

Motivation Through the Lens of Metacognition

Motivation is certainly a relevant topic of discussion in schools today. Considered by some to be the key to learning, many teachers have their own tricks and tips to keep students motivated and engaged in the material. There is a wealth of knowledge available about theories of motivation and techniques to help students who are stubbornly unmotivated. This paper focuses on motivation through the lens of metacognition. By focusing on the metacognitive abilities of third graders in specific, it seeks to show a variety of ways in which metacognition affects motivation. With this in mind, I suggest that instructors explicitly teach metacognitive skills in order to increase motivation in their third grade students.

Metacognition is a concept that is most associated with developmental psychologist John Flavell. He explained that “metacognition refers to one's knowledge concerning one's own cognitive processes or anything related to them” (Flavell, 1976, p 232). In other words metacognition deals with thinking about thinking and learning. As students think about what they know and don't know, consider strategies to learn more effectively, and make predictions about their performance, they are enabled to become more active participants in their learning rather than merely passive recipients of instruction (Paris & Winograd, 1990). Consistent with constructivist assertions that this kind of active creation of learning increases achievement, various studies have suggested that increased metacognition is connected to higher academic performance in almost all ability levels (Cross & Paris, 1988). There are various components of metacognition. Desoete and Roeyers (2001) consolidate a collection of writings on metacognitive thought and present three areas of metacognition: metacognitive knowledge, metacognitive skills, and metacognitive beliefs. Metacognitive knowledge refers to a deeper

understanding of cognitive processes and products. Metacognitive skills include the ability to predict, plan, evaluate and monitor knowledge effectively and accurately. Finally, metacognitive beliefs are broader general ideas people have about their own and others' metacognitive processes, including concepts such as attribution, motivation, and self-esteem. Another model of classification was suggested by Flavell himself. It involved three parts: knowledge-of-person (knowing about personal preferences and strengths), knowledge-of-task (understanding the nature of various tasks and what kinds of processing demands they place on the learner), and knowledge-of-strategies (identification and use of various strategies and appropriate times to use them) (Flavell, 1987).

There has been considerable research on the topic since Flavell proposed the idea, including studies on the development of metacognition as students grow and become more mature learners. For the most part, the research has shown that metacognitive ability increases as students get older. Part of metacognition is being able to accurately use feedback from past performances to predict future success. While younger students struggle with this process and consistently overestimate their ease of learning (Schnieder, 2008), by the time students reach third grade their self-evaluative skills have been fine tuned and their assessments of ability levels are consistent with that of their teachers (Paris & Winograd, 1990). A study done by Wellman (1977) found that third graders were “extremely accurate” compared to their younger peers at monitoring their memory by predicting which items from a previously learned list they could remember and which they did not know. However, there is still room for growth. While third graders are more accurate at judging their learning than kindergarteners, older students are even better (Schnieder, 2008). Also, the connection between increased awareness and better

performance is not as pronounced in third grade as it is in older grades (Cross & Paris, 1988).

This suggests that while students may be accurate in their self-evaluations and are aware of their thinking processes, they don't always apply this knowledge in ways that improve their academic performance.

There are also specific age trends related to motivation in the classroom. A review of various studies on achievement motivation found that as a general rule, motivation steadily decreases as students age increases, up until mid high school. This steady decline is punctuated by drastic declines during transition periods, most significantly as students move to middle school (Eccles, Midgley & Fadler, 1984). Students in third grade are therefore fairly high on the motivational scale. In fact, when creating studies to show how motivation changes as students age, many researchers use third grade as the youngest end of the grade range. There are many developmental factors that contribute to this level of motivation in third grade. It seems that intrinsic motivation is relatively well developed by the time students are nine years old (third/fourth grade) (Snowman, McCowen, & Biehler, 2009). This means that students can be internally motivated to complete tasks rather than have pressure applied from an outside source. Another factor in motivation is third grader's developing conception of ability. Ideas about ability are thoughtfully created by internalizing feedback and past performances. While students in first and second grade can use negative feedback to adjust their behavior while still maintaining a positive attitude, by the time students reach fourth and fifth grade, negative feedback can have a debilitating effect on students self-perception (Eccles et al. 1984). Third graders are in the middle of these two reactions, which means that depending on their maturation level, various students could internalize the same critique in drastically different ways. The

decrease of expectations based on these critiques is coupled with an emerging perception that ability is a fixed capacity that cannot change. This tends to decrease motivation, especially among lower-achieving students who feel like they are helpless to improve their school performance.

With this information in mind about metacognition and motivation in third graders, I propose that they are interrelated. One connecting factor between motivation and metacognition is the role of emotion in both of these concepts. Self-evaluations, a key component of the monitoring and predicting process of metacognition, are inherently laden with emotions. We know that third graders are starting to compare themselves with their peers and incorporate successes and failures into their concept of their own ability (Eccles et al. 1984). When they perform this kind of self evaluation, some students may feel proud of their accomplishments and confident about their abilities. They may notice that they read faster than their peers or get mostly positive feedback on assignments. Other students may feel ashamed and frustrated – as they perform self-evaluations of their abilities in comparison to their peers, they may realize that they struggle more on tasks. In any case, this kind of self-reflection and evaluation is far from dispassionate. These feelings are related to students' motivation as well. An article comparing theories of affect from a variety of authors found that many of the authors consider motivation and affect integrated to the point of being inseparable (Linnenbrink, 2006). It seems obvious that students who are confident are also highly motivated to attempt new and challenging tasks, whereas students who feel frustrated by school are unmotivated to attempt new tasks because they don't want to risk failure. Therefore, the positive or negative emotions stirred up by the metacognitive self evaluations have a direct affect on students' motivation.

The connection between metacognition and motivation goes beyond just the emotions involved in both. Metacognition also affects motivation by helping students to understand their individual struggles in context and offering solutions and techniques to help them improve. Low achieving students often feel hopeless about schoolwork. They may have incorporated past failures into their self-concept and generalize that they are just not smart enough for school. This kind of defeated attitude prevents students from becoming motivated. However, knowledge-of-person variables, another one of the three categories of metacognition suggested by Flavell (1987), can help students pinpoint their struggles while also identifying areas of strength. As Paris and Winograd (1990) point out in their article *Promoting Metacognition and Motivation of Exceptional Children*, “low-achieving students gain self-efficacy as they learn to understand their own frustrations and to understand that others share those feelings too.” Therefore, it would be beneficial for teachers to lead students through metacognitive exercises designed to help them identify their personal areas of strength and weakness, and then have students share their conclusions. By observing that every student in the class struggles with some area and has some area of strength, lower-achieving students come to realize that they are not alone. It would also be helpful for students who have generalized specific failures into a global negative affect, to pinpoint their areas of frustration in order to appropriately manage their emotions and find solutions. This again ties directly to motivation. As students use metacognition to identify and find strategies to improve their areas of weakness, they can find hope and become motivated.

When metacognition takes the form of analyzing the most effective learning strategies for an individual, it encourages perceptions of ability that lead to increased motivation. One of the categories that Flavell (1987) suggests is knowledge-of-strategies. This refers to thinking about

what learning and comprehension strategies are most effective in particular situations and for a particular learner. For example, some students study best with note cards, others benefit from being able to discuss the concepts with a peer and teach each other, still other students may know that they retain the textbook information better if they skim the reading first. These are all learning strategies that have the possibility to increase student learning and comprehension. However, effective metacognition requires students to not just identify strategies, but also analyze them and choose which strategy best fits their individual needs and the task at hand. Students should be encouraged to try many strategies and make decisions about which ones work best for them and which are less effective. This kind of thinking requires students to acknowledge that ability to learn is not a fixed entity, but rather something that can be changed depending on the strategies implemented. This ties into the entity vs. incremental views on intelligence that directly affects motivation. Students who believe that intelligence and ability is a fixed entity feel that intelligence cannot be changed and therefore do not expend extra effort to challenge themselves. They want to appear smart and so they choose performance goals that allow them to succeed rather than attempt more risky tasks that might help them develop as learners. These students are less motivated than students with an incremental view on intelligence who believe that ability is something that can be improved through effort. These students often have mastery goals because they feel like challenge is a natural, even essential, part of the learning process. This results in higher motivation for new tasks (Snowman et al. 2009). Any discussion of learning strategies assumes that there are ways for ability to be developed, and therefore uses an incremental rather than entity view on ability. Therefore, discussion on knowledge-of-strategies metacognition promotes views of ability that increase motivation for challenging tasks.

Still, one of the best motivators for students is actually experiencing success. By third grade, students have started to incorporate success or failure on a task into their self-image. Research shows that students have lower expectations for success following failure on a task (Eccels et al, 1984). Likewise, success breeds higher motivation and a better self-concept. Studies have shown that not only do high achieving students have more advanced metacognitive abilities, but also that lower- achieving students who are explicitly taught metacognitive strategies perform better (Livingston, 1997). Therefore, by explicitly teaching lower achieving students metacognitive strategies and skills we can increase their chances at experiencing meaningful success. Once students have experienced success they may lose their hopeless attitude toward schoolwork and have higher expectations of success in the future. According to the expectancy X value theory, an increase in positive expectations for a given task increases motivation for that task (Snowman et al, 2009). This interaction between metacognition and motivation also fits into the enablement/empowerment model suggested by Paris and Winograd (1990). They propose that metacognition enables students to be successful. When using metacognitive skills, students look at their individual strengths and weaknesses, examine variables that make tasks more or less difficult for them, and choose strategies that are effective. This process helps students on the entire achievement spectrum to manage their own learning and enables them to be successful. Motivation complements this enablement by empowering students to use their newly found knowledge about themselves and about learning strategies to be inquisitive and persistent in their studies. The two work hand in hand to maximize student learning and increase success rates in low-achieving students.

In conclusion, teachers of third graders can use this knowledge of the connection between

metacognition and motivation to help their students be more motivated in the classroom and achieve more. Because third grade students are able to use metacognitive skills such as self-evaluation at a relatively accurate level, it is not too early to address metacognition in the classroom. In fact, because many students don't use these skills unless prompted and because the correlation between awareness and performance is not high, it not only can be used, it should be explicitly taught in order to help students use these skills more effectively. It is also important because third grade is an opportunity to reach students with these important skills before their motivation hits a sharp decline in the older grades. This paper outlines four ways in which metacognition and motivation interact. One way they are connected is through emotions. Metacognitive self-evaluations stir up powerful emotions that directly affect students' motivation. Metacognition also increases motivation by helping students to understand their personal strengths and weaknesses. This helps them understand that challenge is a part of learning, find strategies to improve their learning, and avoid generalizing negative feelings. Also, learning about metacognitive strategies promotes views of ability that increase motivation. Finally, experiencing success after using metacognitive skills will increase student's expectations and motivation for more success. With these connections in mind, I propose that metacognition can and should be used in a third grade classroom to help students become motivated and academically successful.

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