

Institutional Factors Influencing Self-Directed Learning Readiness among Nursing Students in Medical Training Colleges in Siaya County, Kenya

Moses J. Abiri¹, Damaris A. Ochanda², David K. Kaniaru³

¹Department of Nursing Research, Education and Management, School of Nursing, Midwifery & Paramedical Sciences, Masinde Muliro University of Science and Technology, Kenya.

e-mail: abirimoses@yahoo.com

²Department of Nursing Research, Education and Management, School of Nursing, Midwifery & Paramedical Sciences, Masinde Muliro University of Science and Technology, Kenya.

e-mail: dochanda@mmust.ac.ke

³Department of Health Professions (Medical) Education, School of Public Health, Biomedical Sciences & Technology, Masinde Muliro University of Science and Technology, Kenya.

e-mail: dkaniaru@mmust.ac.ke

Received January 25, 2024, accepted February 15, 2024, Published April 1, 2024.

ABSTRACT

Context: Self-directed learning (SDL) is a prominent pedagogical approach in nursing education. The success of self-directed learning hinges upon an individual's readiness, which is influenced by the complexity of factors. Self-directed learning readiness represents an individual's capacity and willingness to take charge of their learning journey. Evaluating factors influencing self-directed learning readiness is pivotal for educational planning, aiding in selecting appropriate instructional methods tailored to students' academic strengths and weaknesses.

Aim: The study aimed to investigate institutional factors influencing self-directed learning readiness among nursing students in Medical Training Colleges in Siaya County

Methods: A cross-sectional analytical study design was adopted. The study was conducted among 404 nursing students in the Bondo and Siaya campuses of Kenya Medical Training College. Data on socio-demographics and institutional factors were collected using a self-administered questionnaire, and individuals' readiness was measured using Fisher's self-directed learning readiness scale.

Results: The majority of the students were female (67.1% n=271) compared to males (32.9% n=133), and overall, the self-directed learning readiness level among both of them was high among 73.5% of the studied students, with a mean score of 157.2. Notably, institutional factors that significantly influenced self-directed learning readiness were access to the institution's internet connectivity (OR=0.635; 95% CI=0.407-0.991; p=0.046) and self-directed learning mentorship (OR=0.402; 95% CI=0.213-0.76; p=0.005).

Conclusion: Access to internet connectivity and self-directed learning mentorship are crucial institutional factors significantly influencing self-directed learning readiness among nursing students. This study recommends strengthening mentorship strategies for self-directed learning and providing reliable internet connectivity to students at all times to enhance their readiness to learn.

Keywords: Institutional factors, nursing students, self-directed learning readiness

Citation: Abiri, M. J., Ochanda, D. A., & Kaniaru, D. K (2024). Institutional factors influencing self-directed learning readiness among nursing students in medical training colleges in Siaya County, Kenya. *Evidence-Based Nursing Research*, 6(2), 29-36. <https://doi.org/10.47104/ebnrojs3.v6i2.335>.

1. Introduction

Self-directed learning (SDL) has garnered global attention as an effective instructional approach integrated into the curricula of healthcare professionals that demonstrates consistently positive educational outcomes (Al Moteri, 2019; Hill et al., 2020). Recognizing this shift, the World Health Organization (WHO) has recommended the integration of self-directed learning modalities into the delivery of nursing curricula on an international scale (WHO, 2009).

Moreover, to effectively and efficiently implement self-directed learning within the curriculum, nurse educators must be grounded in adult learning theories and principles, a cornerstone element of self-directed learning (WHO, 2016). However, success in being self-directed in learning depends mainly on the learner's readiness (Morris, 2019).

Self-directed learning readiness is the ability and willingness to direct learning (Hain, 2020). Previous studies

have underscored the importance of assessing self-directed learning readiness as a fundamental step in educational planning, as it sheds light on students' academic strengths and weaknesses. Furthermore, understanding a learner's self-directed learning readiness contributes to creating educational environments that nurture learner-centered approaches, ultimately enhancing student autonomy and fostering mutual responsibility for lifelong learning (AlRadini et al., 2022; El-Gilany et al., 2013).

Several factors influence self-directed learning readiness among students; for instance, a study conducted in Indonesia Tadulako University among medical students by Ramli et al. (2018) identified a supportive academic environment as an institutional factor among others to influence self-directed learning readiness.

It is important to recognize that a significant portion of students' knowledge acquisition occurs within the confines of an educational institution, as was evident during the COVID-19 pandemic when there was the closure of many institutions of higher learning (World Bank, UNESCO & UNICEF, 2021). A systematic review's findings also emphasized how various institutional factors are crucial to self-directed learning readiness. For example, absent essential educational materials, uncooperative instructors, and limited time availability can impede self-directed learning readiness (Beckers et al., 2016).

2. Significance of the study

On a global scale, the integration of self-directed learning within nursing education has been instrumental in equipping students with the continuous learning abilities necessary to evolve into autonomous learners, thus preparing them to deliver competent care within intricate healthcare environments (Kaur et al., 2020; Rascón-Hernán et al., 2019; WHO, 2009).

The Kenya Medical Training College (KMTC) has embraced the pedagogical philosophy of self-directed learning in its community health nursing program. The program curriculum divides each academic year into two semesters, with each week comprising 30 hours of theoretical instruction alongside 5 hours dedicated to self-directed learning. Furthermore, learners are expected to seamlessly integrate the concept of self-directed learning throughout their training (Kenya Medical Training College (KMTC), 2019).

Nevertheless, despite incorporating this philosophy into the educational framework, it is observed that students often display reservations towards this approach, occasionally favoring traditional methods of instruction. This preference might be linked to their readiness for self-directed learning, a facet that remains relatively unexplored among nursing students in middle and low-income countries (Alharbi, 2018; Van Zyl, 2019).

The successful implementation of self-directed learning hinges on various institutional factors, with an imperative requirement for satisfactory levels of self-directed learning readiness to facilitate acceptance, participation, and satisfaction (Karimi, 2016; Mahlaba, 2020). Although institutional factors are considered critical to self-directed learning readiness, there are no studies in Kenya Medical Training College (KMTC) on how various institutional factors influence self-directed learning readiness among nursing students. Therefore, the outcomes of the present study are poised to offer valuable insights to decision-makers and educators within the nursing education community in Kenya and beyond on various institutional factors influencing self-directed learning readiness. Furthermore, the study findings are foundational for future research endeavors in self-directed learning readiness.

3. Aim of the study

The study investigated institutional factors influencing self-directed learning readiness among nursing students in Medical Training Colleges in Siaya County.

3.1. Operational definitions

Nursing students: Persons admitted into and pursuing a community health nursing training program diploma in Kenya Medical Training College.

Self-directed learning is an intentional learning process that the learner creates, implements, and evaluates.

Self-directed learning readiness is the level of ability and willingness at which students take responsibility for their learning process, determine their learning goals, and select appropriate resources to achieve their learning objectives.

4. Subjects & Methods

4.1. Research Design

This study employed a cross-section analytical design to investigate institutional factors influencing self-directed learning readiness among nursing students training in Medical Training Colleges in Siaya County, Kenya. The design was adopted because it is appropriate for describing the relationships among phenomena at a fixed point in time (Polit & Beck, 2018). The period of data collection was from September 2022 to December 2022.

4.2. Study setting

This study was conducted in the Bondo and Siaya campuses of Kenya Medical Training Colleges (KMTC) within Siaya County.

The Bondo campus was established in March 2012 and is adjacent to the Bondo County Hospital. The campus offers three health-related courses: Clinical Medicine Surgery (Diploma), Community Health Nursing (Diploma), and Health Records and Information Technology (Certificate, Upgrading, and Diploma). It has a total student population of 988 (Kenya Medical Training College (KMTC), 2022).

Siaya campus was located next to Siaya County Referral Hospital and was established in September 2005. It offers 4 health-related courses: Clinical Medicine and Surgery (Diploma), Community Health Nursing (Diploma), Health Records and Information (Certificate and diploma), and Community Health (Certificate). The total student population is 1050 (Kenya Medical Training College (KMTC), 2022).

4.3. Subjects

A total of 672 nursing students (in years 1,2, and 3) was the target population for the study, out of which 350 and 322 nursing students were from the Siaya and Bondo campuses, respectively. The sample size was calculated using Kish's (1965) formula for cross-sectional design.

$$= \frac{P(1-P)Z^2}{d^2},$$

Where:

P = the proportion of phenomena of interest in the population (set at 50% maximum, given that this readiness level has not been explicitly provided in the studies conducted in developing countries; therefore, the 50% proportion gives the maximum possible sample size required to detect any statistically significant differences in the population).

Z = is the level of significance (set at 1.96), and 'd' is the acceptable sampling error (set at 5%, 0.05). To mitigate against non-response or account for any missing students who were at different campuses for their clinical

rotation experiences at the time of data collection, a 10% rate was included in the sample size (Kish, 1965)

$$N = \frac{0.5(1-0.5)1.96^2}{0.05^2}, = 384 \text{ students}$$

To account for missing students, 10% of 384 = 38 was included. Therefore, the total sample size was 384 + 38 = 422 students.

Given that the two colleges had similar intakes per year and almost similar student populations for the nursing program, the sample size was divided equally between the two campuses: 211 respondents per campus.

Table (1): Sample allocation from the two study settings.

Target population	Interview Method/Tool	Total Sample
Bondo KRCHN students		
Year 1 (71)	Self-administered questionnaire	211
Year 2 (70)		
Year 3 (70)		
Siaya KRCHN students		
Year 1 (71)	Self-administered questionnaire	211
Year 2 (70)		
Year 3 (70)		
Total	Self-administered questionnaire	422

The study initially aimed to collect responses from a sample of 422 respondents. However, 404 (n=404) respondents provided fully completed questionnaires.

A purposive sampling method was used to select Siaya County with the most Kenya Medical Training College (KMTC) campuses from the 41 Counties in Kenya. The two campuses (Siaya and Bondo) were also purposively selected as they are the only KMTC campuses within Siaya County offering diploma training in Community Health Nursing (Kenya Medical Training College (KMTC), 2022). A simple random sampling method was adopted to select the study respondents.

Inclusion criteria

- Nursing students in years one, two, and three of their academic study.
- Nursing students who had completed at least one trimester from admission.
- Nursing students who consented to participate in the study.

Exclusion criteria

- Nursing students who meet the inclusion criteria but were away on sick off or out of campus during the study period.
- Nursing students who did not give consent to participate in the study.

4.4. Tools of data collection

4.4.1. Self-Administered Questionnaire

A self-administered questionnaire was used to collect data on socio-demographics and institutional factors influencing self-directed learning readiness (SDLR). The socio-demographics data included the respondents' age, gender, highest qualifications attained before enrolment at KMTC, specific campus affiliation, year of study, and marital status. At the same time, institutional factors included learning resources (core textbooks), Internet/Wi-Fi connectivity, instructional methods, and SDL mentorship.

4.4.2. Self-Directed Learning Readiness Scale

The Self-Directed Learning Readiness scale was developed by Fisher et al. (2001) and adopted to gather data on self-directed learning readiness levels. The scale comprises a collective sum of 40 items categorized into three distinct subscales: self-management (13 items), the desire for learning (12 items), and self-control (15 items).

Scoring system

The replies were graded on a five-point Likert scale, where '1' indicated strongly disagree, and '5' showed strongly agree. Reverse scoring was employed for four negatively worded statements, namely: "I am poor at managing my time," "I dislike studying," "I am disorganized," and "I am not in control of my life." The lowest recorded score among the totals was 40, while the highest recorded score was 200. A total score exceeding 150 on this scale suggests a high level of self-directed learning readiness. Conversely, a total score equal to or less than 150 indicates low self-directed learning readiness.

4.5. Procedures

The self-directed learning readiness scale is a pre-validated tool (Fisher et al., 2001), and the self-administered questionnaire was designed to capture both independent (institutional factors) and dependent (self-directed learning readiness) study variables. Professional advice on the tool was sought from experts in the subject matter, and their suggestions were incorporated into the tool.

A preliminary assessment of the study tool was conducted on a cohort of 42 nursing students at the KMTC-Busia campus, representing 10% of the total sample size. The purpose of this pretest was to evaluate the tool's comprehensibility and practicability, identify any required adjustments, and determine the feasibility of the research process. The tool's reliability was tested using Cronbach's alpha coefficient test, which was at 0.852 for the self-directed learning readiness scale.

Ethical approval for this research was acquired from the Directorate of Postgraduate Studies: REF.MMU/COR:509099, Institutional Scientific and Ethics Review Committee (ISERC) of Masinde Muliro University of Science and Technology-REF.MMU/COR:403012 Vol 6(01). A research license to collect data was obtained from the National Commission for Science, Technology, and Innovation (NACOSTI)-License No. NACOSTI/P/22/18995. The County Commissioner- REF sought permission to collect data among students within Siaya County. CC/SC/A.31 VOL.IV/91 and County Director of Education-REF.MOE/SYA/CDE/URA/1/10/VOL.II/51, the principal KMTC- Siaya- REF Sya/MTC/TR.84/VOL.1/193 and KMTC-Bondo. Furthermore, formal permission to adopt the Self-directed learning readiness scale was obtained from Fisher through email.

The researcher recruited four research assistants and trained them for one day on the study objectives, data collection tool, administration of consent, and how to handle and keep completed questionnaires from the study respondents. After that, with the help of the head of department (HOD) of the respective campuses, the nursing

students were assembled in their classrooms as per the year of academic study and sampled before the start of data collection. The researcher explained the purpose and the benefits of participating in the study and clarified any questions from the students. The research assistants then gave consent to the study respondents and issued self-administered questionnaires to all who consented. This questionnaire was completed by the study respondents in less than 30 minutes, and the researcher and the research assistants collected the completed questionnaire. The data was collected from September 2022 to December 2022.

4.6. Data analysis

Data collected was entered in Statistical Package for Social Science (SPSS) software for analysis version 24. Descriptive statistics: Mean, frequency, percentages, and range were calculated. Relationships between the independent variable (institutional factors) and dependent variable (self-directed learning readiness) were computed using bivariate analysis. P-values, odds ratios, and 95% confidence intervals were reported. P-values less than 0.05 were considered statistically significant.

5. Results

Table 2 presents the frequency and percentage distribution of the demographic characteristics of the respondents. The mean age of the respondents was 23.0±3.8, while a majority of respondents, 42.8% (n=173), fell within the age range of 17-21 and 41.1% fell within the age range of 22-26. Females, 67.1% (n=271), were more than men, 32.9% (n=133). Regarding the highest qualifications held before joining KMTC, the data revealed that 44.1% (n=178) of the respondents had already attained a post-KCSE certificate, diploma, and bachelor's degree in other professions before embarking on nursing courses at KMTC.

Table 3 demonstrates the frequency and percentage distribution of students' self-directed learning readiness. The majority of the respondents, 73.5% (n=297), had a high level of self-directed learning readiness, while 26.5% (n=107) had a low level of self-directed learning readiness.

Table 4 illustrates the respondents' overall levels of self-directed learning readiness by computing the various parameters of the self-directed learning readiness (SDLR) scale. The outcome analysis of the 40 items of the 3 SDLR parameters indicates that the SDLR level among the respondents is notably high, mean score of 157.2. Among the SDLR parameters, self-control with 15 items had the highest score of 58.6.

Table 5 shows the frequency and percentage distribution of various institutional factors influencing self-directed learning readiness. Most of the respondents, 68.6% (n=277), had access to core textbooks in every course in the college library, and about half of the respondents, 52.2% (n=211), had access to college internet connectivity/Wi-Fi. The lecture method was the most preferred instructional method by lecturers, 72.5% (n=293). 78% (n=315) of the studied students reported a lack of self-directed mentorship in their college.

On providing the course outline, 92.6% (n=374) of the respondents were supplied with the course outline at the start of every unit. However, 73.3% (n=296) of the respondents did not receive orientation on SDL. Self-motivation, 44.3% (n=179), and course structure, 43.1% (n=174), were the leading motivators for SDL among the respondents. The major hindrances to SDL among the respondents included time constraints of 53.7% (n=217) and course load of 35.4 (n=143).

Table 6 presents the outcomes of the logistic regression analysis on the relationship between self-directed learning (SDL) readiness and institutional factors. Mentorship (OR=0.402; 95% CI=0.213-0.76; p=0.005) and internet connectivity (OR=0.635; 95% CI=0.407-0.991; p=0.046) were statically significant factors influencing self-directed learning readiness

Table (2): Frequency and percentage distribution of the demographic characteristics of the respondents (n=404).

Variable	Frequency	Percentage
Age		
Mean age±SD		
23.0±3.8		
17-21	173	42.8
22-26	166	41.1
27+	65	16.1
Gender		
Male	133	32.9
Female	271	67.1
Highest qualifications		
KCSE	226	55.9
Post-KCSE certificate	74	18.3
Diploma	75	18.6
Bachelor's degree	29	7.2
Campus		
Bondo	221	54.7
Siaya	183	45.3
Year of Study		
1	157	38.9
2	124	30.7
3	123	30.4
Marital status		
Married	64	15.8
Single	330	81.7
Widowed	1	0.2
Divorced/separated	9	2.2

Table (3): Frequency and percentage distribution of respondents' self-directed learning readiness (n=404).

SDLR levels	Frequency	Percent
Low - Not ready (≤150)	107	26.5
High - Ready (>150)	297	73.5

Table (4): Overall levels of self-directed learning readiness dimensions among the students

SDLR Parameter	Number of items	Mean±SD
Self-management	13	51.2±5.4
Desire for learning	12	47.4±4.5
Self-control	15	58.6±5.3
Total SDLR	40	157.2±12.2

Table (5): Institutional factors influencing self-directed learning readiness (n=404).

Factor	Frequency	Percent (%)
Do you have access to core textbooks in every course in your college library?		
Yes	277	68.6
No	127	31.4
Are you able to access college internet connectivity/Wi-Fi?		
Yes	211	52.2
No	193	47.8
Teaching method commonly used		
Lecture	293	72.5
Demonstration	4	1.0
Group discussion and presentations	99	24.5
Self-directed learning approach	8	2.0
Course outline provided at the start of every unit		
Yes	374	92.6
No	30	7.4
Do you have self-directed learning mentorship in your college?		
Yes	89	22.0
No	315	78.0
Did you receive orientation SDL?		
Yes	108	26.7
No	296	73.3
Do you use SDL in your learning?		
Yes	330	81.7
No	74	18.3
What motivates you to use self-directed learning?		
Self	179	44.3
My teachers	27	6.7
My peers	24	5.9
Course structure	174	43.1
What hinders you from using SDL?		
Self	34	8.4
My teachers	10	2.5
Course structure and load	143	35.4
Time constraints	217	53.7

Table (6): Bivariate analysis of the institutional factors and self-directed learning readiness.

Factors	OR	95% CI		p-value
		Lower bound	Upper bound	
Access to textbooks in the library				
Yes	Ref			
No	1.102	0.682	1.782	0.691
Access to internet/Wi-Fi				
Yes	Ref			
No	0.635	0.407	0.991	0.046
SDL mentorship				
Yes	Ref			
No	0.402	0.213	0.76	0.005
Orientation on SDL				
Yes	Ref			
No	0.786	0.47	1.315	0.359

6. Discussion

The promotion of SDL in medical education, which depends on the student's level of readiness, has emerged as a global imperative, given the heightened demand for self-directed learners in the 21st century who consistently achieve their learning goals (*du Toit-Brits, 2019*). Readiness for SDL is determined by various factors in the academic environment (*Leatemia et al., 2016*). Therefore, this study investigated institutional factors influencing self-directed learning readiness among nursing students in Medical Training Colleges in Siaya County.

Demographic characteristics of the respondents reveal that the study respondents' average age of 23.0 ± 3.8 years is consistent with the typical age range for individuals pursuing nursing education. The majority fell within the age range of 17-21 for more than two-fifths of the students, and about a fifth of the students were within the age range of 22-26, reflecting the trend of students entering nursing programs immediately after completing their secondary education. These findings align with the *International Council of Nurses (ICN) (2023)* report on the nursing workforce, which observed a younger cohort of nurses entering the clinical practice.

This study's results showed that the highest percentage of the respondents were female compared to males. Men continue to be a minority in the nursing profession, as was revealed in the report on the state of world nursing (WHO, 2020). The dominance of females can be attributed to the perception of nursing careers as more suited to women, thus a barrier to men interested in pursuing nursing education as more females enroll for the course than males (Zhang & Tu, 2020).

The study findings also demonstrate that nursing courses are highly competitive and attract students of diverse professional backgrounds. Notably, more than one-third of the students had other qualifications (certificate, diploma, and bachelor's degree) than the Kenya Certificate of Secondary Education in different fields before joining KMTC for a nursing diploma course.

Regarding self-directed learning readiness, the study's results show that more than two-thirds of the respondents had a high level of SDLR and, therefore, were ready to embrace self-directed learning as a pedagogical approach in nursing education. Nearly one-third of the respondents were not ready for self-directed learning because they had a low level of self-directed learning readiness. This outcome is commensurate with a study done in Nepal among nursing students on the level of self-directed learning readiness, which concluded that more than two-thirds of the students were ready for self-directed learning (Singh & Paudel, 2020)

The level of self-directed learning readiness (SDLR) was explored using the three parameters of the self-directed learning readiness scale, which collectively contribute to students' overall SDLR. The study reveals that the respondents had a high level of SDLR, mean score of 157.2. These findings indicated the students were ready to use a self-directed learning approach. These findings are congruent with a study in Pakistan, which revealed that the students had a high level of self-directed learning readiness, with a mean score of 153.0 (Said et al., 2015). However, some dissimilarities in findings were reported in a study conducted in China among college students on self-directed learning readiness by Yang and Jiang (2014), which reported a low level of self-directed learning readiness, with a mean score of 148.55. However, of the three SDLR parameters, self-control exhibited the highest mean, indicating a strong sense of discipline and control among the students. The findings are similar to a study in Nepal among nursing students on readiness for SDL using a similar scale, which revealed that the self-control parameter of SDLR had the highest mean of 58.65 (Singh & Paudel, 2020)

Institutional factors influencing self-directed learning readiness reveal that many students had access to core textbooks in the college library, indicating a relatively favorable situation regarding educational resources for SDL. However, around half of the students had this privilege regarding internet access. Notably, internet access significantly influenced SDL readiness, with students having connectivity exhibiting higher readiness. This result resonates with the idea that online resources can boost self-directed learning (Rashid & Asghar, 2016). Access to the Internet enables students to acquire e-books and other

materials, which is particularly beneficial for those without easy access to physical textbooks.

In contrast, the lecture method was the predominant teaching approach used by lecturers due to the need to cover extensive curriculum content in a limited time. However, this conventional teaching approach is different from promoting SDL. This finding highlights the necessity for a pedagogical shift towards more self-directed learning-oriented teaching methods (World Bank, UNESCO & UNICEF, 2021). Only a small percentage of respondents reported the utilization of SDL as a teaching method, indicating room for improvement in integrating self-directed learning into nursing education.

While providing course outlines at the beginning of each unit was common, orientation on SDL was lacking for many students. This lack suggests that while students have a clear course structure, they may need to be adequately prepared or oriented for SDL. Orientation on SDL is essential to equip students with the skills and mindset necessary for self-directed learning (Garrison, 1997). The absence of orientation may hinder students' ability to take full advantage of SDL opportunities.

Self-motivation and course structure design emerged as leading motivators for SDL. This finding aligns with the Candy Model of self-directed learning proposal that intrinsic motivation and a conducive learning environment can foster SDL (Candy, 1991). Conversely, time constraints and course load were significant barriers to SDL. Time constraints have consistently been recognized as a challenge in SDL (Khalid et al., 2020). These findings underscore the importance of creating flexible schedules and manageable course loads to promote SDL.

Students receiving self-directed learning (SDL) mentorship were notably more prepared for self-directed learning, with a higher odds ratio than those without mentorship. This finding underscores the critical role of mentorship in nurturing SDL readiness. The positive impact of mentorship aligns with previous research emphasizing the importance of guidance and support in SDL (Knowles, 1975; Candy, 1991). Mentorship provides students with strategies, motivation, and a supportive environment for SDL. The curriculum review of the Kenya Medical Training College (KMTC) diploma in community health nursing reveals no explicit SDL mentorship mechanism. However, in the curriculum course's organization, self-directed learning appears as a sub-topic in the communication module (Kenya Medical Training College (KMTC), 2019).

7. Conclusion

The findings provide valuable insights into the institutional factors influencing self-directed learning (SDL) readiness among nursing students in Siaya County's medical training colleges.

Firstly, access to the internet and Wi-Fi connectivity emerged as a crucial institutional factor positively associated with SDL readiness. Students with access to online resources are better equipped for self-directed learning, highlighting the importance of technology in facilitating independent learning. This finding underscores the need for institutions to provide reliable internet access and promote the use of online educational materials to enhance SDL readiness.

Secondly, SDL mentorship programs significantly influenced students' readiness for self-directed learning. Those who received mentorship in SDL demonstrated a higher level of SDL readiness, emphasizing the pivotal role of mentorship in guiding and supporting students in their self-directed learning journey. This finding highlights the importance of institutions establishing and maintaining effective mentorship programs to foster SDL skills among nursing students.

However, factors such as access to textbooks in the library and orientation on SDL did not yield significant associations with SDL readiness in this study. While these factors are important, their impact on students' readiness for self-directed learning may be influenced by other variables or require further exploration and enhancement.

These findings underscore the need for nursing education institutions in Siaya County and similar contexts to prioritize internet access and mentorship programs as integral components of their strategies to promote self-directed learning readiness among nursing students. Recognizing the influence of these institutional factors can contribute to the development of more autonomous and empowered nursing professionals prepared to navigate the evolving landscape of healthcare education and practice.

8. Recommendations

This study recommends strengthening mentorship for self-directed learning among nursing students by the board of directors of Kenya Medical Training College.

In addition to mentorship, the study suggests increasing the hours allocated to self-directed learning from the current 4 to 8 hours. The hours are to be spread as follows: 4 hours in year semester one and another 4 hours in year two semester one. This suggestion is because self-directed learning is a continuous process and thus will wean students from total dependence on their lecturers to provide them with learning materials.

The study recommends that the principals of the various KMTC campuses install stable and dependable internet in places students can access at all times.

9. References

- Al Moteri, M. O. (2019).** Self-directed and lifelong learning: A framework for improving nursing students' learning skills in the clinical context. *International Journal of Nursing Education Scholarship*, 16(1). <https://doi.org/10.1515/ijnes-2018-0079>
- Alharbi, H. A. (2018).** Readiness for self-directed learning: How bridging and traditional nursing students differ? *Nurse Education Today*, 61, 231–234. <https://doi.org/10.1016/j.nedt.2017.12.002>
- AlRadini, F., Ahmad, N., Ejaz Kahloon, L., Javaid, A., & Al Zamil, N. (2022).** Measuring readiness for self-directed learning in medical undergraduates. *Advances in Medical Education and Practice*, 13, 449–455. <https://doi.org/10.2147/AMEP.S360333>
- Beckers, J., Dolmans, D., & Van Merriënboer, J. (2016).** e-Portfolios enhancing students' self-directed learning: A systematic review of influencing factors. *Australasian Journal of Educational Technology*, 32(2). <https://doi.org/10.14742/ajet.2528>
- Candy, P. C. (1991).** *Self-direction for lifelong learning: A comprehensive guide to theory and practice*, Jossey-Bass, San Francisco, CA.
- du Toit-Brits, C. (2019).** A focus on self-directed learning: The role that educators' expectations play in the enhancement of students' self-directedness. *South African Journal of Education*, 39(2). <https://doi.org/10.15700/saje.v39n2a1645>
- El-Gilany, A. H., & Abusaad, F. El. (2013)** Self-directed learning readiness and learning styles among Saudi undergraduate nursing students. *Nurse Education Today*, 33(9), 1040-1044. <https://doi.org/10.1016/j.nedt.2012.05.003>
- Fisher, M., King, J., & Tague, G. (2001).** Development of a self-directed learning readiness scale for nursing education. *Nurse Education Today*, 21(7), 516–525. <https://doi.org/10.1054/ nedt.2001.0589>
- Garrison, D. R. (1997).** Self-directed learning: Toward a comprehensive model. *Adult Education Quarterly*, 48(1), 18–33. <https://doi.org/10.1177/074171369704800103>
- Hain, D. (2020).** Analysis of the self-directed learning readiness of new graduate registered nurses. University of South Florida. Available at: <https://digitalcommons.usf.edu/etd/8786/>
- Hill, M., Peters, M., Salvaggio, M., Vinnedge, J., & Darden, A. (2020).** Implementation and evaluation of a self-directed learning activity for first-year medical students. *Medical Education Online*, 25(1). <https://doi.org/10.1080/10872981.2020.1717780>
- International Council of Nurses (ICN) (2023).** ICN's March 2023 Report: Investing in the nursing workforce for health system effectiveness. Available at: <https://njccn.org/2023/04/12/incs-march-2023-report-investing-in-the-nursing-workforce-for-health-system-effectiveness/>
- Karimi, S. (2016).** Do learners' characteristics matter? An exploration of mobile-learning adoption in self-directed learning. *Computers in Human Behavior*, 63, 769–776. <https://doi.org/10.1016/j.chb.2016.06.014>
- Kaur, A., Lakra, P., & Kumar, R. (2020).** Self-directed learning readiness and learning styles among nursing undergraduates. *Nursing and Midwifery Research Journal*. <https://doi.org/10.33698/nrf0265>
- Kenya Medical Training College (2019).** Curriculum for Diploma in Kenya Registered Community Health Nursing (pre-service). KMTC/QP-09/D/NUR/CUR
- Kenya Medical Training College (2022).** KMTC kicks off training for over 9000 new students. Retrieved from <https://kmtc.ac.ke/site/5376>
- Khalid, M., Bashir, S., & Amin, H. (2020).** Relationship between self-directed learning (SDL) and academic achievement of university students: A case of online distance learning and traditional universities. *Bulletin of Education and Research*, 42(2), 131-148

- Kish, L. (1965).** *Survey Sampling*, John Wiley and Sons, New York.
- Knowles, M. S. (1975).** *Self-directed learning: A Guide for Learners and Teachers*. Association Press, New York, NY.
- Leatemia, L. D., Susilo, A. P., & van Berkel, H. (2016).** Self-directed learning readiness of Asian students: Student perspective on a hybrid problem-based learning curriculum. *International Journal of Medical Education*, 7, 385-392. <https://doi.org/10.5116/ijme.582e.021b>
- Mahlaba, S. C. (2020).** Reasons why self-directed learning is important in South African during the COVID-19 pandemic. *South African Journal of Higher Education*, 34(6), 120–136. <https://doi.org/10.20853/34-6-4192>
- Morris, T. H. (2019).** Self-directed learning: A fundamental competence in a rapidly changing world. *International Review of Education*, 65(4), 633–653. <https://doi.org/10.1007/s11159-019-09793-2>
- Ramli, N., Muljono, P., & Afendi, F. M. (2018).** External factors, internal factors, and self-directed learning readiness. *Journal of Education and e-Learning Research*, 5(1), 37- 42. <https://doi.org/10.20448/journal.509.2018.51.37.42>
- Polit, D. F., & Beck, C. T. (2018).** *Essentials of nursing research: Appraising evidence for nursing practice*. 9th ed. Wolters Kluwer Health.
- Rascón-Hernán, C., Fullana-Noell, J., Fuentes-Pumarola, C., Romero-Collado, A., Vila-Vidal, D., & Ballester-Ferrando, D. (2019).** Measuring self-directed learning readiness in health science undergraduates: A cross-sectional study. *Nurse Education Today*, 83, 104201. <https://doi.org/10.1016/j.nedt.2019.08.019>
- Rashid, T. & Asghar, H. M. (2016).** Technology use, self-directed learning, student engagement, and academic performance: Examining the interrelations. *Computers in Human Behaviour*, 63, 604–612. <https://doi.org/10.1016/j.chb.2016.05.084>
- Said, A. B., Ghani, N., Khan, A., & Kiramat, M. (2015).** Examination of self-directed learning readiness among baccalaureate nursing students in Peshawar, Pakistan. *International Journal of Innovative Research and Development*, 4(2), 257-62
- Singh, I., & Paudel, B. (2020).** Readiness for self-directed learning among nursing students in a medical college, Chitwan. *Journal of Chitwan Medical College*. 10(31), 27-30. <https://doi.org/10.3126/jcmc.v10i1.28066>
- The World Bank, UNESCO, and UNICEF (2021).** *The State of the Global Education Crisis: A Path to Recovery*. Washington D.C., Paris, New York
- Van Zyl, S. (2019).** Moving to deeper self-directed learning as an essential competency for the 21st century', in E. Mentz, J. De Beer & R. Bailey (eds.), *Self-Directed Learning for the 21st Century: Implications for Higher Education* (NWU Self-Directed Learning Series Volume 1), pp. 67–102, AOSIS, Cape Town. <https://doi.org/10.4102/aosis.2019.BK134>.
- World Health Organization. (2009).** *Nursing & Midwifery Human Resources for Health: Global standards for the initial education of professional nurses and midwives*. WHO. Geneva
- World Health Organization. (2016).** Nurse educator core competencies [Internet document]. https://www.who.int/hrh/nursing_midwifery/nurse_educator050416.pdf
- World Health Organization. (2020).** State of the World's Nursing 2020: Investing in education, jobs, and leadership. <https://www.who.int/publications/i/item/9789240003279>
- Yang, G. F., & Jiang, X. Y. (2014).** Self-directed learning readiness and nursing competency among undergraduate nursing students in Fujian province of China. *International Journal of Nursing Science*, 1(3), 255-259. <https://doi.org/10.1016/j.ijnss.2014.05.021>
- Zhang, H., & Tu, J. (2020).** The working experiences of male nurses in China: Implications for male nurse recruitment and retention. *Journal of Nursing Management*, 28(2), 441–449. <https://doi.org/10.1111/jonm.12950>