



MORE THAN A QUIET PLACE: MAPPING THE STRUCTURE AND INTERCONNECTIONS OF STUDY SKILLS AMONG TANZANIAN UNIVERSITY STUDENTS

VIŠE OD MIRNOG MJESTA: MAPIRANJE STRUKTURE I MEĐUSOBNE POVEZANOSTI VJEŠTINA UČENJA KOD STUDENATA UNIVERZITETA U TANZANIJU

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ABSTRACT

Effective study skills are closely associated with improved academic achievement and higher grades. However, research indicates that the majority of students lack adequate study skills, which negatively affect their academic performance and lifelong learning. This study investigates patterns, interrelationships, and demographic variations of study skills among university students in Tanzania. Data were collected from 126 participants using a cross-sectional design, drawn from randomly selected universities in three regions in Tanzania. The data were gathered through a study skills assessment survey and analyzed using descriptive statistics, Mann-Whitney U test, Kruskal Wallis H test, and correlation analyses. The findings reveal that commonly used study skills include completing and submitting assignments on time (85%), identifying main ideas while reading (80%), studying in quiet environments (75%), taking notes from textbooks (70%), and taking notes during lectures (65%). Conversely, extended study time and peer comparison of notes were among the least utilized strategies. A strong correlation was observed between textbook and lecture note-taking ($\rho = .52, p < .001$), indicating consistency in note-taking behaviours. Overall study skills differed significantly across age groups, whereas no statistically significant differences were observed by gender or institutional affiliation. These results underscore the interconnected nature of certain study skills and highlight the need to promote underutilized skills.

Keywords: study skills, higher learning, study habits, Tanzania.

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SAŽETAK

Efektivne vještine učenja usko su povezane s boljim akademskim postignućem i višim ocjenama. Međutim, istraživanja pokazuju da većina studenata nema dovoljno razvijene vještine učenja, što negativno utiče na njihov akademski uspjeh i cjeloživotno učenje. Cilj ovog istraživanja bio je ispitati obrasce, međusobnu povezanost i demografske razlike u vještinama učenja kod studenata univerziteta u Tanzaniji. Podaci su prikupljeni na uzorku od 126 ispitanika primjenom presječnog istraživačkog dizajna, s nasumično odabranih univerziteta u tri regije Tanzanije. Podaci su prikupljeni anketom za procjenu vještina učenja, a analizirani primjenom deskriptivne statistike, Mann–Whitneyjevog U testa, Kruskal–Wallisovog H testa i korelacijskih analiza. Rezultati pokazuju da najčešće korištene vještine učenja uključuju završavanje i predavanje zadataka na vrijeme (85%), prepoznavanje glavnih ideja tokom čitanja (80%), učenje u mirnom okruženju (75%), vođenje bilješki iz udžbenika (70%) i vođenje bilješki tokom predavanja (65%). Nasuprot tome, duže vrijeme posvećeno učenju i poređenje bilješki s kolegama bili su među najmanje korištenim strategijama. Utvrđena je snažna povezanost između vođenja bilješki iz udžbenika i tokom predavanja ($\rho = .52, p < .001$), što ukazuje na dosljednost u ponašanjima vezanim za vođenje bilješki. Ukupne vještine učenja statistički su se značajno razlikovale između dobnih grupa, dok nisu utvrđene statistički značajne razlike prema spolu ili pripadnosti instituciji. Ovi rezultati naglašavaju međusobnu povezanost određenih vještina učenja i ukazuju na potrebu za promoviranjem nedovoljno korištenih vještina.

Ključne riječi: vještine učenja, visoko obrazovanje, navike učenja, Tanzanija.

INTRODUCTION

Effective study skills significantly influence academic performance and are essential for lifelong learning (Mohta, 2018; Mwaikokesya et al., 2018). Conversely, poor study skills have been associated with weak academic outcomes among university students (Hassanbeigi et al., 2011). As a result, considerable attention has been given to helping students develop effective study strategies, with instructors playing an important role in supporting students' acquisition and application of these skills (Gettinger & Seibert, 2002). Study skills refer to students' knowledge and application of appropriate learning strategies, including the ability to manage time and resources effectively to meet academic demands.

Research indicates that study skills are influenced by several factors. These include psychological, social, personal, and teacher-related factors, including self-perception, autonomy, concentration, note-taking, comprehension, emotional well-being, teaching practices, and parental support (Agarwal & Gupta, 2020; Onwuegbuzie & Daley, 1998). Previous studies have mainly examined the relationship between study skills, academic performance, self-regulated learning, and learning strategies (Hassanbeigi et al., 2011; Onwuegbuzie & Daley, 1998; Roediger & Butler, 2011; Pan, 2015; Boekaerts et al., 2000). Although the literature consistently reports a positive relationship between study skills and academic achievement, many students still demonstrate inadequate study skills. For example,

Didarloo and Khalkhali (2014) found that most students exhibited only moderate levels of study skills, while relatively few demonstrated high proficiency. Lack of study skills has been related to factors such as poor self-regulated learning, inadequate prior academic preparation, low motivation, digital distractions, psychological stress, and insufficient institutional academic support (Theobald, 2021).

In Tanzanian higher education, student enrollment increased substantially between 2020 and 2024, rising from 206,305 to 334,885 (National Bureau of Statistics, 2024). Despite this growth, concerns remain regarding learning outcomes, soft skills, and graduate competencies (Mutalemwa, Utouh, & Msuya, 2020). However, there is limited research on study skills among Tanzanian university students. Existing studies have instead focused on related aspects such as learning efforts (Abdulla, 2009), reading and information-seeking habits (Tinabo & Bakiri, 2025), and ICT competencies (Barakabitze et al., 2015). Additionally, institutional and contextual challenges, including limited counseling services and inadequate digital and collaborative skills among teachers and students, further affect students' learning experiences and academic focus (Maganga, 2016; Patrobas, Machumu, & Mtawa, 2023).

Demographic factors have also been linked to study skills. In some studies, female students demonstrate better study skills, particularly in time management and note-taking, and that study skills improve with age (Osai, 2012; Fazal, Hussain, & Majoka, 2012). However, other studies report either better academic outcomes among male students or no significant gender differences in study skills (Oyeka & Oyeka, 2024; Siswati & Corebima, 2017). These inconsistencies indicate the need for further investigation into demographic variations in study skills.

This study is guided by constructivist and metacognitive frameworks, which view learners as active participants who construct knowledge through engagement, reflection, planning, monitoring, and evaluation of their learning processes (McMillan & Hearn, 2008). Drawing on the cited theories, this study postulates that students' study skills are shaped by active engagement in learning, self-regulation, reflection, and the ability to plan, monitor, and evaluate learning activities, which together influence variations in studying, time management, note-taking, reading, memorizing, and test preparation among university students.

The study investigates study skills across six domains: studying, time management, note-taking, reading textbooks, memorizing, and preparing for tests. Specifically, it examines patterns, interrelationships, and demographic variations in study skills among university students to provide evidence-based insights for academic support services and curriculum development aimed at improving learning outcomes. The study was guided by three main research questions.

1. *How does students' use of study skills vary across different domains among university students in Tanzania?*
2. *How do study skills correlate with each other among university students in Tanzania?*
3. *How do demographic differences influence students' study skills among university students in Tanzania?*

MATERIAL AND METHODS

Sample of participant

Previous studies on study skills in Tanzania have primarily focused on secondary and upper secondary education. This study, however, involved students from selected Tanzanian universities. The universities were randomly chosen from three regions of Tanzania: the capital city Dodoma, the major business hub Dar es Salaam, and an intermediate region, Morogoro. A total of 126 participants took part in the study. The participants' ages ranged from 19 to 47 years (Mean = 26 years, SD = 5.2). The institutions represented included Mzumbe University (75 participants, 56%), University of Dodoma (25 participants, 18%), Open University of Tanzania (9 participants, 7%), University of Dar es Salaam (7 participants, 6%), and others (10 participants, 8%). Other institutions represented were Jordan University, Dar es Salaam Institute of Technology, Kampala International University, and the National Institute of Technology. Table 1 shows the number of participants involved in the study.

Table 1: Number of participants involved in the study

SN	Name of the Institution	Number of participants
1	Mzumbe University	75 (56%)
2	University of Dodoma	25 (18%)
3	Open University of Tanzania	9 (12%)
4	University of Dar Es Salaam	7(6%)
5	Other Institutions	10 (8%)
6	Total	126 (100%)

Method of conducting research

This study employed a cross-sectional quantitative design, collecting data from selected universities in three regions of Tanzania: Dodoma, Dar es Salaam, and Morogoro. The choice of a cross-sectional design is justified by its ability to examine patterns, relationships, and group differences at a single point in time. Additionally, it is quick to complete and cost-effective, enabling researchers to collect large datasets and make comparisons suitable for educational settings with limited time, access, and resources (Sedgwick, 2014; Figueiredo, Patino, & Ferreira, 2025). Furthermore, the design aligns with both constructivist and metacognitive theories employed in this study, as it captures learners' active engagement at a specific point in time. Nevertheless, cross-sectional designs cannot establish causality, and potential confounding factors may bias the relationships studied (Figueiredo, Patino, & Ferreira, 2025). Acknowledging these limitations, this study does not claim to explain causality or account for confounding variables that may have influenced students' study skills. Several other studies have utilized cross-sectional designs to investigate study skills, including Credé et al., (2008), and Nonis and Hudson (2010). This study aimed to collect quantitative data on various study skills employed by students during class sessions, separate study sessions, and preparation for final examinations.

Measuring instruments

Data were collected during the 2023–2024 academic year using an online survey distributed via email and WhatsApp. A quantitative self-report Study Skills Assessment Questionnaire (SSAQ), based on Weinstein and Palmer (2002) and adapted for the Tanzanian context through expert review, was administered through Google Forms, with completion taking 10–15 minutes. Prior to data collection, informed consent was obtained and anonymity assured. The instrument comprised 29 items covering six domains: studying, time management, note-taking, reading textbooks, memorization, and test preparation, with participants indicating the frequency of their study practices.

Data processing methods

This study collected quantitative data on students' ratings of their study skills using a self-administered questionnaire with. The data were analyzed quantitatively. Reliability analysis using Cronbach's alpha indicated adequate internal consistency of the questionnaire (Cronbach's $\alpha = 0.78$). Descriptive statistics, including means and frequencies, were computed for participants' demographic characteristics such as age, gender, and institution. The questionnaire consisted of 29 items, including categorical and ordinal variables. Gender and higher learning institution were treated as categorical variables and used in comparative analyses. Study skills were assessed using 29 Likert-type items measuring behaviours such as time management, note-taking, reading, memorizing, and test preparation. Responses were coded as *Often* = 3, *Sometimes* = 2, and *Rarely* = 1. Although individual Likert items are ordinal, aggregating multiple items into a composite score produces a quasi-continuous variable suitable for parametric analysis (Carifio & Perla, 2007; Norman, 2010); however, only non-parametric analyses were conducted. All items were retained, and no reverse coding was required because higher scores consistently reflected stronger study skills. The composite study skills score was calculated as the mean of all valid responses, with scores ranging from 1 to 3, where higher scores indicated more frequent use of study skills. The composite score was treated as a quasi-continuous variable in subsequent analyses, including correlation analysis (Credé & Phillips, 2011). Regarding the first objective, descriptive analysis was conducted to show frequencies, percentages, means, standard deviations of the examined study domains. Regarding the second objective, a correlational analysis using Spearman's ρ was conducted. The Spearman's ρ was selected due to the ordinal nature of the Likert-scale data and the non-normal distribution of responses. In the third objective, demographic differences in students' study skills were examined based on gender, age and institution. In this regard, non parametric tests, Mann-Whitney U test was used to analyse gender while Kruskal wallis H test was used to analyse age and institutional affliction versus study skills. This was done because the data did not meet the requirements for parametric analysis.

RESULTS AND DISCUSSION

This study investigated the patterns, interrelationships, and demographic variations of study skills among university students in Tanzania. First, the use of study skills by students is

discussed, followed by an analysis of the correlations between different study skills, and finally, the demographic differences in study skills among students are examined.

Students' Use of Study Skills Across Learning Domains

The first objective of the study was to examine students' use of study skills across six learning domains: studying, time management, note-taking, textbook reading, memorization, and test preparation. The findings revealed that completing homework and submitting it on time was the most frequently employed strategy (85%), followed by reading to identify main ideas (80%), studying in a quiet place with minimal distractions (75%), taking notes while reading a textbook (70%), and taking notes during class sessions (65%).

Table 2: Most frequently reported study skills based on often responses

Study skill	Most frequent response %
Q25: I do all homework assignments and turn them in on time	85%
Q22: I look for the main ideas as I read	80%
Q3: I study where it is quiet and has few distractions	75%
Q13: I take notes as I read my textbooks	70%
Q14: I take notes during class lectures	65%

Conversely, students infrequently used strategies such as studying for at least two hours after class sessions (40%), comparing notes with classmates (35%), having all study supplies prepared (30%), and using study planners (35%). Table 2 presents the most frequently reported study skills, whereas Table 3 shows the study skills that were rarely used.

Table 3: Rarely used study skills based on students' responses.

Study skill	Rarely Response %
Q7: I study at least two hours for every hour in class	40%
Q16: I compare my notes with a classmate	35%
Q6: I have all my supplies ready when I study	30%
Q8: I use a planner for activities	30%
Q11: I start papers/projects as soon as assigned	25%

Firstly, the findings show that the most commonly used study skills were completing and submitting assignments on time, engaging in strategic reading (focusing on main ideas), and studying in a calm environment. The emphasis on timely submission of assignments may be linked to the authority exercised by instructors in the selected universities. In many cases, instructors in universities act as the main evaluators of students' learning and have the power to accept or reject late submissions, which encourages students to meet deadlines. This may explain why timely submission of work took precedence among many participants. The findings of this study are supported by Machumu and Zhu (2019) and Almasi and Zhu (2018) who found that students often tailor their study habits to meet examination demands. For instance, Almasi and Zhu (2018) observed that students actively used WhatsApp groups for question-and-answer discussions, particularly during examination periods. Interestingly, students also tend to rely on less demanding strategies, such as rereading, rather than more

effort-intensive approaches like planning, organizing, and preparing study materials (Dunlosky et al., 2013). This may be explained by human tendency to reduce cognitive load and use mental shortcuts when solving problems, a phenomenon widely explained in psychology literature, particularly in theories of cognitive load and heuristics. Secondly, the rarely used study skills were studying for at least two hours per lesson, comparing notes with classmates, and preparing all necessary materials in advance. This suggests that students were not well prepared in planning and organizing their study environment, nor did they engage much in peer review. Such patterns may reflect low self-regulation in managing study activities. From both constructivist and metacognitive perspectives, this indicates limited initiative and weak self-monitoring in learning. Consistent with this, Gettinger and Seibert (2002) demonstrate that students often rely on irregular and reactive study habits. Overall, these findings align with broader evidence that sustained and well-structured study practices are relatively uncommon among students. Peer review was rarely used by the students, despite strong evidence of its effectiveness in enhancing learning (Topping, 2005; Brierley, Ellis, & Reid, 2022; Hamilton-Hinch et al., 2023). This may be because students do not naturally engage in collaboration without guidance and often view learning as an individual activity (Topping, 2005; Bruffee, 1999) or having low awareness and fear of peer judgment (Webb, 2009). However, this study did not examine the specific reasons for the low engagement in collaborative tasks such as peer review. Overall, the findings are consistent with literature showing that peer-based strategies remain underutilized despite their proven benefits. Furthermore, research indicates that students spend little time studying after class, often overestimate their study duration, engage in brief, fragmented sessions, and rely on last-minute cramming rather than planned, extended study periods (Ashby et al., 2005), which supports the results of the current study.

Correlations between study skills

The second objective examined relationships among participants' study skills using Spearman's rank-order correlations. Table 4 presents significant positive associations, with the strongest correlation observed between taking notes from textbooks and during lectures (Q13 & Q14, $\rho = .52$, $p < .001$), indicating consistent note-taking habits. Lecture note-taking was also significantly related to timely homework completion (Q14 & Q25, $\rho = .45$, $p < .001$), while studying with peers correlated with help-seeking behaviors (Q23 & Q24, $\rho = .42$, $p < .001$). Overall, note-taking is associated with task completion, and collaborative behaviours tend to co-occur. Studying in a quiet environment was moderately correlated with taking breaks (Q3 & Q4, $\rho = .35$, $p = .002$), reflecting tendencies towards self-regulated learning. Assignment completion also correlated with early test preparation (Q25 & Q10, $\rho = .30$, $p = .008$), suggesting that timely task completion supports advance preparation. A correlation was found between note-taking from texts and organizing main ideas (Q13 & Q17, $\rho = .28$, $p = .013$), indicating that note-takers are more likely to structure their understanding. Overall, the results highlight the interconnectedness of study skills, with note-taking and collaborative strategies showing the most consistent associations (see Table 4).

Table 4: Spearman's rank-order correlations between selected study skills

Study skill pair	Correlation (ρ)	p-value	95% CI	Effect Size
Q13 (Text notes) & Q14 (Lecture notes)	.52	<.001	[.38, .64]	Large
Q14 (Lecture notes) & Q25 (Homework)	.45	<.001	[.30, .58]	Moderate-Large
Q23 (Group study) & Q24 (Seek help)	.42	<.001	[.26, .55]	Moderate-Large
Q3 (Quiet place) & Q4 (Take breaks)	.35	.002	[.18, .50]	Moderate
Q25 (Homework) & Q10 (Early prep)	.30	.008	[.12, .46]	Small-Moderate
Q13 (Text notes) & Q17 (Organization)	.28	.013	[.10, .44]	Small-Moderate

*Note: N = 104. Confidence intervals were calculated using Fisher's z transformation. Effect size interpretations based on Cohen's (1988) conventions: small = .10, moderate = .30, large = .50. * Only correlations with $p < .05$ are reported.

Based on the second objective, the findings reveal positive correlations among study skills such as note-taking, collaboration, engagement, and academic responsibility. These results highlight the interconnected nature of study skills, where note-taking, engagement, and task completion reinforce one another. Similar patterns are reported by Morehead et al. (2019), who found that students tend to take notes consistently across learning contexts. This may be explained by cognitive processes of encoding and storage that support deeper understanding and transfer (Khan et al., 2020; Costley & Fanguy, 2021). However, note-taking alone may be insufficient unless students actively engage with their notes, as emphasized by Courtney et al. (2022) and metacognitive perspectives. The relationships among collaboration, engagement, and homework completion further suggest that active participation and peer interaction support learning, though their effectiveness may vary depending on factors such as group dynamics and cognitive load, and may sometimes lead to confusion or overload. Finally, links between homework completion, early test preparation, and organizational strategies reflect self-regulation. These findings align with constructivist and metacognitive perspectives which emphasize interaction and shared meaning-making, planning and strategic engagement. Students may be adjusting their learning strategies through these approaches, consistent with findings by Viberg and Kukulska-Hulme (2022).

Demographic difference in study skills among students

The third objective of the study was to examine demographic difference in study skills among students. Regarding gender differences, the results of Mann–Whitney U test showed no statistically significant difference in overall study skills scores ($U = 1761.5$, $p = .190$).

However, females reported higher frequencies of homework completion (88% vs. 82%) and planner use (40% vs. 35%), whereas males reported slightly more study hours per class (30% vs. 25%). Generally, study skills may not be influenced by gender but other factors such as psychological, personal and situational may have a role to play.

Concerning age, a Kruskal–Wallis H test revealed a significant effect of age on study skills, $H(2) = 8.94$, $p = .011$, $\epsilon^2 = 0.12$. Post hoc comparisons showed that participants aged 19–25 scored significantly lower than those aged 26–35 ($p = .048$) and 36+ ($p = .009$), indicating stronger study skills among older students. In contrast, no significant differences were found across universities, $H(3) = 3.67$, $p = .299$, $\epsilon^2 = 0.04$, suggesting minimal institutional influence on study skills. The fact that older students show better study skills compared to young ones may be explained by factors such as experience and familiarity with the university learning environment.

Overall, the current study found no statistically significant gender differences in overall study skills ($U = 1761.5$, $p = .190$). This suggests that gender does not influence students' study skills. These findings align with Ezeala and Siyanga (2015), Sekar and Rajendran (2015), and Ayodele and Adebisi (2013). However, minor differences were noted in frequencies of homework completion and planner use among females, while males reported slightly more study hours per class. Similar patterns of no gender differences in specific skills such as time management, note-taking, reading, and writing have also been reported by Mukingambo et al. (2021).

In contrast, age was significantly associated with study skills, suggesting that learning experience contributes to skill development. This finding aligns with studies reporting stronger study skills among older or more academically experienced students (Osai, 2012; Powell, 2011), although some studies have found no age differences (Ezeala & Siyanga, 2015). The findings therefore highlight the need for targeted study skills training for newly enrolled students.

CONCLUSION

This study examined the patterns, interrelationships, and demographic variations of study skills among university students in Tanzania, focusing on usage, correlations, and group differences.

Findings show that students mainly rely on a limited set of study skills, particularly timely submission of assignments, identifying main ideas during reading, note-taking, and studying in quiet environments. Though the study skills seem intentional and structured but seem to be narrow. This shows students show partial self-directed learning. The studied students showed weaknesses in planning, preparation of study materials, and peer review, suggesting gaps in time management, systematic planning, and collaborative learning. Overall, while students demonstrate commitment to basic academic tasks, their study approach remains largely strategic rather than comprehensive. These findings suggest the need for targeted interventions to strengthen peer learning, study planning, and metacognitive skills to enhance self-regulated learning.

Secondly, the interrelationships among study skills show that most skills are positively interconnected. The pattern of correlations among note-taking, collaboration, engagement,

and academic responsibility suggests that note-taking is a transferable skill that supports learning across contexts. Overall, effective learning appears to depend on integrated, mutually reinforcing study skills rather than separate practices.

Lastly, with the exception of age, neither gender nor institutional affiliation significantly influence students' overall study skills. Generally, students demonstrated comparable levels of study skills use, suggesting that these skills may be shaped by other factors such as academic demands, culture, and learning environments rather than by demographic differences. Older students tend to have better skills than young ones, this may be attributed to accumulated experience of the older students. Although no significant gender or institutional differences were found in overall study skills, minor variations in specific practices suggest that students adopt different learning strategies in managing their studies. Despite these subtle differences, both male and female students require further support in developing key skills such as collaborative learning and academic planning.

Limitations of the study

Finally, although this study provides empirical evidence on the patterns, use, and interrelationships of study skills among university students in selected Tanzanian institutions, the relatively small sample size limits the generalizability of the findings.

In addition, the cross-sectional design restricts the ability to examine the influence of other potentially important variables, suggesting that study skills may also be shaped by cultural, educational, psychological, and social factors that were not investigated in this study. Furthermore, the exclusive use of quantitative methods limits understanding of students' lived experiences, which could provide deeper insights into study behaviours.

Therefore, future research should employ larger and more nationally representative samples, adopt mixed-methods approaches to capture both quantitative and qualitative perspectives, and examine broader social, psychological, educational, and cultural influences on study skills. Longitudinal designs would also help explain how study skills develop over time and whether demographic differences change with academic progression rather than remaining static.

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