mims & Koestner, 1983). In the same way, identical tangible, expected rewards may increase intrinsic interest in initially boring tasks and yet decrease interest in initially interesting tasks (Calder and Staw, 1975; Loveland & Olley, 1979; McLoyd, 1979; Newman & Layton, 1984). This demonstrates that if interest is initially there, a reward incentive program should not be administered into the activity.

Pittman, Cooper, and Smith (1977) predicted that the detrimental effects of an expected reward on intrinsic motivation could be eliminated if students were explicitly led to see themselves as intrinsically interested in an activity despite the offer of tangible rewards. Once again reinforcing "the major contention in education and psychology...that rewards and reinforcement negatively impact a person's intrinsic motivation" (Lepper, Keavney & Drake, 1996, p. 27). It has been shown that, extrinsic reward will always or even usually result in a decrement in intrinsic interest in the activity (Lepper, Greene & Nisbett, 1973). Therefore, "there is more than adequate justification for avoiding the use of incentives to control people's behaviour, particularly in a school setting" (Kohn, 1996, p 3).

As stated initially, controversy greatly exists when discussing the topic of motivation and its effects on academic achievement. It is a common agreement between most researchers that intrinsically motivated behaviour is better than extrinsically motivated

behaviour. This is because learning is far more long lasting when it is sustained by intrinsic motivation, rather than when it is driven by the thought of external reward. In addition, the majority of researchers believe that extrinsic rewards have a detrimental effect upon already existing intrinsic motivation. However, many also admit that extrinsic motivation may be necessary to get the learner to initiate the learning process.

Many views exist, but the most amazing thing is that both sides endeavour into the other side's argument. That is, intrinsic motivation sometimes needs extrinsic motivation in order to motivate the initial interest, and extrinsic rewards may undermine the initial intrinsic motivation. The global understanding is that to obtain ultimate academic achievement, implementing just one type of motivation (i.e. extrinsic motivation or intrinsic motivation) will surely see no improvement to current class situations. Therefore, partial amounts of each type are needed for students to gain motivation within the academic achievement field.

From this conclusion, in consideration of past motivational literature on intrinsic versus extrinsic motivational orientation, the researcher was perplexed on the actual effects of motivation on a student's academic achievement levels. Previous research has stated the detrimental effect of extrinsic motivators on intrinsic motivation and hence academic achievement (Deci, 1975; Harackiewicz, Manderlink & Sansone, 1984; Greene, 1975; Kohn, 1991; Lepper & Greene, 1978; Loveland & Olley: 1979; Pressley & McCormick, 1995). In addition, previous studies have noted the importance that extrinsic motivation can play in initialising students' interest levels affecting their future motivation levels (Brophy, 1987; Cameron & Pierce, 1994, 1996; Donatelle & Davis, 1996; Ericsson, Krampe & Tesch-Roemer, 1993; Ryan, Mims & Koestner, 1983). The majority of these past studies have focused on adolescent students and beyond. The researcher presumed similar trends of motivational influence of intrinsic and extrinsic motivation on academic achievement might exist. The researcher also questioned if the motivation levels of younger primary aged students in a pre-adolescent stage of development would display different levels or types of motivation. Few studies have commented on this gap within the research regarding students in this age range prior to their adolescent years. This gap in the literature allows the formulation of the research questions regarding the effects of

motivation on academic achievement levels. It also allows the examination of differences in motivation during different developmental stages of a students' educational journey.

2.6. GENDER

Research into the gender discipline is very interesting. Gender research has "evolved from emphasizing women inferiority to men, rejecting psychological gender differences, abolishing sexual discrimination, and acknowledging gender difference" (Gang & Guiyang, 2000, p. 44). The focus has shifted through the years depending on the main purpose for the pursuit of an understanding in examining the effects of gender within our society. This shift and change through the years has affected the type research conducted on gender and the context of it. Gender differences have come to light in the past decade. The issue has achieved growing awareness, especially in the need to encourage girls more in the participation of mathematics (Booker, bond, Briggs & Davey, 1997) and boys more in their participation in reading (Sebin, O'Leary, Kent & Tonick, 1973; Eccles, Wigfield, Harold & Blumenfeld, 1993).

From an educational perspective, the focus is on any inequalities between the genders and a pursuit into teaching practices and procedures that will cater to the various types of learners that exist. A complex web of social factors produces or influences gender inequities, especially in literacy and numeracy (Reys, Suydam, Lindquist & Smith, 1998). Some of these can include parents expressing different expectations in mathematics for their sons than daughters, to teachers having differing attitudes towards the expected results of the different genders in different classroom content. Another factor researchers have examined even includes they way in which the curriculum is framed (Booker, et al, 1997).

Research suggests that teachers may actually treat boys differently to girls within a mathematics class. It also shows that teachers may ask boys more often than they may ask girls, and teachers may be less likely to praise girls than boys for correct answers and less likely to prompt those girls who produce the wrong answer (Leder, 1992). Boys engage in more risk taking behaviours in numeracy activities and display more willingness in taking a chance in answering questions (Ramos & Lambating, 1996); this may even lead to being rewarded by higher scores. Although both boys and girls experience aspects of 'learned helplessness', girls have been

found to be particularly susceptible to this syndrome of the believing that one cannot control the outcomes and that one is destined to fail without the existences of a safety net (Renga & Dalla, 1993). These are just some of the social factors have been influenced by those within the culture of society in which the students are exposed to that effect upon their gender perceptions about themselves and their expected competencies.

Gender differences have been explained through the years, by determining factors of biology, culture and the interaction between the two. From the context of this study, the culture is predetermined by the location of the schools within the study. As all the schools are located in South-East Queensland a certain type of culture can be assumed. This community within South-East Queensland consists mainly of Caucasians operating within a westernized culture, however, it is generally quite accepting of other cultures from neighbouring countries. Another determinate factor in the examination of gender is also predetermined by the fact that Catholic education is the foundation for all schools within the study. Since "studying is a systematic cognitive psychological activity," (Gang & Guiyang, 2000, p. 44), the examination of gender and its influence on any differences between the participants in the study will mainly contain a psychological focus. This examination of gender differences will mainly look at male and female attitudes towards schooling and the effects that this has on their academic achievement.

2.6.1. Gender and Motivation

Many theorists believe that it is the self-concept that one has about oneself that affects the outcomes of their performances (Atkinson, 1964; Deci & Ryan, 1985; Harter, 1992; Harter & Jackson, 1992; Weiner, 1972, 1980). As mentioned previously in this chapter, Atkinson (1964) believed in two opposite psychological orientations in regards to measuring a student's level of achievement motivation. These were the 'hope for success' and the 'fear of failure'. Atkinson's Achievement motivation theory research shows that 'hope for success,' predominates among males, whereas 'fear of failure' predominates among women. This concurs with Weiner studies (1972, 1980) on his theories of self-attribution. His studies denote that male students attribute their achievements to their ability and their failures to their lack of effort. Whereas, females see their achievements are due to their efforts and

failures relate to their lack of ability. Gang & Guiyang (2000) found that female students' motive to studying rose significantly because of their belief that achievement and success relies heavily on the amount of effort applied to their studies. It showed that female students would apply more effort to gain greater achievement levels for future results in their studying.

Certain gender traits have been discovered by researchers in a student's attitude towards their success or failure in academics. Males tend to place more of an emphasis on external factors such as luck, and were less inclined to emphasize the contribution of hard work (Lightbody, Siann & Walsh, 1995; Lightbody & Siann, 1996; Taylor, Newman, Mangis, Swiander, Garibaldi, Imael, Talmore, Tritak & Gittes, 1993; Wigfield, 1988). In contrast, females placed an emphasis on the internal factors, like the amount of effort that one applies (Gang & Guiyang, 2000). These researchers found that, therefore, males were more predetermined to extrinsic forms of motivation compared to females who favoured the importance of intrinsic motivators.

This belief in one's achievement, and the attribution of success or failure on factors such as luck and effort, effect the orientation of one's motivation. Harter (1992) found that increases or decreases in intrinsic motivational orientation were also associated with increased or decreased perceived academic competence. Harter and Jackson (1992) found that students' motivational orientation is dependant on one's self-concept. The psychological factor of perceived academic competence has a further impact on a student's motivation (Deci, 1975; Deci & Ryan, 1985; Harter & Jackson, 1992). Males and females differ greatly in how they perceive themselves as achievers. This also creates differences in patterns of their motivational orientation.

2.6.2. Gender and Subject Area Preferences and Performances

Just as a students' perception about themselves and their achievement competencies effects their motivation, does a students' perception and attitude towards schooling and particular subject areas. Many researchers have found gender differences in attitudes in regards to subjects orientated preferences (Lightbody & Siann, 1996; Weinrich-Haste, 1981; Archer & MacRae, 1991). Lightbody & Siann (1996) found in their study that overall girls and younger student reported liking school better than boys and older students. Lightbody & Siann (1996) also found that while girls showed a greater overall enjoyment of school than boys

did, boys enjoyed more sporting related fields. In regards to subject orientated preference, girls were reported as liking English, French, German, history, drama, music and home economics, while boys preferred science, craft and design, technology, physical education and information technology. These reflect the traditional stereotyping of the genders, with girls' preferences towards language and creative art fields, while boys engaging more in technology, science and sports. Many researchers agreeing with traditional stereotyping of the genders have found that adolescent females have higher self-perceptions of verbal ability than boys do, while adolescent boys have higher self-perceptions in math (Dai, 2001; Eccles, Alder & Kaczala, 1982; Eccles, Alder & Meece, 1984; Frome & Eccles, 1998; Li & Adamson, 1995; Phillips, 1987). Although self-perceptions differ greatly, Gang & Guiyang (2000) found that there was no appreciable difference between male and female IQ levels. However, each gender had advantages in certain subject areas. Male students significantly outperformed females in areas of abstract thinking and spatial disciplines, whereas females excelled in language ability and in memory related activities.

Where gender is seen as a reported difference in the perceptions and achievement levels in specific subject areas, so too is it seen that as students increase in age, greater stereotyping of the genders and gender related subjects occurs. Weinrich-Haste (1981) reported that amongst 13-14 year old students related subjects like physic and chemistry as masculine subjects, while cookery, typing and English were feminine subjects. Showing that stereotyping of genders exists even with the students themselves. They believe that certain subjects are more suited towards a particular gender. Archer & Freedman (1989) reported similar findings, with engineering, physics, chemistry and mathematics as masculine and English and sociology as feminine. Archer & MacRae (1991) found that these stereotyping of school subjects by the genders were less pronounced in 10-11 year old students. Harter and Jackson (1992) found that females' scores on intrinsic motivation in mathematics and science dropped sharply between the fifth and sixth grade, whereas their intrinsic motivation in language arts was maintained or showed an increase. This is evidence also in Eccles & Midgley's studies (1989, 1990) that show that students' motivation steadily decrease from grade five onwards. Further research into this developmental decline in motivation as well as an insight into the teaching

practices and procedures to assist in the fostering of these is exposed later in this chapter

Again, the majority of research on gender differences, in both motivational orientation and academic achievement levels, has occurred on adolescent students subjects. The gap of literature on pre-adolescent students forms two of the major questions explored by this research study. The questions investigated motivational differences between the genders within the primary school context. Academic achievement level differences between the genders were also examined.

2.7. YOUNG CHILDREN AND MOTIVATION

Motivation is an important issue in today's education, especially as education deals with ensuring the best possible academic outcome of each student. According to a number of recent studies, children show a marked decline in their interest in academic topics by the middle years of their primary schooling (Eccles, Wigfield, Flanagan, Miller, Reuman, & Yee, 1989; Eccles, Wigfield, Harold, & Blumenfeld, 1993; Miller & Meece, 1997; Wigfield, Eccles, Yoon, Harold, Arbreun, Freedman-Doren & Blumenfeld, 1997). These findings are of a particular concern to educators because when students are uninterested in what they are learning at school, they are less likely to value the learning or engage and persist at tasks related to this learning (Pintrich & DeGroot, 1990; Wentzel, 1998).

As an infant, we are intrinsically motivated to learn (e.g., curiosity), especially to learn how to walk and talk. No extrinsic reward is offered (contingent on the task), and yet an infant will continue to be motivated to complete the task. White (1959, 1960) stated that mastery motive is when people deliberately seek out to master new skills, simply in order to experience the accomplishment and the pleasure derived from doing it. Young children invest countless hours and effort into learning how to walk, talk and interact with others. They routinely do this with no great deal of direct instruction or excessive extrinsic reinforcement. Berlyne (1960, 1966) agreed by describing curiosity as inherent to one's motivation used in order to make sense of the world around them. He also stated that it is intrinsically rewarding for young children (e.g., if you hide something from a child, it will usually produce a strong motive for the child to locate the hidden object).

However, as we grow and develop, we advance into an extrinsically motivated world. We work for rewards of money and bonuses, in jobs, which usually originate from an intrinsic motivated behaviour towards achieving in that particular field. As shown in studies (Deci & Ryan, 1985; Gottfried, 1985), once extrinsic rewards have been administered, initial intrinsic motivation depletes. Showing that (1) as we develop physiologically, socially and mentally, our natural intrinsic motivation turns, through environmental and social conditions to an orientation that is extrinsically motivated; and (2) this extrinsically orientated (or reward based) world/society that we live in, has a detrimental effect on our innate ability of being intrinsically motivated and ineffectively have an affect on our academic achievement levels. This is of concern, especially to educators who strive to have students achieving their full potential. Therefore, the theory of this study is that as we progress though life with developmental changes (both physiological and psychological), we digress from being intrinsically orientated and rely more on extrinsic motivation.

2.8. DEVELOPMENTAL CHANGE & MOTIVATION

Many problems seem to appear during the early years of adolescents (Eccles & Midgley, 1989). Therefore, it is important to look at the developmental period that puts these students at risk as they pass through their stages of schooling. It is also important to focus on how these motivational risks relate particularly to the academic life of early adolescents. As students are becoming less and less motivated each year that they progress through schooling, it suggest that there may be something wrong with the workings of our educational systems. It is worrying that our educational system, one that strives to assist students to reach their full potential, is not achieving this vital educational goal. For this reason, it is important to examine the developmental changes that occur through our educational system and how they affect a student's motivation and subsequently their academic achievement. Few studies have focused on the differences in the classroom environment across school year levels and its effect on motivation and academic achievement. Most attempts to examine the classroom environment's effect on motivation have only assessed a singular year level. However, in the few studies that have been conducted, there seems to be a consensus that as students progress through schooling a number of effects are produced.

Investigators have found intrinsic motivation in school to decrease steadily from at least third grade through high school (Anderman & Maehr, 1994; Harter, 1981; Lepper, Sethi, Dialdin, & Drake, 1997). Many believe this is due to the increasing use of external rewards from these grades up. "It has been repeatedly shown that if people are rewarded for performing a task they find intrinsically pleasurable, they do it less, not more" (Cameron & Pierce, 1996, p. 46), and the larger the incentive offered for engaging activities, the more negatively that activity is viewed by students (Freedman, Cunningham & Krismer, 1992). This illustrates that, rewards are associated with poorer performance on a range of tasks as compared with those of a no-reward condition (Jordon, 1986; Kohn, 1993; Weiner & Mander, 1978). It also shows that an extrinsic orientation towards learning produces a range of negative effects on learning outcomes (Boggiano, Shields, Barret, Kellam, Thimpson, Simons & Katz, 1992).

Motivational problems increase as students progress through schooling (Andermann & Maehr, 1994; Eccles & Midgley, 1990). Harter (1980, 1981) through empirical studies, concluded that intrinsic motivation seemed to decrease steadily as students progressed through grades three to eight. The findings from the few studies completed within this field have shown the same developmental decrease between these same year levels (Henerlong & Lepper 1997; Lepper, Drake & O'Donnell-Johnson, 1997; Sansone & Morgan, 1992). This is also confirmed by Lepper & Henderlong (2000) who found that as students move through their schooling, they progressively are less likely to describe themselves as intrinsically motivated. Not only is intrinsic motivation effected by progression through traditional schooling, but also other consequences can be seen. Simmons and Blyth (1987) found that as early adolescents advanced through the schooling year levels, they showed marked decline in their achievements. Eccles & Midgley (1989) reinforced this by stating that a student's orientation towards school achievement and confidence in their own ability to master schoolwork declines as they move from childhood to adolescence.

It can be concluded that as students develop and increase in age, a number of negative effects seem to take place on aspects of motivation and academic achievement, not to mention their self-competence levels. These general developmental declines established by some researchers include such motivational

constructs as: interest (Epstien & McPartland, 1976); intrinsic motivation (Harter, 1982); self-perceptions (Eccles, Midgley & Alder, 1984; Simmons, Blyth, Van Cleave & Bush, 1979); and confidence in own's abilities (Parsons, 1982; Parsons & Ruble, 1977). On top of these decreases in motivational interest, increases in negative motivational constructs such as: test anxiety (Hill, 1980); learned helplessness (Rholes, Blackwell, Jordan & Walters, 1980); a focus on self evaluation rather than task mastery (Nicholls, 1980); pessimistic beliefs about ability (Nicholls, 1978); and dropout rates (Harter, 1981; Rosenbaum, 1976) have also been established.

A vast number of researchers have documented the importance of students' perceptions of competence and intrinsic motivation on their functioning and achievement during schooling (Bandura, 1986, 1993; Deci & Ryan, 1992; Gottfried, 1990; Harter, 1990, 1992; Marsh & Craven, 1991; McCombs, 1988; Ryan, Connell & Grolnick, 1992). Many of the aforementioned researchers believe that though promoting self-competence, student motivation will benefit.

It is argued that young students possess an unrealistic optimism towards their intrinsic motivation and competence (Dweck, 1989; Flink, Boggiano, Main, Barrett & Katz, 1992; Harter, 1981, 1982; Paris & Byrnes, 1989; Stipek 1984, 1992). This is hypothesised to be a reason behind their high levels of intrinsic motivation and achievement, subsequently, having a positive effect on their motivation to learn. Lepper and Henderlong (2000) found that higher levels of intrinsic motivation were associated with higher grades while higher levels of extrinsic motivation were associated with lower classroom grades. Once again reconfirming current beliefs concerning motivation and its effect on academic achievement. It also highlights the importance on monitoring motivational orientation of students on their developmental progression through schooling, especially in relation to academic success, or the educational goals of having students reach their full potential. Therefore, it could be concluded that, there is a general decline in intrinsic motivation and an increase in extrinsic motivation.

Decline in motivation has been evident during the early years of adolescence (Eccles & Midgley, 1989). It was also discovered that motivational problems increased as students progressed through schooling (Anderman & Maehr, 1994; Eccles & Midgley, 1990; Harter, 1980, 1981). This made the researcher wonder that if this decline is

occurring as students progress through schooling, at what stage of development do the problems start to occur. This gap in the literature formulates part of the research question regarding motivational changes between different age groups within the primary school context. It also produced the need for an instrument to measure the motivational orientations of students at this pre-adolescent stage of development.

2.9. TEACHING PRACTICES AND PROCEDURES

It is important for both teachers and educational researchers to examine what it is that causes these differences as student develop, hence the importance of this research study. By examining what effects student motivation, educators can implement practices and procedures to better assist students in their journey through schooling. As noted earlier, the schooling system needs to examine what it is doing, or not doing to produce such negative results within education. It is believed that, "Mathematics [and Literacy] is something that should be available to all; success lies in the approaches taken to teaching and learning and is not simply something for which there is a predisposition within the individual learner" (Booker et al, 1997, p22). This is the view of many within education. It is the belief that we are life long learners and with that, teachers need to cater to the varying learning styles of students in different developmental periods.

Blos (1965) assumed that there was something about the developmental stage of early adolescents that led to a gradual increase in motivation problems with students. Some researchers account this decline in motivation due to pubertal developments that occur at this stage of a student's development (Blyth, Simmons & Carlton-Ford, 1983; Simmon & Blyth, 1987). However, some researchers believe that this increase in motivational problems can be focused on the pedagogical models that teachers follow. Four major findings have emerged from the studies within this field of development, motivation and academic achievement. These are related to concepts of different pedagogical teaching models of: (1) self-determination; (2) contextualization; (3) learning and performance goals; and (4) the use of external reward systems.

2.9.1. Self-Determination

Some reasons behind the decline in motivation and achievement, as discussed in Eccles & Midgley's (1989) empirical study, are based on changes that students undergo as they progress through the year levels. These include: a greater emphasis on teacher control and discipline; a less personal teacher-student relationship; and fewer opportunities for students to make their own choices. Motivational decline can also be associated with changes in practices such as whole-class task organisation, ability groupings and public evaluation of work, which may encourage social comparison (Eccles & Midgley, 1989). All of these relate to a student's self-determination and their ability to have responsibility and control over their own choices within educational settings.

Some researchers argue that just as an adolescent student begins to thirst for increased autonomy, the school systems increase their focus on discipline, which provides fewer opportunities for students to make their own decisions (Eccles & Midgley, 1989; Eccles, Midgley, Buchanan, Reuman, Flanagan & MacIver, 1993). As mentioned earlier, Deci and Ryan (1985) noted the importance of a student's self-determination to produce higher academic achievement in their 'autonomous academic motivation' theoretical perspectives.

As self-determination is cited as an important role in increasing a student's intrinsic motivation to achieve academically, researchers have argued that teachers should implement this into their teaching strategies. It has been suggested that one way to increase a student's self-determination is to provide them with choices (Lepper & Henderlong, 2000). The motivational and educational benefits of providing students with choices, has been well documented by researchers (Cordova & Lepper, 1996; Iyengar & Lepper, 1999; Langer, 1989; Nuttin, 1973; Perimutter & Monty, 1977; Zuckerman, Porac, Lathin, Smith & Deci, 1978). Lepper and colleagues (1996, 1999) showed that by allowing students make choices, their learning and intrinsic motivation towards the materials in which they were allowed increased.

It has been suggested that teachers should focus on increasing a student's sense of autonomy and self-determination within the classroom (deCharms, 1968, 1984; Deci, 1981; Deci & Ryan, 1985; Nuttin, 1973; Ryan & Deci, 2000), especially as students progress through adolescence and their need for autonomy increases (Eccles,

Midgley, Wigfield, Buchanan, Reuman, Flanagan & Maclver, 1993). It was found that teachers who allowed students to assist in the decision making process of creating class rules enhance their feelings of autonomy (Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan & Maclver, 1993). DeCharms (1984) found that teachers who adopted a more autonomy style of teaching had students who showed greater academic achievement, more adaptive risk taking skills, and fewer absences compared to students within a controlled style classroom.

2.9.2. Contextualisation

Another debated reason for the decline in student achievement as they progress through their schooling is based on the theory of 'stage-environment fit' (Eccles, Midgley & Alder, 1984; Eccles & Midgley, 1989). It stated that schools were not providing a developmentally appropriate educational environment for early adolescents. Eccles and Midgley (1989) argued that, "the fit between the needs and motivational orientation of the individuals on the one hand, and the demands and characteristics of their social environment on the other, is assumed to influence motivation." If the social environment does not fit the psychological needs of the student, then they are unlikely to perform well within that environment. Another theory based on similar ideas is that of the 'person-environment fit' (Hunt, 1975; Lewin, 1935). It suggests that when a student is in an environment that does not fit well to their needs, then this will consequently lead to negative motivational consequences.

Higgins and Parson (1983) agreed by arguing that the developmental decline in a student's motivation can be attributed to the systematic changes in the social environments and social cultures that are provided to students as they grow up. Factors that might influence the deterioration in academic motivation as students progress through schooling could include developmentally inappropriate changes in classroom organisation, instructional and climate variables, including aspects of task structure and complexity, grouping practices, evaluations techniques, motivational strategies, locus of responsibility for learning, and the quality of teacher-student relationships (Eccles & Midgley, 1989). This theory seems to be closely related to the humanistic approach to motivation where motivations are influenced by a student's needs.

It has been suggested that for students to be life long learners, learning needs to take place in real world contexts. Current trends see teachers designing assessment pieces that contain a current context within today's society for the students. Lepper & Henderlong (2000) suggested that in the early years it appeared that teachers were more likely to see their task as involving the students by making the material more intrinsically interesting and by showing them how what they are learning is relevant to their own lives. It is also suggested that in later grades, teachers presume that students are already motivated to achieve. As there is a relationship between the quality of student-teacher relationships and a student's academic motivation (Fraser & Fisher, 1982; Moos, 1979; Trickett & Moos, 1974), it is believed that negative consequences on a student's interest can be expected from less supportive classrooms (Eccles & Midgley, 1989). As illustrated above, classrooms and teachers appear to become less supportive as students progress through schooling, having a negative effect on their motivation. Other factors attributed to the decline in students' intrinsic motivation is that teachers working with older students will often dismiss attempts to make tasks more interesting or more relevant for students, as they see it as counterproductive 'sugar-coating' (Lepper & Henderlong, 2000). However, with no real world context for students it is almost certain that, interest levels will decrease.

Another approach is to promote a student's sense of curiosity by placing learning in meaningful, real life contexts. This can be done, by building on students' prior knowledge and interests (Jacobs & Eccles, 2000). This personalising of education has been seen as a benefit by other researchers (Lepper & Henderlong, 2000; Cordova & Lepper, 1996). Students, who are presented with more personalised material, learn more effectively and therefore have a greater interest in future tasks presented to them within that context (Anand & Ross, 1987; Ross, 1983). If a student has greater interest in their learning areas, then they are more likely to be intrinsically motivated towards that subject. Researchers suggest that a way of personalising the material is to have 'project-based' or 'integrated' curricula (Bruner, 1962, 1996; Edwards, Gandini & Foreman, 1993; Katz & Chard, 1989). This approach involves meaningful and interesting contexts being embedded in the teaching style of classroom. When academic skills are taken away from real world context, it causes significant loss to motivation (Condry & Chambers, 1978; Cordova & Lepper, 1996).

2.9.3. Learning & Performance Goals

Another reason for developmental decrease in intrinsic motivation is based on the students' classroom goals. Children adopt one of two competing goals in achievement situations. These are: (1) learning goals; or (2) performance goals. Learning goals focus on increasing knowledge and task mastery, while performance goals focuses on gaining positive judgements on competence while avoiding negative ones (Ames, 1992; Dweck, 1986; Elliot & Dweck, 1988; Nicholls, 1984).

Learning goals have been seen to produce a number of responses indicative of intrinsic motivation (Lepper & Henderlong, 2000). These include such responses as cognitive engagement (Meece, Blumenfeld & Hoyle, 1988); challenge seeking (Ames & Archer, 1988; Elliott & Dweck, 1988); and persistence even when faced with failure (Dweck & Leggett, 1988; Elliot & Dweck, 1988). Performance goals, however, seem to be associated with a negative affect on motivation, with focuses on such factors as ability over effort (Ames & Archer, 1988); decreased cognitive engagement (Meece, Blumenfeld & Hoyle, 1988); challenge avoidance and learned helplessness (Dweck, 1986; Dweck & Leggett, 1988; Elliott & Dweck, 1988).

Learning goals have a positive consequence on motivation and inevitably academic achievement (Ames, 1992; Dweck, 1986; Elliott & Dweck, 1988; Meece, Blumenfeld & Hoyle, 1988; Molden & Dweck, 2000; Linnenbrink & Pintrich, 2000). Just as some researchers have found that different motivational types coexists, so too do learning goals and performance goals (Harackiewicz, Barron, Carter, Lehto & Elliot, 1997; Meece, Blumenfeld & Hoyle, 1988). A student may perform a task, initially, to learn more and master a subject, while also striving to outperform or demonstrate competence to others (Lepper & Henderlong, 2000). Just like motivational types, students can be performing a task in order to achieve a number of different goals.

Midgley, Anderman & Hicks (1995) found that the teacher in higher year levels placed greater emphasis on performance goals compared to the early year's teacher. It was also found that these same teachers used instructional practices that promoted performance-goal orientations. Similar research has found an increasing emphasis placed on competitive activities as students progress through their schooling (Aronson, Blaney, Stephan, Sikes & Snapp, 1978; Kohn, 1988; Nicholls, 1989), taking the focus from learning goals to more performance goal orientation.

Anderman & Midgley (1997) found that students become less learning-goal orientated and perceived the school culture to be more performance-goal orientated as they progressed through their schooling. Research has also shown an increase in anxiety (Eccles & Midgley, 1989) and learned helplessness (Rholes, Blackwell, Jordan & Walters, 1980) as students progress through schooling, thereby producing a negative affect on learning-goals. Much research has shown how learning-goals are positively related to intrinsic motivation (Dweck, 1986; Harackiewicz, Barron, Carter, Lehto & Elliot, 1997; Harackiewicz, Barron & Elliott, 1998; Henderlong & Lepper, 1997; Heyman & Dweck, 1992; Sansone & Harackiewicz, 1996).

Teachers are encouraged to have teaching pedagogies that promote students to have learning goals. Student in learning goal situations are told that what they learn is helpful to them in school and that mistakes are a necessary part of the whole learning process. Teachers should explicitly emphasize the natural process of learning through one's mistakes rather than through testing and evaluating students (Lampert, 1986; Papert, 1980, 1993).

Another strategy suggested, to help promote learning goals within students, is to improve the teaching delivery situations in schools. One on one ratio compared to entire class tuition sees students working at a level of challenge that is appropriate to the current cognitive and motivational needs of each student (Lepper, Woolverton, Mumme & Gurtner, 1993; Lepper, Drake & O'Donnell-Johnson, 1997). Obviously monetary situations do not allow this to occur economically within education institutions; however, other alternatives can be implemented.

Cross-age-tutoring programs where an older student assists a younger student in their studies, provides benefits for both students involved. The older student learns to teach, sharpen and reflect on their own skills whilst providing tutoring to help young students improve their skills. This process has been shown to increase motivation and performance in a wide variety of educational settings to both participants (Foster-Harrison, 1997; Goodlad & Hirst, 1990). Another teaching strategy is to have students working in co-operative group work situations. In these situations, students have demonstrated superior problem solving skills compared to students who work independently or in competitive groups (Johnson, Skon & Johnson, 1980; Qin, Johnson & Johnson, 1995; Slavin, 1996). Group structures promote certain goal

orientations and as mentioned previously, these then have varying effects of a student's motivation and academic achievement.

2.9.4. Promotions of Extrinsic Motivation

Lepper and Henderlong (2000) suggest that a possible reason motivational problems exist as students progress through school is that, "there is an increasing emphasis on external contingencies, such as performing well to receive good grades, achieving to please one's parents, and memorizing materials merely to do well on examinations" (p 278). Winnet and Winkler (1972) found that the goals of token economies and related contingency programs in schools revealed that the teacher's effort was devoted to making the students be 'quiet' or 'still'. Teachers were more likely to use external rewards as part of behaviour management strategies rather than on increasing students' academic achievement. They also suggest that exposure to these powerful extrinsic forces contribute to the observed decreases in intrinsic motivation. Some researchers argue that these behaviour management strategies increase as a student progresses through school (Condry, 1978; Kohn, 1988, 1993).

Ericsson, Krampe & Tesch-Roemer (1993) explained that the use of extrinsic incentives might not be entirely inappropriate to use within classroom situations when wanting to encourage the level of task engagement needed to initiate learning. By making extrinsic rewards contingent on individual mastery of material, rather than on a comparative performance standard, this will permit students to experience a sense of competency in their schoolwork (Bandura & Schunk, 1981). It is important for teachers to rely less on non-descriptive rewards, and more on strategies that allow them to give students more informational feedback related to their strengths and weaknesses (Lepper & Henderlong, 2000). Much research has concluded that rewards that provide positive information regarding a student's competence will enhance motivation, as long as they are not seen by students as controlling behaviour (Deci, 1975; Deci & Ryan, 1980; 1985; Lepper, 1981).

An inventive approach to rewarding students is to use learning activities themselves as the reward (Lepper & Henderlong, 2000). Taffel & O'Leary (1976) discovered that students who were rewarded for completing routine mathematics problems with special mathematics activities showed an increased motivation in terms of persistence and task completion rate. Taffel & O'Leary (1976) suggested that

teachers could eliminate the potential negative effects of extrinsic motivation by rewarding student's low-interest activities with higher interest academic activities.

Some researchers argue that intrinsic and extrinsic motivation can coexist and that they do not exclusively work as opposing motivation orientations (Lepper, Sethi, Dialdin & Drake, 1997; Henderlong & Lepper, 1997, 2000). Some researchers employed the idea that success in school could benefit from simultaneously introducing both intrinsic and extrinsic sources of motivation (Heyman & Dweck, 1992; Jackson, 1968; Lepper, 1983; Nisan, 1992). They suggest that if teachers are too preoccupied with intrinsic motivation, students are more likely to ignore areas of the curriculum that does not appeal to their interests. "Our challenge as educators is therefore, to make use of extrinsic rewards in a manner that supports rather than undermines students' intrinsic interest" (Lepper & Henderlong, 2000, p 295).

Teachers have to move beyond the idea that intrinsic and extrinsic motivation act in conflict to each other. Researchers need to fully consider the idea that maybe in real-life contexts these motivation orientations can operate both individually as well as coexisting. However, teachers need to focus on the ways in which rewards are used within the classroom and the messages that these rewards might convey in these situations. "In both cases, the larger message for researchers is the same...we should aim to keep our analyses 'as simple as possible-but no simpler'" (Lepper & Henderlong, 2000, p 298).

2.9.5. Summary

The aforementioned interventions are available to teachers to help alleviate the problem of the decrease in students' motivation as they progress through schooling. Such approaches as promoting self-determination in students (choice), placing learning situations in meaningful and real-life contexts, emphasising learning goals and seeking appropriate classroom grouping structures will benefit teachers in an attempt to begin to address this current problem noted within our educational system.

It has been well documented that intrinsic motivation benefits academic achievement, however it has also been seen that extrinsic motivation can be beneficial to academic achievement, depending on the specifics of each circumstance. Teaching practice is the most influential aspect in determining a student's motivational orientations.

Appropriate teaching pedagogies and practices such as allowing students to be self-determinate; contextualising learning; promoting learning goals; as well as using aspects of extrinsic motivation, could all lead to students developing high intrinsic motivation levels and subsequently achieving high academic success. Due to this, future research would benefit from more studies focussing on the impact on various classroom and school environment characteristics on motivation.