

**ORIGINAL ARTICLE**

# Effect of Self-Monitoring Skill Training on Learning Achievement of Students with Special Needs in Yobe State Special Education School Goniri

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## Ethical Statement

Consent forms were distributed, filled and sign by the participants before the commencement of the experiment.

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## Conflict of Interest

No conflict of interest is present in the conduction or the reporting of this study.

## ABSTRACT

This study examined the effect of self-monitoring skill training on learning achievement of students with special needs in Yobe state special education school Goniri. The study has two objectives with corresponding two research hypotheses. The study employed the use of quasi-experimental research design. The population of the study consists of twenty five (25) students with special needs. The students received training on self-monitoring skill training and the findings revealed that there was significant effect of self-monitoring skill training on learning achievement of students with special needs and there was no significant gender difference in self-monitoring skill training of students with special needs in Yobe state special education school Goniri. Based on the findings of the study, it is recommended that school counsellors should encourage and trained students with special needs on the effective usage of self-monitoring skill training. This will make the students to adopt effective learning skills toward enhancing their learning achievement and government should endeavour to provide enabling environment for the students with special needs. This will help in enhancing the achievement motivation of the students and perpetually improve students learning achievement in the school.

**Keywords:** Self-Monitoring Skill, Learning Achievement, Special needs, Gender.

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## INTRODUCTION

Self-monitoring skill training is the process of teaching students to create objectives, track their behavior in relation to those goals (both occurring and non-occurring), and then be motivated to act in ways that will help them reach those goals. Observing and documenting are steps in the two-stage process of self-monitoring. The student must decide whether the target behavior took place. The learner then self-records a characteristic of the goal behavior. (Mace et al., 2001). The learner can either record the frequency of a goal behavior that should be increased (such as time on task) or decreased (such as getting out of one's seat). Then, the student and teacher decide on an acceptable number of instances and provide reinforcement until they reach the target number.

Self-monitoring goes beyond simply noting a behavior and includes performance assessment. When students engage in self-monitoring, they evaluate their performance in relation to a predetermined standard (such as completing 10 word problems with at least 90% accuracy). The criteria might be decided upon by the instructor, the students, or jointly. If the student passes the requirements, he or she will then receive some kind of reward (such as a brief break or a ticket for supporting positive behavior). For instance, a student may check an assignment and assess its name, date, and completeness before determining whether the work was satisfactory. Self-monitoring and self-mentoring are similar in that both include having students evaluate their own actions and keep a performance log (DuPaul et al., 1997).

Self-monitoring is a self-management procedure whereby a person systematically observes his or her own behavior and then records the occurrence or non-occurrence of the target behavior (Ganz, 2008). It can include an evaluation component where the student actively obtains feedback and records progress towards a standard (Cooper et al., 2007). The procedures for self-monitoring become the most effective when they are simple, efficient and acceptable to the student, minimally obtrusive or laborious and relevant to the student's needs and goals. Self-monitoring can be a valuable component of an intervention package that might also include consequence-based contingencies such as reinforcement. Self-monitoring is important as a student-directed strategy that can promote independence, motivation, engagement, self-reliance, and self-determination to increase learning.

Self-monitoring is practical since it encourages more self-regulation and less teacher directed support for the behaviors that interfere with learning. A potential classroom benefit of using a self-monitoring procedure is that teachers can spend more time on instruction and less time managing students' off-task and inappropriate behavior (Ganz & Sigafoos, 2005). Self-monitoring interventions have been used in a variety of settings including resource, inclusion and general education classrooms for students with and without disabilities (Hughes & Boyle, 1991; Hughes et al., 2002) and have shown positive gains for students with a wide variety of disabilities, such as learning disabilities, speech and language impairments, mild-to-moderate intellectual disabilities, emotional and/or behavioral disorders and attention-deficit



hyperactivity disorder (ADHD) (Reid et al., 2005; Webber et al., 1993).

In addition, self-monitoring has been studied across a variety of diverse behaviors. For instance, it has been shown to be an effective intervention to address a wide range of adaptive behavioral deficits including distractibility, impulsivity, non-compliance and aggression (Levendoski & Cartledge, 2000), as well as for organizational and academic problems with classroom preparedness (Gureasko-Moore et al., 2007), engagement, task completion and academic performance (Rock, 2005; Rock & Thead, 2007).

Moreover, O'Malley and Chamot (1990) define self-monitoring as checking one's comprehension during listening or reading or checking the accuracy and/or appropriateness of one's oral or written production while it is taking place and contrast this with self-evaluation, which is checking the gains of one's own language learning against a standard after the learning has been completed. Wenden (1991) offers similar definitions that differentiate self-monitoring and self-evaluation based on the time elapsed between production and assessment. This period of time, however, does not change the nature of the evaluation process. Evaluation occurs both during and after learning. Metacognitive trainings are considered a unitary construct referred to as self-monitoring and defined as conscious observation and evaluation, which is usually recorded, of one's own performance or behavior on a learning task. The proposition that self-monitoring enhances learning has been widely discussed in general education as well as science education. Self-monitoring has been investigated in relation to many aspects of learning, with behavior modification receiving the most attention.

Self-monitoring refers to a complex of acquisition of the intentional skills involved in controlling, directing and planning one's cognitions, emotions, and behaviors (Schunk & Zimmerman, 1998). In investigations beyond the classroom, scientists from a broad range of perspectives have converged on the centrality of successful self-monitoring learning as a marker of adaptive development. Findings demonstrate, at an emerging level of specificity, how biological and neurological processes interact with psychological and experiential factors to determine how children monitor themselves in each setting created. Biological factors such as temperament, or an individual's predisposed reactivity and regulation of reactions to stimuli, underpin these additive and interactive processes. Self-monitoring learning also develops through early experiences and social interactions, which caregivers and other significant individuals' structure and shape children's trajectories.

Multiple underlying cognitive skills are involved in overt behavioral monitoring. This complex of cognitive processes involves processing and manipulating stimuli (working memory); inhibiting automatic reactions to stimuli while initiating unnatural yet adaptive reactions (inhibitory control); and managing one's attention to appropriate stimuli, including resisting distraction and shifting tasks when necessary (attentional or cognitive flexibility). Evidence has linked these individual cognitive components to achievement prior to formal schooling (Blair & Razza, 2007; McClelland et al.,

2007) and throughout elementary school (McClelland et al., 2006). For example, the Early Child Care Research Network found that better attention on a tedious computer task predicted better reading, and Mathematics achievement in 54-month-old children. In another study, kindergarteners with better attention scored significantly higher than those with poorer attention skills on achievement tests (Lange, 2003).

A third study of working memory showed that children who could keep better track of the number of dots on multiple cards had higher Mathematics achievement. Blair and Razza (2007) found that preschool levels of inhibitory control predicted kindergarten reading and Mathematics achievement. These studies demonstrate that performing well on tasks requiring focused, vigilant attention; remembering multiple pieces of information; and inhibiting automatic actions to activate non-automatic responses predict higher levels of early achievement. Self-monitoring learning skills require that students' goals be realistic challenging but attainable. With realistic goals, students can monitor progress and decide on a different task approach if their present one is ineffective. Self-monitoring is increased as students note progress, attain goals, and set new challenges.

Goals set too high or too low do not enhance self-monitoring learning or achievement beliefs. Students perceive little progress toward lofty goals, which lowers self-efficacy and leads them to work halfheartedly and give up readily when they encounter difficulty. Easy goals do not produce high self-efficacy because they do not inform students about what they are capable of.. In the context of individualized, Mathematics instructional program, Akinsola and Animasahun (2007) found that self-monitoring of progress enhances time spent working on materials and number of problems solved, whereas setting session goals offers no advantages.

Children may have had difficulty setting realistic goals because problem difficulty varied within and between units. Goal setting is appropriate only when task difficulty remains relatively constant. There is rich, historical literature addressing the factors that influence goal setting and self-monitoring learning training. (Lewin, Dembo, Festinger, & Sears, 1944, as cited in Lepper et al. 2003) explored the construct level of aspiration, or goal setting behavior within a range of difficulty. Various factors influenced the level of aspiration: prior successes and failures, group standards, upper and lower goal limits, and expectations for success and failure. Self-monitoring learning training also focused on goal setting; Charms (2006) worked with teachers, who trained students to take personal responsibility for their learning outcomes. Self-monitoring learning was an important training component; in one activity, students chose easy, moderate, or difficult words to learn how to spell. Self-monitored learners proactively generate and implement strategic plans to attain self-set goals. They also frequently monitor and evaluate their own goal progress and seek feedback to be facilitated the strategic adjustments to further optimize their achievement and adaptive functioning (Zimmerman, 2000). Research has shown that when individuals maintain a strong sense of self-efficacy and possess the requisite skills to effectively monitor their



lives, they have a much greater chance of reaching their academic potential.

Pintrich (2000) and Zimmerman (2008) study revealed that self- monitoring learning is controlled by an interconnected framework of factors that determine its development and sustainability and learning readiness is a critical factor in this framework. Researchers have revealed that high achievers reported more use of self-monitoring skill training than lower achieving students (Pintrich & DeGroot, 1994; VanZile-Tamsen & Livingston, 1999), and the assumptions of self-monitoring offer optimistic implications for teaching and learning. Self-monitoring is neither a measure of mental intelligence that is unchangeable after a certain point in life nor a personal characteristic that is genetically based or formed early in life. Students learn self-monitoring through experience and self-reflection (Pintrich, 1995). Studies also showed that self-monitoring skill training enhance permanent learning readiness and success (Cooper, 2008; Georghiades, 2004), improve questioning skills (Kramarski & Mevarech, 2008), develop social skills and success when used cooperatively, enhance cognitive regulation, help time management (Rosetta, 2000), and improve thinking and problem-solving skills of learners. Similarly, (Desoete, 2008; Shamir et al., 2009) found that self-monitoring skill training had positive effects on academic learning readiness and problem-solving skills of learners. Balcı (2007), Demir (2009), Muraina (2015) also found that self-monitoring skill training enhanced Mathematics learning readiness and problem-solving skills of learners. Acquisition of learning self-monitoring leads learners to flexible thinking, planned study, and more effective problem solving skills. It is important to note that theorists agree that the most effective learners are those who can regulate their own learning (Butler & Winne, 1995).

On a gender study as revealed by Hyde (2004), and Hyde and Mezulis (2001) believed that the cognitive differences between females and males have been exaggerated overtime but does not influence learning readiness among students. For example, Hyde (2004) pointed out that there was considerable overlap in the distribution of females and males scores on Mathematics readiness and visuospatial tasks. In a personal study by the U.S. Department of Education (2000), the boys did slightly better than the girls at Mathematics and science learning readiness. Overall, though, the girls were far superior students, earning better grades and were significantly better than the boys in reading. In another national study, females had higher reading achievement and better writing skills than male with the gap widening as students progressed through school (Coley, 2001). A probable reason for inequality in sex selection in some sex dominated subjects could be adduced to mere cultural and social orientation from parents and the entire society. However, the researcher is of the opinion that this idea can be readjusted for a better socioeconomic society where all individuals are given equal opportunity to perform all tasks irrespective of their sex. Campbell et al. (1999) argue along the same line, assert that sex is not a certain predictor of academic skills, interest or even emotional characteristics. By implication, gender has no effects on Mathematics learning readiness of the students and being male or female does not

influence the level of students' Mathematics learning readiness in the school system.

## Statement of the Problem

Students that perform poorly in school avoid a wide variety of fields of study. As the world's reliance on technology continues to grow, so also has the demand for student with special needs who can think in the abstract terms are needed across different field and level of education in the country. The significance of learning achievement in producing versatile and resourceful graduates that are needed for economic development cannot be over-emphasized.

It is disappointing that studies and statistics from national examination bodies, like the National Examination Council (NECO), West African Examinations Council (WAEC), and the National Board for Technical and Business Education (NABTEB), among others, have consistently reported poor performance among students with special needs. Concern among the stakeholders is also raised by the fact that the most of students with special needs frequently fear and exhibit a negative attitude toward the trends of their performance in exams. Poor learning preparedness in schools has grown alarmingly severe and been a major source of worry for many years. Finding more efficient skill development programs and therapeutic interventions is therefore necessary in order to increase the learning readiness and progress of students with special needs in schools. Also, there has been very little research done in Nigeria in this area. This study, therefore, concentrates on the effect of self-monitoring skill training on learning achievement of students with special need in Yobe state special education school Goniri, temporary site Damagum

## Objectives of the Study

1. determine the effect of self-monitoring skill training on learning achievement of students with special need in Yobe state special education school Goniri
2. investigate the gender difference in the effect of self-monitoring skill training on learning achievement of students with special need in Yobe state special education school Goniri

## Hypotheses

- HO<sub>1</sub>:** There is no significant effect of self-monitoring skill training on learning achievement of students with special need in Yobe state special education school Goniri
- HO<sub>2</sub>:** There is no significant gender difference in the effect of self-monitoring skill training on learning achievement of student with special need in Yobe state special education school Goniri

## METHODOLOGY

A quasi-experimental design was used in this study. Purposive sampling technique was used to select twenty



five (25) students which consisted of sixteen (16) boys and nine (9) girls' students with low academic achievement from the school through the end of the second term examination record for the 2021/2022 academic session. This record is also called an unobtrusive measure. It refers to data collection procedure, which involves no intrusion into the naturally occurring course of events. The unobtrusive method of data collection is useful because it eliminates the reaction of respondents to testing, and being observed, or interviewed, which often influence the nature of data obtained by researchers (Awotunde & Ugodulunwa, 2004). This method is also useful as supplementary to the use of interviews and questionnaires because it provides a useful way of checking the validity of data they yielded. However, the sampled participants were placed into self-monitoring skill training for eight (8) sessions as follows:

**1st Session:** General orientation

**2nd Session:** This session focused on defining the issues and problems of learning readiness and gains; and self-monitoring training (SMT) as two-stage process that involves observing and recording.

**3rd Session:** In this session, the researchers explained the processes of self-monitoring. The processes which are self-control, self-observation, task analysis, self-motivation beliefs, self-judgment, self-reaction, time management and organization among others and explain the importance of each process in enhancing learning readiness and gains.

**4th Session:** Here, the researchers focused on widening the perspectives of participants through task analysis which involves goal setting and strategic planning for learning.

**5th Session:** The session was based on explanation of time management and organization. At this session, the researchers emphasized on process of planning and exercising conscious control over the amount of time spent on specific activities especially to increase effectiveness, efficiency, or productivity of students toward learning.

**6th Session:** In this session, the researchers explained self-reflection in line with learning readiness and gains. Here the respondents were able to involve in self-judgment and self-reaction. Self-reaction refers to comparison of self-observed performances against some standards and self-reflection which is self-judgment involves the beliefs about the cause of one's errors or successes.

**7th Session:** This session comprised of behavior modification and follow-up interventions. This encouraged the participants to set up realistic and achievable goals rather than unrealistic ones.

**8th Session:** The session witnessed the summary of self-monitoring skill training and formal closing of the sessions.

At the post treatment stage, the end of the third term examination scores of the twenty five (25) students was used as an academic achievement. Paired sample t-test and t-test for independent sample statistical analysis was employed to analyze the data for the study. Paired sample t-test was used to establish the significant effect of self-monitoring skill on the academic achievement of participants and t-test for independent sample was used to test the significant difference in the gender of the students.

## RESULTS

**HO<sub>1</sub>:** There is no significant effect of self-monitoring skill training on learning achievement of students with special need in Yobe state special education school Goniri

**Table 1: Summary of paired sample t-test of the significant effect self-monitoring skill on learning achievement of students with special need**

Variable	N	Mean	SD	t	df	Sig
Self-Monitoring Skill	25	46.08	9.24	-7.226	24	.000
Academic Achievement	25	31.24	6.13			

The result in table 1 showed that there was significant effect of self-monitoring skill on academic achievement of students with special needs ( $t = -7.226$ ;  $p < 0.05$ ). This is because the calculated p-value of .000 was recorded as lower than the 0.05 alpha level of significance. Consequently, the null hypothesis which states that, there is no significant effect of self-monitoring skill training on learning achievement of students with special needs in Yobe state special education school Goniri is hereby rejected.

**HO<sub>2</sub>:** There is no significant gender difference in the effect of self-monitoring skill training on learning achievement of student with special needs in Yobe state special education school Goniri

**Table 2: Summary of independent sample t-test of the significant gender difference of self-monitoring skill training among student with special needs**

Gender	N	Mean	SD	t	df	Sig
Male	16	29.26	4.01	3.391	22	.451
Female	9	26.67	3.41			

Result in table 2 is the independent sample t-test which showed that, there is no significant difference between male and female students exposed to self-monitoring skill training. This is because the calculated p-value of .451 was found higher than the 0.05 alpha level of significance. Consequently, the null hypothesis which states that there is no significant gender difference in the effect of self-monitoring skill training on learning achievement of student with special need in Yobe state special education school Goniri hereby accepted.

## DISCUSSIONS

### Hypothesis one

The result of hypothesis one revealed that there was significant effect of self-monitoring skill training on learning achievement of students with special need in Yobe state special education school Goniri. This finding is consistent with the results of Pintrich (2000) and Zimmerman (2008) whose findings revealed that Learning readiness is a crucial component of the interrelated framework that governs self-monitoring learning and determines its development and maintenance. According to research, top performers used self-monitoring skills more frequently than poorer achievers (Pintrich & DeGroot, 1994; VanZile-Tamsen & Livingston, 1999), and the self-monitoring assumptions have



positive ramifications for teaching and learning. Self-monitoring is not a genetic trait or a personality trait that is created early in life or based on a measure of mental intelligence that is unchangeable after a certain point in life. Through reflection and experience, students develop self-monitoring (Pintrich, 1995). Studies also showed that self-monitoring skill training enhance permanent learning readiness and success (Cooper, 2008; Georghiades, 2004), improve questioning skills (Kramarski & Mevarech, 2008), develop social skills and success when used cooperatively, enhance cognitive regulation, help time management (Rosetta, 2000), and improve thinking and problem-solving skills of learners. Similarly, Desoete (2008) and Shamir et al., (2009) found that self-monitoring skill training had positive effects on academic learning readiness and problem solving skills of learners. Balcı (2007), Demir (2009), Muraina (2015) additionally discovered that self-monitoring skill development improved learners' aptitude for learning as well as their problem-solving abilities. Learning self-monitoring helps students develop flexible thinking, organized study habits, and better problem-solving techniques. Theorists concur that the best learners are those who can control their own learning, which is crucial to notice (Butler & Winne, 1995).

### **Hypothesis two**

The result of hypothesis two revealed that there was no significant gender difference in the effect of self-monitoring skill training on learning achievement of student with special needs in Yobe state special education school Goniri. In consonance with this finding, scholars in the study of gender such as Hyde (2004) and Hyde and Mezulis (2001) believed that the cognitive differences between females and males have been exaggerated overtime but does not influence learning readiness among students. For example, Hyde (2004) pointed out that there is considerable overlap in the distribution of females and males scores on Mathematics readiness and visuospatial tasks. In a personal study by the U.S. Department of Education (2000), boys did slightly better than girls at Mathematics and science learning readiness. Overall, though, girls were far superior students, earning better grades and were significantly better than boys in reading. In another national study, females had higher reading achievement and better writing skills than male with the gap widening as students progressed through school (Coley, 2001). A probable reason for inequality in sex selection in some sex dominated subjects could be adduced to mere cultural and social orientation from parents and the entire society. However, the researcher is of the opinion that this idea can be readjusted for a better socioeconomic society where all individuals are given equal opportunity to perform all tasks irrespective of their sex. Campbell et al. (1999) arguing along the same line, asserts that sex is not a good predictor of academic skills, interests, or even emotional characteristics.

### **Conclusion**

Based on the findings of this study, persistent poor learning achievement among students with special needs need not to continue indefinitely. There is hope that with the use of self-monitoring skill training, the situation can be



changed for the better. The study discovered that self-monitoring skill training could be used in enhancing learning achievement among students with special needs in the school. By and large, self-monitoring skill training has a great effect on the learning achievement among students with special needs. As such, it is very crucial to improve on the use of self-monitoring skill training so as to eradicate the persistent occurrence of students' poor learning achievement.

## **Recommendations**

Based on the findings of the study, it is recommended that:

1. School counsellors should encourage and trained students with special needs on the effective usage of self-monitoring skill training. This will make the students to adopt effective learning skills towards enhancing their learning achievements.
2. The public and private schools should endeavour to provide enabling environment for the students with special needs. This will help in enhancing the achievement motivation of the students and invariably improve students' learning achievement in the school.

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