THE INFLUENCE OF STUDENT SELF-REGULATORY LEARNING STRATEGIES ON ACADEMIC ACHIEVEMENT IN OPEN AND DISTANCE LEARNING ENVIRONMENTS: A STUDY IN TANZANIA

Zawadi Peter Mmassy Assistant Lecturer (Education Department) Institute of Adult Education, Morogoro, TANZANIA

ABSTRACT

In the realm of education, particularly within the context of open and distance learning environments, the quest for effective learning strategies that enhance academic achievement remains paramount. This paper investigates the influence of student self-regulatory learning strategies on academic achievement in open and distance learning environments in Tanzania. The study participants included lecturers, heads of departments, and students. Data were collected through focus group discussions and interviews. The results show that when students employ self-regulatory learning strategies in open and distance learning, they achieve academically. These self-regulatory learning strategies include; goal-setting, time management, self-monitoring, adaptability, self-reflection, motivation and persistence, and resource utilization. Therefore, this study recommends that collaborative efforts between the institution's management, lecturers and counsellors are needed to ensure that students in open and distance learning use self-regulatory learning strategies for academic achievement.

Keywords: Academic achievement, self-regulatory learning, open and distance learning, impact, Tanzania

INTRODUCTION

In the landscape of contemporary education, open and distance learning has emerged as a dynamic and increasingly prevalent mode of instruction, offering flexible pathways to education for diverse learners worldwide (Abel, 2017; Ha, 2023; John & Emily, 2020). Unlike traditional classroom settings, open and distance learning environments allow students to pursue education remotely, transcending geographical barriers and accommodating learners with various life commitments and schedules (Brown & David, 2018). In these settings, learners often navigate their educational journeys independently, relying on a diverse array of learning strategies to guide their progress and achieve academic success. Emily and Michael (2016) report that among the many strategies employed by distance learners, self-regulatory learning strategies stand out as critical determinants of academic achievement (Anderson & Martinez, 2019). Self-regulatory learning encompasses the cognitive, metacognitive, and motivational processes through which learners actively monitor, control, and regulate their learning behaviours, emotions, and cognitions to achieve academic goals (David & Brown, 2017). These strategies empower learners to take ownership of their learning experiences, set goals, manage their time effectively, monitor their progress, and adapt their approaches based on feedback and self-reflection.

According to Anthonysamy (2021), the historical background of self-regulatory learning traces back to early psychological theories and educational research that explored the cognitive processes involved in learning and behaviour regulation. While the concept of self-regulation has roots in various philosophical and psychological traditions, its formal study gained prominence in the mid-20th century. Anthonysamy, Koo and Hew (2020) explain that one of

the earliest proponents of self-regulation in education was Albert Bandura, whose social cognitive theory emphasized the role of self-regulation in human behaviour. Araka Maina, Gitonga and Oboko (2020) add that Bandura's work in the 1960s and 1970s laid the groundwork for understanding how individuals actively control their thoughts, emotions, and actions to achieve desired outcomes. Arp (2016) postulates that in the field of educational psychology, researchers such as Zimmerman and Schunk further developed the concept of self-regulated learning in the 1980s and 1990s. Their work focused on how learners manage their cognitive, motivational, and behavioural processes to set goals, monitor progress, and adjust strategies accordingly (Bandura &Wood, 1989). Throughout the late 20th and early 21st centuries, advances in cognitive psychology, neuroscience, and educational technology have contributed to a deeper understanding of self-regulatory learning (Barnard et al., 2019). However, important to note is that the historical evolution of self-regulatory learning has been influenced by interdisciplinary perspectives and empirical research across psychology, education, and related fields. Today, self-regulation is recognized as a critical factor in academic achievement, lifelong learning, and personal development.

Boyraz et al. (2016) observe self-regulated learners exhibit characteristics such as autonomy, initiative, persistence, and metacognitive awareness. They take ownership of their learning process, actively engage in problem-solving and critical thinking, and demonstrate resilience in the face of challenges. In this regard, it shows that self-regulatory learning is essential for academic success as it empowers learners to take control of their learning, identify areas for improvement, and develop lifelong learning skills (Carter et al., 2020). Moreover, it plays a crucial role in various educational settings, including traditional classrooms, online learning environments, and distance education, by fostering independence, self-efficacy, and intrinsic motivation among learners (Barnard et al., 2019).

Exploring the impact of self-regulatory learning strategies on academic achievement in open and distance learning environments is crucial for several reasons; it allows researchers and educators to assess their effectiveness in this unique educational setting by helping determine which strategies are most beneficial for learners who are studying remotely and independently (Chen & Bonner, 2020). In the same realm, Diep et al. (2017) view that by identifying the impact of self-regulatory learning strategies on academic achievement, educators tailor instructional practices and interventions to enhance learning outcomes in open and distance learning environments. This knowledge informs the development of more effective teaching methods and support systems for distance learners. Dumford and Miller, 2018) concur with the arguments by reiterating that self-regulatory learning skills are essential for student success in open and distance learning, where learners must manage their study schedules and stay motivated without direct supervision. Understanding how these strategies influence academic achievement can empower students to become more effective and autonomous learners. Goradia and Bugarcic (2017) postulate that insights into the impact of self-regulatory learning strategies can inform the design and delivery of open and distance learning courses. Educators can incorporate scaffolding techniques, self-assessment tools, and other supports to help learners develop and apply self-regulation skills effectively. However, open and distance learning environments present unique challenges, such as feelings of isolation, lack of structure, and limited access to resources. Thus, exploring the role of self-regulatory learning strategies can help identify potential barriers to academic achievement and develop strategies to overcome them (Alvi & Gillies, 2015).

This background sets the stage for a comprehensive exploration of the impact of self-regulatory learning strategies on academic achievement in open and distance learning environments

aiming to uncover the effectiveness of various self-regulatory learning techniques in enhancing students' academic performance in the unique context of open and distance learning. Additionally, the study seeks to identify the factors that facilitate or hinder the implementation of self-regulatory learning strategies in this educational setting. Ultimately, the goal is to provide insights that will inform the development of interventions and support mechanisms to optimize academic outcomes for learners in open and distance learning environments in Tanzania.

LITERATURE REVIEW

Globally, in various contexts, numerous researchers agree that self-regulatory learning strategies influence academic performance among distance learners (Abel, 2017; Broadbent & Poon, 2015). According to Bruhn, Fernando, McDaniel and Troughton (2017), by employing self-regulatory learning strategies, students can take an active role in their learning process, develop effective study habits, and achieve academic success. Cidral, Oliveira, Di Felice and Aparicio (2018) view that self-regulatory strategies developed by students should align with the strategies developed by educators. In this regard, Cohen and Baruth (2017) propose that educators should engage in professional development opportunities to gain knowledge and skills in self-regulatory learning strategies. Attend workshops, seminars, or courses focused on effective teaching practices, student motivation, and metacognitive strategies. This proposition was seconded by Valencia-Vallejo et al. (2019) who purport that integrating self-regulatory learning principles into the curriculum is very important for the academic welfare of the learners.

According to Weichhart, Stary and Appel (2018), educators are supposed to be well-equipped academically to help learners be able to utilize self-regulatory strategies for good academic achievement by providing explicit instruction on self-regulatory learning strategies by explaining the concepts, modelling the strategies, and guiding students through the process. Zheng et al. (2016) add that educators are supposed to offer constructive feedback and support to learners as they develop their self-regulatory skills. These include the provision of timely feedback on their progress, offering encouragement and praise for their efforts, and identifying areas for improvement without forgetting to offer guidance and assistance to students who may struggle with self-regulation. Zhu, Au and Yates (2016) note that educators are supposed to foster metacognitive awareness by encouraging learners to reflect on their learning processes and think critically about their thinking. Educators are supposed to teach students how to evaluate their learning strategies, identify strengths and weaknesses, and make adjustments as needed.

Establishing a supportive and inclusive classroom environment where students feel comfortable taking risks, asking questions, and seeking help when needed are also important roles that any educator in open and distance learning is supposed to adhere to help learners. Panayiotou, Humphrey and Wigelsworth (2019) recommend that an educator should foster a growth mindset by emphasizing the importance of effort, persistence and resilience in achieving academic success. Stehle and Peters-Burton (2019) proposed that an educator is supposed to differentiate instruction to meet the diverse needs and learning styles of learners. Also, an educator is obliged to provide opportunities for students to choose learning activities that align with their interests, preferences and strengths. Lastly, is supposed to offer flexible learning options and resources to accommodate individual differences.

The study by Ha (2023) in England reveals that open and distance learners using self-regulatory strategies are supposed to be motivated. This is because students' motivation and self-efficacy

levels play crucial roles in shaping their adoption and implementation of self-regulatory learning strategies, ultimately influencing their academic success. Similarly, the study by Weichhart, Stary and Appel (2018) in the US. establish that intrinsically motivated students tend to engage in learning activities for the inherent satisfaction and enjoyment they derive from the process itself, while extrinsically motivated students are driven by external rewards or consequences. Goal orientation, whether mastery-oriented (focus on learning and improvement) or performance-oriented (focus on demonstrating competence), also influences students' approach to learning tasks. Additionally, task value reflects students' perceptions of the importance, relevance, and utility of academic tasks (Lim & Lee, 2020). In the same realm, the study by Barnard et al. (2019) in Zimbabwe upholds that motivated and self-efficacious students are more likely to engage in proactive learning behaviours, such as setting specific, challenging goals, using effective learning strategies, seeking help when needed, and persisting in the face of difficulties. They exhibit greater metacognitive awareness, monitoring their comprehension, progress, and understanding, and adjusting their learning strategies accordingly. Moreover, the study by Abel (2017) in Tanzania demonstrates that motivated and self-efficacious students are better able to regulate their motivation, maintaining high levels of effort and persistence even when tasks are challenging or uninteresting.

The culmination of motivated and self-efficacious learning is academic achievement, which encompasses students' performance on assessments, mastery of content knowledge, and attainment of learning outcomes (Mbunda, 2022). Research consistently demonstrates positive associations between motivation, self-efficacy, self-regulated learning, and academic achievement across various educational contexts. Students who are highly motivated and self-efficacious tend to outperform their less motivated and self-efficacious peers, demonstrating higher levels of academic engagement, learning gains, and course completion rates (Cohen & Baruth, 2017). Thus, motivation and self-efficacy are foundational determinants of students' adoption and implementation of self-regulated learning strategies, shaping their academic achievement in open and distance learning environments (Mbunda, 2022). Educators and policymakers must recognize the critical role of motivation and self-efficacy in fostering effective self-regulated learning and promoting student success. By nurturing students' motivation, fostering self-efficacy beliefs, and providing opportunities for meaningful engagement in self-regulated learning activities, educational stakeholders can empower learners to achieve their full potential and thrive academically in diverse learning contexts.

In general, from the literature, it has been shown that the concept of self-regulatory learning strategies has emerged as a significant area of focus. Also, the literature pinpointed that understanding the impact of self-regulatory learning strategies on academic achievement is of paramount importance in the context of open and distance learning environments. As these modes of instruction continue to gain prominence globally, educators and policymakers alike are tasked with optimizing learning outcomes and ensuring the quality and effectiveness of distance education programmes. Moreover, it has been shown that the historical background of self-regulatory learning traces back to early psychological theories and educational research that explored the cognitive processes involved in learning and behaviour regulation. While the concept of self-regulation has roots in various philosophical and psychological traditions, its formal study gained prominence in the mid-20th century. Furthermore, the literature showcased that motivation and self-efficacy are foundational determinants of students' adoption and implementation of self-regulated learning strategies, shaping their academic achievement in open and distance learning environments. In Tanzania, despite the growing popularity of open and distance learning, there is a lack of comprehensive research on the effectiveness of selfregulatory learning strategies in this context. This study aims to fill this gap by investigating

how these strategies influence academic achievement among students enrolled in open and distance learning programmes.

METHODOLOGY

The study investigated the influence of student self-regulatory learning strategies on academic achievement in open and distance learning environments in Tanzania. The study employed a qualitative research approach because it allows researchers to explore topics in-depth and in detail. By using methods such as interviews and focus group discussions researchers gather rich and nuanced data that provide insights into participants' experiences, perspectives, and behaviours (Creswell & Creswell, 2018). Moreover, qualitative research methods are flexible and adaptable, allowing researchers to adjust the approach in response to emerging findings or unexpected developments. This flexibility enables researchers to explore complex phenomena from multiple angles and uncover new insights. Furthermore, qualitative research is well-suited for examining the social and cultural context in which phenomena occur. By immersing themselves in the research setting and engaging with participants in their natural environment, researchers can gain a deeper understanding of how context influences behaviour and decisionmaking (Cohen, Manion & Morrison, 2018). Lastly, the qualitative research approach was vital in the present study because it recognizes the value of subjective perspectives and individual experiences (Alase, 2017). Thus, it allowed participants to express their views in their own words, contributing to a more nuanced and authentic portrayal of their experiences.

The qualitative approach in this study was adopted because it seems to be important in obtaining first-hand information on the impact of self-regulatory learning strategies on academic achievement in open and distance learning environments most of which seem to happen mainly qualitatively. The approach therefore seems to be most appropriate in comprehending issues deeply concerning issues regarding the influence of student self-regulatory learning strategies on academic achievement in open and distance learning environments in Tanzania.

The current study utilized focus group discussions and interviews as research methodologies. Focus group discussions were chosen for their ability to delve into group dynamics and interactions (Cohen, Manion & Morrison, 2018). Through this approach, participants' contributions sparked further dialogue, facilitating a deeper exploration of shared perceptions and experiences. Additionally, focus groups fostered an environment conducive to idea generation, with participants building upon each other's insights to generate new perspectives. Furthermore, the researcher was able to observe non-verbal cues during focus group discussions, such as body language and facial expressions, providing valuable additional insights into participants' emotions and reactions. Moreover, the interactive nature of focus group discussions allowed for immediate feedback among participants, enhancing the dynamic and collaborative nature of the discussion process (Leavy, 2014). Ultimately, these real-time interactions contributed to refining and clarifying ideas. Focus group discussions were conducted specifically with students as part of the research methodology.

In contrast, the current study utilized semi-structured interviews as a method of inquiry to delve deeply into individual experiences, attitudes and perceptions. This approach enabled the researcher to concentrate on the distinct narratives and viewpoints of each participant, free from the impact of group dynamics. Additionally, interviews offered adaptability concerning both structure and content, as noted by Creswell and Creswell (2018). Consequently, the researcher could tailor the interview format based on participants' responses, fostering a more personalized and nuanced exploration. Furthermore, individual interviews provided the

opportunity to target specific themes or areas of interest, ensuring a focused investigation of the research questions independent of group influences, as highlighted by Omari (2011). These interviews were conducted with lecturers and heads of departments.

Data for the study were collected from Dar es Salaam and Morogoro regions. The regions were purposively selected because they have a good number of government institutions that offer open and distance learning programmes hence, being potential areas to collect data from. A total of eight focus group discussions were conducted in two institutions. Each group consisted of five participants. Also, a total of four lecturers and four heads of departments were interviewed. The information from the focus group discussions and interviews was audio recorded and later on transcribed verbatim.

Data Analysis Process

The data underwent analysis employing the thematic approach outlined by Braun and Clarke (2021), involving the identification, description, and illustration of pertinent themes through participant quotes. Before data collection, authorization was secured from relevant authorities, followed by obtaining informed consent from the Institute of Adult Education involved in the study. Measures were taken to guarantee the confidentiality of the gathered information and maintain the anonymity of the participants.

RESULTS

Seven themes emerged from the focus group discussions and interviews regarding the influence of student self-regulatory learning strategies on academic achievement in open and distance learning environments in Tanzania These are discussed below.

Goal Setting

The findings revealed that self-regulatory learners in open and distance learning environments often set specific, challenging, and attainable goals for their learning. During interviews and focus group discussions, it was reported by the participants that by establishing clear objectives, students focused their efforts and monitored their progress towards achieving academic success. Participants were quoted as:

I believe that when students have clear objectives outlined for them, they are better able to direct their efforts towards achieving academic success. By knowing exactly what they need to accomplish, students can stay focused and motivated throughout their learning journey (Interview with a Lecturer, Institution A).

Similarly, during a focus group discussion, participants said the following:

Regularly monitoring our progress allows lecturers to track our performance and make necessary adjustments to stay on track towards our goals. This proactive approach to learning empowers us to take ownership of our academic success and fosters a sense of accountability for our learning outcomes (FGD with Students, Institution B).

The interview quotes above suggest that when students have clear objectives, they are better equipped to direct their efforts effectively. This implies that clear objectives serve as a roadmap for students, helping them prioritize tasks and allocate their time and energy efficiently. Moreover, the interview quotes indicate that regularly monitoring progress in academic endeavours not only helps lecturers track student performance but also empowers students to take ownership of their learning and fosters a sense of accountability for their academic outcomes.

Time Management

During interviews and focus group discussions, it was revealed that effective self-regulatory learners in open and distance learning environments exhibited strong time management skills. It was reported that through effective self-regulatory strategies, students allocated sufficient time for studies, completed assignments, and participated in online discussions, ensuring that they met deadlines and stayed on track with their coursework. Participants were quoted as:

We find that by implementing self-regulatory strategies, we allocate dedicated time for studying each day. This helps us to stay organized and focused, ensuring that we complete our assignments and stay on top of our coursework (FGD with Students, Institution B).

Similarly, other students added the following:

Through self-regulated learning techniques, we develop a study schedule that allows some of us to balance our academic responsibilities with other commitments. This helps us manage our time efficiently, ensuring that we meet deadlines for assignments and remain actively engaged in our academic engagements (FGD with Students, Institution A).

In the same realm, one of the heads of the department shared the following testimony: I have observed that students who employ effective self-regulatory strategies demonstrate a remarkable ability to allocate sufficient time for their studies, complete assignments promptly, and actively engage in online discussions. This proactive approach not only helps them meet deadlines but also ensures that they remain focused and on track with their studies (Interview with HoD, Institution A).

The quotes show three important issues. First, the quotation highlights the positive impact of self-regulatory strategies on students' study habits and academic performance and they recognize the importance of time management in their academic success. By setting aside specific study times, they ensured that they devoted sufficient effort to their coursework regularly. Second, the quotes underscore the significance of self-regulated learning techniques in enabling students to effectively manage their time, balance competing commitments, meet deadlines, and remain actively engaged in their academic endeavours. It reflects a proactive approach to learning and highlights the transformative impact of these techniques on students' academic experiences and outcomes. Lastly, the quotes emphasize the importance of effective time management, active engagement, and proactive learning approaches facilitated by self-regulation.

Self-monitoring

The findings revealed that self-regulatory learners continuously monitored their learning progress and performance in open and distance learning environments. It was reported that students regularly assessed their understanding of course materials, identified areas of weakness, and adjusted their study strategies accordingly to improve comprehension and retention. During the interview with lecturers, one of the lecturers was quoted as:

I have noticed that students who actively engage in self-assessment regularly evaluate their grasp of course materials. By identifying areas of weakness, they adapt their study techniques to enhance comprehension and retention, ultimately fostering a deeper understanding of the subject matter (Interview with a Lecturer, Institution A).

Similarly, students were quoted as:

We have found that by regularly assessing our understanding of course materials, we can pinpoint areas where we need to improve. This allows us to adjust our study strategies accordingly, whether it's reviewing certain topics more thoroughly or seeking additional resources to aid our comprehension and retention. It is a proactive approach that helps us stay on top of our studies and achieve better academic outcomes (FGD with students, Institution B).

These quotations highlight the observations regarding the positive impact of self-assessment on students' learning outcomes. The lecturer acknowledged that students who actively engage in self-assessment took ownership of their learning process by regularly evaluating their understanding of course materials. By doing so, they demonstrated a proactive approach to learning and sought to identify areas where they struggled or required further clarification. Moreover, the quotations highlight the students' perspective on the benefits of regular selfassessment in their academic journey. The students acknowledged that by actively assessing their understanding of course materials, they identified specific areas where improvement was needed. This process enabled them to take a proactive approach to their studies, as they adjusted their study strategies accordingly based on their self-assessment results.

Adaptability

The findings revealed that self-regulatory learners demonstrated adaptability and flexibility in their learning approaches, particularly in the asynchronous nature of open and distance learning. It was reported that through self-regulatory strategies, students modified their study methods, sought additional resources, or collaborated with peers to overcome challenges and enhanced their academic achievement. During interviews and focus group discussions, participants were quoted as:

I have observed that through the implementation of self-regulatory strategies, students demonstrate a remarkable ability to adapt their study methods in response to challenges they encounter. They proactively seek out additional resources or collaborate with peers to address areas where they need support. This proactive approach not only helps them overcome obstacles but also contributes to their overall academic achievement and success (Interview with HoD, Institution A).

Students during focus group discussion said the following:

We have noticed that by employing self-regulatory strategies, we have the flexibility to adjust our study methods based on our individual needs. When we encounter challenges, whether it is understanding complex concepts or managing our time effectively, we actively seek out additional resources and collaborate with our peers for support. This collaborative approach not only helps us overcome obstacles but also contributes to our academic success by enhancing our understanding and mastery of the subject matter (FGD with Students, Institution A).

The quotations suggest that self-regulatory strategies enable students to take ownership of their learning process and effectively manage obstacles they encounter along the way. The quotations further show that this proactive approach contributes significantly to students' overall academic achievement and success. Moreover, the quotations highlight the flexibility afforded by self-regulatory strategies, allowing students to tailor their study methods according to their individual needs. When confronted with challenges, such as understanding complex concepts or managing time effectively, students actively sought additional resources and collaborated with peers for support. This collaborative effort not only helped them overcome obstacles but also enhanced their understanding and mastery of the subject matter, ultimately contributing to their academic success.

Self-reflection

The findings revealed that effective self-regulatory learners engaged in regular self-reflection to evaluate their learning strategies, identify what worked well, and determined areas for improvement. Participants disclosed that they used self-assessment techniques to gauge their mastery of course content and made adjustments to optimize their learning experience. During the focus group discussions, students were quoted as:

We have found that self-assessment techniques help us understand how well we have grasped the course material. By evaluating our understanding, we can identify areas where we need to improve and make adjustments to our study strategies accordingly (FGD with Students, Institution B).

Similarly, another group of participants said the following:

Through self-assessment, we can take control of our learning process. When we realize we are struggling with certain topics, we can change our approach, whether it is spending more time on them, seeking clarification from our instructors, or collaborating with classmates to fill in gaps in our knowledge (FGD with Students, Institution B).

The quotes emphasize how self-assessment helped students gauge their grasp of the material, allowing them to pinpoint areas of weakness and adjust their study strategies accordingly. This demonstrates a proactive approach to learning, where students actively engage in reflective practices to improve their comprehension. Similarly, the quotes underscored the empowering nature of self-assessment. By recognizing their areas of struggle, students adapted their approach to learning, whether through increased study time, seeking clarification from instructors, or collaborating with peers. This illustrated students' agency in addressing their learning needs and seeking support when necessary.

Motivation and Persistence

The findings revealed that self-regulatory learners exhibited high levels of intrinsic motivation and persistence in pursuing their academic goals in open and distance learning environments. It was reported that students maintained a positive attitude, persevered through difficulties, and remained committed to their studies, even without immediate external rewards or supervision. During the interviews, participants were quoted as:

I have noticed that self-regulatory learners seem to have this inner drive to succeed. They are motivated by their own goals and aspirations, which keeps them going even when faced with challenges. It is like they have this intrinsic motivation that propels them forward, driving them to overcome obstacles and achieve their academic goals (Interview with a Lecturer, Institution A).

In a similar vein, another participant said the following:

In my experience, self-regulatory learners don't give up easily. They are persistent in their pursuit of academic success, even when things get tough. It is like they have this resilience that helps them bounce back from setbacks and stay focused on their goals. They are not afraid to put in the effort and work hard to achieve their objectives in open and distance learning environments (Interview with a Lecturer, Institution A).

These quotations highlight the characteristics of self-regulatory learners, focusing on their intrinsic motivation and persistence in pursuing academic goals. The quotations emphasize the inner drive of self-regulatory learners, describing how they are motivated by personal goals and aspirations. Moreover, the quotations reinforce the idea of persistence among self-regulatory learners. It describes how these learners exhibit resilience in the face of challenges, refusing to give up easily.

Resource Utilization

The findings revealed that self-regulatory learners effectively utilized available resources, such as textbooks, online materials, multimedia resources, and academic support services, to enhance their learning experience. It was reported that students actively sought out relevant information, leveraged technology tools, and engaged in self-directed learning activities to expand their knowledge and skills. These efforts helped them to succeed academically. The Participants were quoted as:

We have noticed that self-regulatory learners are proactive in seeking out resources to support their learning. They utilize textbooks, online materials, and multimedia resources to supplement their understanding of course concepts. Additionally, they take advantage of academic support services, such as tutoring centers and library resources, to enhance their learning experience (Interview with HoD, Institution B).

Similarly, students added the following:

In our discussions, we have observed that self-regulatory learning strategies are resourceful in utilizing available resources to enrich our learning. We are not just relying on course materials provided by instructors but actively seeking out supplementary resources to deepen our understanding. Whether it is accessing online articles, watching educational videos, or utilizing academic support services, we are taking proactive steps to enhance our learning journey (FGD with Students, Institution B).

These quotations highlight the proactive approach of self-regulatory learners in utilizing various resources to enhance their learning experience. The quotes, emphasize how self-regulatory learners utilize textbooks, online materials, multimedia resources, and academic support services to supplement their understanding of course concepts. The quotations further elaborate on this by emphasizing their resourcefulness in seeking out supplementary resources beyond what is provided by instructors.

DISCUSSION

This study found that self-regulatory learning strategies influenced academic achievement among learners in open and distance learning environments. One of the impacts of these strategies that students in open and learning environments had, was goal setting. It was revealed that setting clear academic goals provided students with a sense of direction and purpose. In an open and distance learning setting, where students often have greater autonomy over their learning journey, having well-defined goals helped them stay focused and motivated amidst the flexibility and independence of the learning process. The findings are in line with Mbunda (2023) who found that goals act as powerful motivators for students. When students set specific, achievable goals, they are more likely to feel motivated to work towards them. This motivation fuels their persistence, encouraging them to overcome obstacles and stay committed to their studies, even when faced with challenges or distractions. Moreover, Goradia and Bugarcic (2017) add that by breaking down long-term objectives into smaller, manageable tasks, students create actionable plans that outline the steps needed to achieve their goals. This guided planning process helps students stay organized and on track with their studies, leading to greater efficiency and productivity.

The findings also revealed that effective self-regulatory learners in open and distance learning environments exhibited strong time management skills. The findings revealed that with effective time management skills, students prioritized tasks and allocated sufficient time to study, complete assignments, and participate in learning activities. By organizing their study schedule efficiently, students maximized their productivity and made the most of their available

study time, leading to greater academic achievement, The findings can be extrapolated from the findings of the study by Dumford and Miller (2018) who found that effective time management helps students avoid last-minute cramming and the stress associated with tight deadlines. By planning and spreading out their workload over time, students can approach their studies in a more relaxed and organized manner. This reduces feelings of anxiety and overwhelms, allowing students to focus better on their learning tasks and perform at their best. Lim and Lee (2020) found that when students manage their time effectively, they can devote sufficient time and attention to understanding course materials, engaging in critical thinking, and mastering concepts. By consistently studying and reviewing course content, students deepen their understanding and retention of information, leading to improved learning outcomes and academic performance. In the same vein, Barnard et al. (2019) uncovered that by adhering to a structured study schedule and meeting deadlines consistently, students develop greater self-discipline and responsibility. This fosters a sense of ownership over their academic success and empowers students to take control of their learning journey in open and distance learning environments.

The findings also found that self-regulatory learners continuously monitored their learning progress and performance in open and distance learning environments. It was revealed that self-regulatory learners regularly evaluate their understanding of course materials and assess their learning progress. The findings are similar to Stehle and Peters-Burton (2019) who found that self-assessment allows students to stay aware of their learning needs and make necessary adjustments to optimize their learning experience. Araka Maina, Gitonga and Oboko (2020) advanced that self-regulatory learners set specific, measurable, achievable, relevant, and timebound (SMART) goals for students' learning journey. By establishing clear objectives, students had benchmarks to measure their progress against and could track their performance over time. Anthonysamy (2021) purported that in open and distance learning environments, self-regulatory learners take advantage of learning analytics tools and platforms provided by their institutions. These tools track their engagement, participation, and performance metrics, providing valuable insights into their learning progress.

The findings also found that self-regulatory learners demonstrated adaptability and flexibility in their learning approaches, particularly in the asynchronous nature of open and distance learning. It was revealed that by being adaptable and flexible, self-regulatory learners effectively managed their time to accommodate various responsibilities, commitments, and learning activities. Alvi and Gillies (2015) found that students scheduled study sessions, assignments, and coursework around their personal and professional obligations, optimizing their productivity and learning outcomes. In a similar vein, Broadbent and Poon (2015) maintained that self-regulatory learners develop a sense of autonomy and independence in their learning journey, taking ownership of their education and decision-making process. They are empowered to set goals, make choices and manage their learning activities effectively without relying heavily on external guidance or supervision. This self-directed approach fostered selfreliance and confidence in their abilities to succeed in their academic pursuits. Cohen and Baruth (2017) concluded that in the asynchronous nature of open and distance learning, technology plays a vital role in facilitating communication, collaboration, and access to learning resources. Self-regulatory learners who are adaptable and flexible embrace technological tools and platforms with ease, staying updated on new advancements and incorporating them into their learning strategies. This proficiency in technology enhanced their digital literacy skills and prepared them for success in today's digital age.

The findings also revealed that effective self-regulatory learners engaged in regular selfreflection to evaluate their learning strategies, identify what worked well, and determined areas for improvement. It was revealed that through self-reflection, learners identified which learning strategies were most effective for them. By recognizing what worked well and what didn't, they adjusted their approach to studying, focusing more on techniques that yielded better results. This optimization of learning strategies led to increased efficiency in studying, allowing learners to achieve more in less time. The findings are similar to Zhu, Au and Yates (2016) who found that by examining the challenges they encountered and areas where they struggled, students developed problem-solving skills. This process enabled them to brainstorm alternative approaches, sought out additional resources, or asked for help when needed. Abel (2017) pinpointed that regular self-reflection helped learners maintained their motivation and persistence in the face of challenges. By acknowledging their progress and celebrating their successes, they reinforced a positive mindset towards learning. The study by Cohen and Baruth (2017) found that by identifying areas for improvement, students set specific goals to work towards, fostering a sense of purpose and direction. This intrinsic motivation fuels their commitment to continuous growth.

The study also found that self-regulatory learners exhibited high levels of intrinsic motivation and persistence in pursuing their academic goals in open and distance learning environments. The findings are similar to Alvi and Gillies (2015) who found that intrinsic motivation drives self-regulatory learners to remain engaged in their studies over the long term. They are less likely to become discouraged by setbacks or challenges, as their motivation comes from within rather than external rewards or pressure. This sustained engagement allows them to maintain focus and dedication to their academic goals, even when faced with obstacles. Broadbent and Poon (2015) hold that self-regulatory learners with high levels of intrinsic motivation are more resilient in the face of adversity. They view challenges as opportunities for growth rather than insurmountable barriers. This resilience enables them to bounce back from setbacks.

The findings also revealed that self-regulatory learners under open and distance learning effectively utilized available learning resources. It was revealed that self-regulatory learners deepened their understanding of course materials by utilizing a variety of available learning resources. Access to diverse resources such as textbooks, online materials, and multimedia resources allowed them to explore topics from different perspectives, leading to a more comprehensive understanding of the subject matter. The findings can be extrapolated to the findings of Dumford and Miller (2018) who found that by utilizing available learning resources, self-regulatory learners have the flexibility to tailor their learning experience to their individual needs and preferences. They can choose resources that align with their learning style, pace and interests, enabling them to engage with the material in a way that suits them best. Mbunda (2023) added that access to a wide range of learning resources keeps self-regulatory learners engaged and motivated throughout their studies. Students were more likely to remain actively involved in the learning process when they had access to interesting and relevant materials that captured their attention and stimulated their curiosity. Abel (2017) disclosed that effectively utilizing available learning resources leads to improved academic performance. This is because self-regulatory learners who take advantage of supplementary resources to reinforce their understanding, clarify concepts, and practice skills are better equipped to succeed in their coursework and achieve their academic goals.

CONCLUSION

The findings of this study emphasize the importance of incorporating self-regulatory learning strategies into educational practices in open and distance learning settings. By equipping

students with the necessary skills and techniques to regulate their learning effectively, educators can empower them to take ownership of their learning journey, overcome challenges, and achieve academic success. Moving forward, further research and interventions aimed at promoting self-regulation among learners in Tanzania and beyond are warranted to maximize the potential of open and distance learning environments in facilitating student success.

REFERENCES

- Abel, J. (2017). Investigating counselling services as a strategy for enhancing academic achievement among students in Mbeya City, Tanzania. M.A Dissertation, University of Dar es Salaam.
- Alase, A. (2017). The interpretive phenomenological analysis (IPA): A guide to a good qualitative research approach. *International Journal of Education and Literacy Studies*, 5(2), 9-19.
- Alvi, E., & Gillies, R. M. (2015). Social interactions that support students' self-regulated learning: A case study of one teacher's experiences. *International Journal of Educational Research*, 72, 14–25.
- Anderson, J., & Martinez, M. (2019). Exploring the relationship between self-regulated learning and academic achievement in distance education. Distance Education Research Journal, 18(4), 210-225
- Anthonysamy, L. (2021). The use of metacognitive strategies for undisrupted online learning: preparing university students in the age of pandemic. *Journal of Education and Information Technology*, 26, 6881–6899.
- Anthonysamy, L., Koo, A. C., & Hew, S. H. (2020). Self-regulated learning strategies in higher education: fostering digital literacy for sustainable lifelong learning. *Journal of Education and Information Technology*, 25, 2393–2414.
- Araka, E., Maina, E., Gitonga, R., & Oboko, R. (2020). Research trends in measurement and intervention tools for self-regulated learning for e-learning environments-systematic review (2008-2018). Journal of *Research and Practical Technology*, 15, 1–21.
- Arp, A. (2016). *Examining student metacognition when self-evaluating public speaking*. (Ph.D. thesis). Iowa State University, Ames, IA, United States.
- Bandura, A., Wood, R. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*, 56(5), 805–14.
- Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., and Lai, S.-L. (2019). Measuring selfregulation in online and blended learning environments. *Internet Higher Education*, 12, 1–6.
- Boyraz, G., Granda, R., Baker, C. N., Tidwell, L. L., & Waits, J. B. (2016). Posttraumatic stress, effort regulation, and academic outcomes among college students: a longitudinal study. *Journal of Counseling Psychology*, *63*, 475–486.
- Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. Sage Publishers.
- Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: a systematic review. *Internet Higher Educ.* 27, 1–13.
- Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education*, 27, 1-13.
- Brown, S., & David, W. (2018). The role of self-regulatory learning in academic achievement in online distance education. *Journal of Online Learning*, 12(2), 110-125.

- Bruhn, A. L., Fernando, J., McDaniel, S., & Troughton, L. (2017). Putting behavioural goalsetting research into practice. *Beyond Behavior*, 26(2), 66–73.
- Carter, R. A. Jr., Rice, M., Yang, S., & Jackson, H. A. (2020). Self-regulated learning in online learning environments: strategies for remote learning. *Information and Learning Science*, 121, 321–329.
- Chen, P. P., & Bonner, S. M. (2020). A framework for classroom assessment, learning, and self-regulation. *Journal of Education Principles Policy*, 27, 373–393.
- Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning success determinants: Brazilian empirical study. *Computers & Education*, 122, 273–290.
- Cohen, A., & Baruth, O. (2017). Personality, learning, and satisfaction in fully online academic courses. *Computers in Human Behavior*, 72, 1–12.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (6th ed.). Routledge Publishers.
- Creswell, J.W., & Creswell, J.D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches. Sage.
- David, G., & Brown, J, (2017). Impact of self-regulatory learning strategies on academic achievement: a study in open and distance learning environments. *Open Education Studies 23*(2), 180-195.
- Diep, N. A., Cocquyt, C., Zhu, C., Vanwing, T., & De Greef, M. (2017). Effects of core selfevaluation and online interaction quality on adults' learning performance and bonding and bridging social capital. *Internet Higher Education.* 34, 41–55.
- Dumford, A. D., & Miller, A. L. (2018). Online learning in higher education: exploring advantages and disadvantages for engagement. *Journal of Computer Higher Education*, 30, 452–465.
- Emily, W., & Michael, T. (2016). Self-regulated learning strategies and academic achievement: A case study of open and distance learning students. International Journal of Open and Distance Learning, 7(1), 75-89.
- Goradia, T., & Bugarcic, A. (2017). Can self-regulated learning strategies improve academic achievement in online higher education learning environments? *Journal of Medical*. *1*, *36*–37.
- Ha, C. (2023). Students' self-regulated learning strategies and science achievement: exploring the moderating effect of learners' emotional skills. *Cambridge Journal of Education,* 1-22.
- John, S., & Emily, J. (2020). Self-regulated learning strategies and their impact on academic achievement in open and distance learning environments. *Distance Learning Journal*, 15(3), 45-58.
- Lim, H.J., & Lee, S.B. (2020). Student and school characteristics influencing self-management ability as future key competency among elementary and high school students. *The Journal of Child Education*, 28(1),73–95.
- Mbunda, N. (2022). Open and distance learning among female students in Tanzania: empirical voices from learners at the institute of adult education. *European Journal of Research and Reflection in Educational Sciences*, 10 (3), 37-45.
- Omari, I. M. (2011). Education research: Concepts and methods: A practical guide based on experience. Delah Educational Publishers Ltd.
- Panayiotou, M., Humphrey, N., & Wigelsworth, M. (2019). An empirical basis for linking social and emotional learning to academic performance. *Contemporary Educational Psychology*, 56,193–204.
- Stehle, S.M., & Peters-Burton, E.E (2019). Developing student 21st-century skills in selected exemplary inclusive STEM high schools. *International Journal of STEM education*. 6(1),1-15.

- Valencia-Vallejo, N., López-Vargas, O., & Sanabria-Rodríguez, L. (2019). Effect of a metacognitive scaffolding on self-efficacy, metacognition, and achievement in elearning environments. *Knowledge Management & E-Learning*, 11(1), 1–19.
- Weichhart, G., Stary, C., & Appel, M. (2018). The digital Dalton Plan: Progressive education as an integral part of web-based learning environments. *Knowledge Management & E-Learning*, 10(1), 25–52.
- Zheng, C., Liang, J.-C., Yang, Y.-F., & Tsai, C.-C. (2016). The relationship between Chinese university students' conceptions of language learning and their online self-regulation. *System*, 57, 66–78.
- Zhu, Y., Au, W., & Yates, G. (2016). University students' self-control and self-regulated learning in a blended course. *The Internet and Higher Education*, *30*, 54–62.