STUDENTS' CORNER
RESEARCH ARTICLE

Comparing readiness for self-directed learning in undergraduates of private and public medical colleges

Javaria Ahmad[1], Fatima Izhar Mehdi[2], Manal Fatima Cheema[3], Minahil Aftab[4], Zainab Omer[5]

Abstract

Objective: To measure the readiness for self-directed learning among medical undergraduates of private and public medical colleges, and to evaluate their performance and strategies.

Method: The cross-sectional study was conducted in Lahore, Pakistan from February to July 2023, and comprised medical undergraduate students of either gender from 1 private and 1 public academic institution. Data was collected using a pre-validated structured questionnaire having self-management, desire for learning, and self-control domains to explore self-directed learning readiness. Data was analysed using SPSS 26.

Results: Of the 330 subjects, 166(50.3%) were females and 164(49.7%) males, while 166(50.3%) were from the private institution and 164(49.7%) were from the public institution. There were 183(55.4%) students in the 3rd year, 89(27.0%) in the 4th year and 58(17.6%) in the final year of their coursework. Self-directed learning readiness was significantly higher in students from the private institution ($p<0.05$).

Conclusion: There was a significant correlation between self-directed learning readiness in private and public medical education institutions, with readiness being higher in the private sector.

Keywords: Self-directed learning, Self-control, Experiential learning, Problem-based learning, Active learning.

(JPMA 74: 2035; 2024) **DOI: https://doi.org/10.47391/JPMA.11458**

Introduction

Self-directed learning (SDL) refers to the fundamental learning skills that students must master to thrive in medical schools and in their professional lives. It is characterised by an array of qualities, such as organisation, time management, decision-making, self-evaluation and reflection.[1] Each of these traits falls under the umbrella of SDL and allows students to consolidate their own learning process, which is a vital component to having a successful future in healthcare.[2] SDL has also been described as an approach in which learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes.[3] This approach is associated with lifelong learning, which is particularly useful in the fast-paced field of medicine where each patient encounter is unique and a senior educator may not always be available.[4,5] An unexpected global phenomenon, like the recent coronavirus disease-2019 (COVID-19) pandemic, also underscores the importance of SDL in making the transition to online/home-learning more efficient.

Learning can be categorised as active or passive. Active learning involves methods like SDL, case-based learning (CBL), and small group discussions (SGDs). Passive learning involves instructor-taught lessons. In a cross-sectional study, 83% of medical students reported that clinical sessions were superior to lectures because of smaller group size, active discussion, and increased patient interaction.[6] Thus, it can be concluded that active learning methods are the preferred methods of medical students. Another study indicated increased satisfaction in student learning from the utilisation of both active and passive methodologies instead of the solitary use of either method.[7]

Furthermore, SDL is crucial when the information is excessive and delivery is fast-paced, allowing individuals to focus their learning effort on information that is more difficult for them.[8] SDL also assists in revealing topics that are more demanding for an individual, while also enhancing the retention of such material.[9] Therefore, SDL is crucial for addressing individual learning differences that traditional classrooms, which treat students as a group, often overlook.

A study in Saudi Arabia determined SDL readiness (SDLR) by comparing the difference in SDL between clinical and pre-clinical years of medical students.[10]

[1-4]4th Year MBBS Student, CMH Lahore Medical College and Institute of Dentistry, Lahore, Pakistan; [5]Department of Community Medicine, CMH Lahore Medical College and Institute of Dentistry, Lahore, Pakistan.

Correspondence: Zainab Omer. e-mail: zainabomer82@gmail.com

ORCID ID: 0009-0007-6668-8716

Submission complete: 06-12-2023 **Review began:** 15-02-2024

Acceptance: 17-08-2024 **Review end:** 20-07-2024

A similar comparison between students of public and private medical education institutions could highlight the differences between the two sectors. In Pakistan, the difference among students studying in private and public medical colleges is noteworthy. In private colleges, the students and their families self-finance the studies, while in public institutions, the studies are largely based on government funds. The infrastructure is considered to be better in private institutions than in the public sector due to the huge difference in the tuition fee. Adding to the comparison, traditionally, there are more students per year in public-sector institutions compared to the private ones in Pakistan. Another difference is the duration and timing of professional exams in each sector. These differences can contribute in varying ways to the SDLR.

Using the Saudi study[10] as the driving force, the current study was planned to measure SDLR among medical undergraduates of private and public medical institutions, and to evaluate their performance and strategies.

Subjects and Methods

The cross-sectional study was conducted in Lahore, Pakistan from February to July 2023, and comprised medical undergraduate students of either gender from 1 private and 1 public academic institution. After approval from the ethics review committee of the Combined Military Hospital (CMH) Lahore Medical College, Lahore, the sample size was calculated in the light of the parent study.[10] Undergraduate students of the third, fourth and fifth clinical years aged >18 years and studying at public-sector Allama Iqbal Medical College, Lahore, and private-sector CMH Medical College, Lahore, were approached. Those not willing to participate were excluded. The sample was raised using non-probability convenience of sampling technique.

After taking informed consent from the enrolled subjects, data was collected using a pre-validated structured questionnaire[10] which was circulated both online and in-person.

The questionnaire comprised the Fischer scale[11] consisting of 40 questions and a total score of 200. It had self-management (SM), desire for learning (DL) and self-control (SC) domains having 15, 13 and 12 questions, respectively. A pilot study was conducted, and reliability was calculated by Cronbach alpha value 96%.

Data was analysed using SPSS 26. Data was expressed as mean±standard deviation or as frequencies and percentages, as appropriate. P<0.05 was considered significant.

Results

Of the 1,350 students approached, 330(24.44%) responded. There were 166(50.3%) females and 164(49.7%) males, while 166(50.3%) were from the private institution and 164(49.7%) were from the public institution. There were 183(55.4%) students in the 3rd year, 89(27.0%) in the 4th year and 58(17.6%) in the final year of their coursework. The mean SDLR score of students in the private sector was 150.70±21.46, with mean SM score 58.20±8.10, DL 46.51±8.17, and SC 45.99±7.94. The corresponding values for public-sector students were 147.06±19.59, 56.65±8.26, 45.29±7.88 and 45.16±6.77 respectively (Figure).

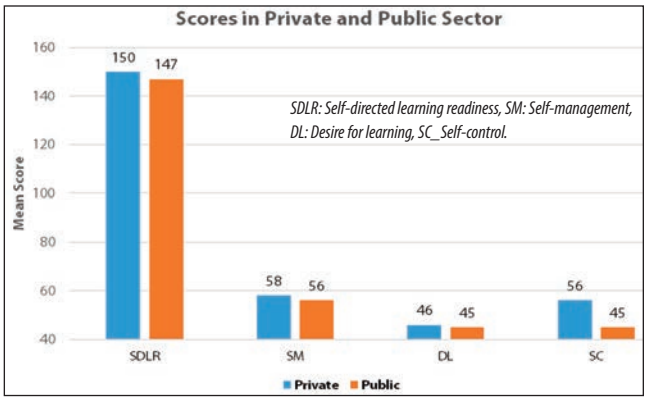

Figure: Scores for different domains in medical students from private and public medical education institutions.

Table-1: Pearson correlation for private-sector medical students.

Domains	SM domain	DL domain	SC domain
SM domain	1.00	0.691	0.692
DL domain	0.691	1.00	0.652
SC domain	0.692	0.652	1.00

SM: Self-management, DL: Desire for learning, SC_Self-control.

Table-2: Pearson correlation for public-sector medical students.

Domains	SM domain	DL domain	SC domain
SM domain	1.00	0.596	0.667
DL domain	0.596	1.00	0.472
SC domain	0.667	0.472	1.00

SM: Self-management, DL: Desire for learning, SC_Self-control.

Positive correlations were found among all the 3 domains in both the sectors, but the scores were higher for students in the private sector (Tables 1-2).

Discussion

The current standard for higher education is SDL, which is a wide-ranging concept that cannot be explained by focussing solely on one aspect. Self-regulation is a more contemporary word that some authors have used interchangeably with self-direction.[12] Studies on SDL may give a fruitful insight and a base for this change, and a framework for productive planning of students' active learning.[13]

The entire level of a students' SDL proficiency is represented by their SDLR score. However, scores obtained in various domains provide a more accurate picture of a

student's specific areas of strength and weakness. Most of the research that has been conducted on SDL has paid attention to university students. There may be a distinction between the learning techniques of medical students and other higher education students.[14] The current study focussed on the medical students. SDL is encouraged by medical education institutions because doctors must be self-directed learners to sustain lifelong learning in the constantly evolving field of medicine, and receive essential information for career development.[15]

The current study divided the subjects into two groups based on their status as students of public or private medical education institutions whereas, which was a departure from the parent study[10] which was conducted at a single centre. Another change was the non-inclusion of students of pre-clinical years.

The optimum SDL value varies according to the scales used, with the SDLR Scale being the preferred tool in many studies.[16] The current study opted for the Fisher scale, which considered a SDLR score >150 to be the marker of good enough readiness. The mean score for private-sector students was higher than those from the public sector, indicating that SDLR was higher in private-sector medical students.

However, the overall mean score in the current study was 148.92±20.61 which fell just short of the scale's cut-off value of 150 but was nonetheless higher than that of the parent study (123.97±16.15).[10,17] Several studies using the Fisher scale have reported higher scores than the current study.[1,18,19] A similar study in Pakistan reported a mean score of 153.[18] These studies highlight the credibility of the scale used in the current study.

Although the total SDLR score reflects the students' skills in SDL generally, the specific areas of strengths and weaknesses are assessed by calculating scores in the domains individually. In the current study, a significant correlation was found between SM and DL when SC was controlled, between SM and SC when DL was controlled, and between DL and SC when SM was controlled. The values were higher across all domains among students frm the private institution. It can be implied that students in the private sector had good self-control, a higher desire for learning and better self-management.

Government-funded public institutions have classrooms that can usually accommodate 300 students. Because of their reliance on government funding and the modest tuition fee, these institutions typically have limited infrastructure.

On the other hand, private-sector institutions have a more favourable study atmosphere and better amenities due to their higher tuition fee. At an average of 150 students per classroom, such institutions offer a more individualised learning environment, placing a strong emphasis on a range of contemporary pedagogical strategies, such as presentations, case-based learning, and team-based learning, all of which create an atmosphere that supports SDL. These educational activities are intended to foster critical thinking, active learning, and the practical application of knowledge, giving students the tools they need to succeed in their future profession as doctors.

The quality of facilities and learning settings at government-funded institutions can be greatly enhanced by increasing financing that is expressly designated for infrastructure development and educational resources. Forming alliances with businesses in the private sector and alumni associations might also bring in extra funds and assistance. Incorporating contemporary teaching methods, akin to those employed in private establishments, and furnishing educators with chances for professional growth can augment the holistic learning environment. Through implementation of these tactics, public medical colleges can surmount resource limitations and provide their students with an enhanced and competitive educational experience.

Whether a high SDLR score and positive correlations among domains correlate with high academic success is not clearly defined. Some studies have reported a poor relationship between the two[20,21] which could be due to the difference in both the domains; the first one utilising a particular learning method, whereas the second one being based on knowledge.[22] On the other hand, a handful of studies have observed that students with high SDLR tend to have significantly higher academic success.[22]

The current study has its limitations. The questionnaire used in the current study was self-reporting and subjective, reflecting the students' own perspective about their SDLR. Therefore, it is understandable that it might not reflect the true level of their readiness. For instance, the perspective of a teacher about their students' readiness has been reported to be quite opposite to that of the students.[23]

The current study had a limited number of subjects who belonged to only one college from both the private and public sectors and only involved one-time data. Large and multi-institutional data is required to further define the scope of SDL among medical students in private and public sectors.

While it might be argued that the Fischer scale is only a prediction, it has been extensively used to evaluate students' readiness for SDL in a variety of educational institutions. Using a reliable instrument, such as the Fisher scale, made it easier for the current study to be in line with previous studies, which improved the findings'

generalisability and application in the larger field of academic research.

Conclusion

SDLR score for undergraduate medical students in the private sector was found to be higher than that in the public sector. Total SDLR, individual scores of the domains and Pearson correlations were all higher among private-sector students.

Acknowledgement: We are grateful to the Department of Community Medicine, CMH Lahore Medical College, for facilitating data-collection.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Al Kindy S, Al Kindy F, Al Kindy A. The Advantages and Disadvantages of Self Directed Learning: A Survey Study of Saudi Medical Students. Med Ed Publish 2018, 7:58. Doi: 10.15694/mep.2018.0000058.1
2. Dulloo P, Singh S, Vedi N, Singh P. Development and implementation of a self-directed learning readiness scale for undergraduate health professional students. J Educ Health Promot 2023;12:43. doi: 10.4103/jehp.jehp_900_22
3. Naik Bijaya N, Rangasamy S, Kanungo S, Vrushabhendra HN. Self directed learning readiness among undergraduate medical students in a tertiary care health institution in Pondicherry. National Journal of Research in Community Medicine (NJRCM) 2019;8:20-4.
4. Vaičiūnienė A, Kazlauskienė A. Liberating and Oppressive Factors for Self-Directed Learning: A Systematic Literature Review. Educ Sci 2023;13:1020. Doi: 10.3390/educsci13101020.
5. Morris TH. Creativity through self-directed learning: three distinct dimensions of teacher support. Int J Lifelong Educ 2020;39:168-78. doi: 10.1080/02601370.2020.1727577.
6. Mustafa T, Farooq Z, Asad Z, Amjad R, Badar I, Chaudhry AM, et al. Lectures in medical educaton: what students think? J Ayub Med Coll Abbottabad 2014;26:21-5.
7. Ahammad F. Self-directed learning: a core concept in adult education. Online J Distance Educ Elearn 2023;11:2952-62.
8. Murniati CT, Hartono H, Nugroho AC. The challenges, supports, and strategies of self- directed learning among college students. J Edu Learn 2023;17:365-73. doi: 10.11591/edulearn.v17i3.20744.
9. Zhu M, Bonk CJ, Berri S. Fostering self-directed learning in MOOCs: Motivation, learning strategies, and instruction. Online Learn J 2022;26:153-73. doi: 10.24059/olj.v26i1.2629.
10. Alradini F, Ahmad N, Kahloon LE, Javaid A, Al Zamil N. Measuring Readiness for Self-Directed Learning in Medical Undergraduates: A Single Institution Study. Res Sq 2021. Doi: 10.21203/rs.3.rs-538774/v1. [Preprint]
11. Fisher MJ, King J. The Self-Directed Learning Readiness Scale for nursing education revisited: a confirmatory factor analysis. Nurse Educ Today 2010;30:44-8. doi: 10.1016/j.nedt.2009.05.020
12. Peng CG, Li YS. The Relationship between Achievement Goal Orientation of Chinese University Martial Arts Student Athletes with Self-Management, Performance Strategy and Performance. J Adv Res Rep 2021;1:171-8. doi: 10.21742/JARR.2021.1.2.22
13. Loeng S. Self-directed learning: A core concept in adult education. Educ Res Int 2020;2020:1-12. doi: 10.1155/2020/3816132
14. Hayat AA, Shateri K, Amini M, Shokrpour N. Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. BMC Med Educ 2020;20:76. doi: 10.1186/s12909-020-01995-9
15. Premkumar K, Vinod E, Sathishkumar S, Pulimood AB, Umaefulam V, Prasanna Samuel P, et al. Self-directed learning readiness of Indian medical students: a mixed method study. BMC Med Educ 2018;18:134. doi: 10.1186/s12909-018-1244-9
16. Wong FMF, Tang ACY, Cheng WLS. Factors associated with self-directed learning among undergraduate nursing students: A systematic review. Nurse Educ Today 2021;104:104998. doi: 10.1016/j.nedt.2021.104998
17. AlRadini F, Ahmad N, Ejaz Kahloon L, Javaid A, Al Zamil N. Measuring Readiness for Self-Directed Learning in Medical Undergraduates. Adv Med Educ Pract 2022;13:449-55. doi: 10.2147/AMEP.S360333.
18. Said AB, Ghani N, Khan A, Kiramat M. Examination of Self-Directed Learning Readiness among Baccalaureate Nursing Students in Peshawar Pakistan. Int J Innov Res Dev 2015;4:257-62.
19. Abraham RR, Fisher M, Kamath A, Izzati TA, Nabila S, Atikah NN. Exploring first-year undergraduate medical students' self-directed learning readiness to physiology. Adv Physiol Educ 2011;35:393-5. doi: 10.1152/advan.00011.2011
20. Kidane HH, Roebertsen H, van der Vleuten CPM. Students' perceptions towards self-directed learning in Ethiopian medical schools with new innovative curriculum: a mixed-method study. BMC Med Educ 2020;20:7. doi: 10.1186/s12909-019-1924-0
21. Balamurugan S, Kumar H. Self-directed learning readiness (SDLR) among medical students: a questionnaire-based study from an Indian medical school. South-East Asian Journal of Medical Education (SEAJME) 2015;9:59-64. doi: 10.4038/seajme.v9i2.86
22. Tekkol İA, Demirel M. An Investigation of Self-Directed Learning Skills of Undergraduate Students. Front Psychol 2018;9:2324. doi: 10.3389/fpsyg.2018.02324
23. Chang BJ. Problem-based learning in medical school: A student's perspective. Ann Med Surg (Lond) 2016;12:88-9. doi: 10.1016/j.amsu.2016.11.011

Author Contribution:

JA: Concept, design, data acquisition, analysis and interpretation, drafting, revision, final approval and agreement to be accountable for all aspects of the work.

FIM: Concept, design, data analysis and interpretation, drafting, revision and final approval.

MFC, MA: Drafting, revision and final approval.

ZO: Final approval and agreement to be accountable for all aspects of the work.