Self-Directed Learning Abilities of Under Graduate Medical Students through The Self-Directed Learning Instrument (SDLI) 'Lens'

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Introduction

- Self-Directed Learning (SDL) is emerging as a crucial component of medical education.
- National Medical Commission (NMC) has adopted SDL through competency-based medical education. However, there is still insufficient evidence about its readiness in under graduate medical students.
- This learner-centered approach contrasts with traditional, pedagogy methods, emphasizing autonomy and self-regulation.
- It is a transformative method towards preparing our future health professionals to promote life long learning.
- Various assessment tools have been developed worldwide to evaluate SDL abilities among students.
- We have used a validated tool "The Self-Directed Learning Instrument (SDLI)" to assess readiness of SDL among medical undergraduate students.

Objective

Assessment of self-directed learning abilities of medical students of Phase 3 Part 2 through Self-Directed Learning Instrument (SDLI).

Methodology

Study Design: Cross-sectional Study.

Study Participants: MBBS students of Phase 3 Part 2 from ELMCH, Lucknow.

Duration of study: Six months.

Data collection:
- Ethical clearance taken (30/4/24).
- Phase 3 part 2 MBBS students were addressed about study purpose and SDLI tool.
- After obtaining consent, the SDLI was administered in real-time via a Google Form.

SDLI tool : It is a standardized 20-item questionnaire using a Likert scale to assess an individual's self-directed learning abilities across four key domains.
a. Learning Motivation
b. Planning and Implementation
c. Self-Monitoring
d. Interpersonal Communication

Data Analysis:
Data was analyzed using SPSS version 2022 to identify trends and correlation. Descriptive statistics were employed to express the data as percentages. The SDLI scores were calculated by summing the item scores within each domain, as well as the total scores for all domains combined. Higher scores indicated higher levels of SDL ability

Results

A total of 130 students completed the questionnaire. Students exhibited strong learning motivation (mean score 4.18) but were less confident with planning and implementation (mean 3.87). The students showed higher self-monitoring (mean score 3.92) and interpersonal communication skills (mean score 3.96).

Table 1: SDLI scores within each domain:

	Percentage Score	Mean Score
Learning motivation	84%	4.18
Planning and implementation	77%	3.87
Self Monitoring	78%	3.92
Interpersonal communication	79%	3.96

- Moderate scores (40-60): Developing SDL abilities
- High scores (61-80): Strong SDL abilities
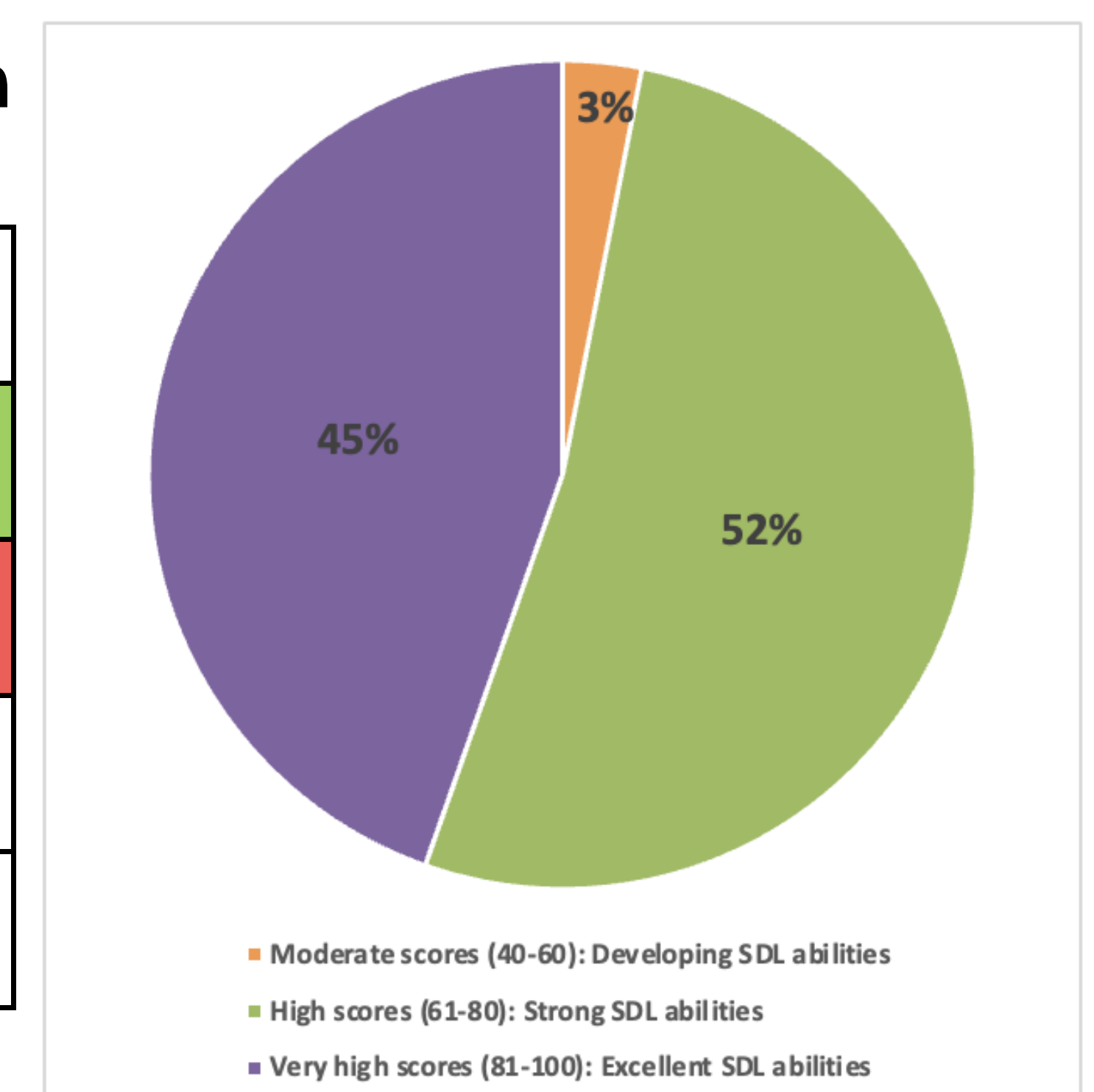- Very high scores (81-100): Excellent SDL abilities

Fig 1: Pie chart depicting SDL abilities of students.
Nearly half of the students (45%) demonstrated an Excellent level of SDL ability.

Table 2: Item wise scores:

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean Score	STD DEV
Learning motivation							
1. I know what I need to learn.	1%	3%	32%	42%	23%	3.83	0.85
2. Regardless of the results or effectiveness of my learning, I still like learning.	0%	6%	27%	40%	27%	3.88	0.88
3. I strongly hope to constantly improve and excel in my learning	1%	1%	8%	32%	58%	4.47	0.74
4. My successes and failures inspire me to continue learning	1%	1%	11%	40%	48%	4.33	0.76
5. I enjoy finding answers to questions	0%	2%	12%	43%	44%	4.29	0.73
6. I will not give up learning because I face some difficulties	1%	2%	11%	40%	47%	4.31	0.79
Planning and implementation							
7. I can pro-actively establish my learning goals.	0%	1%	25%	50%	24%	3.97	0.73
8. I know what learning strategies are appropriate for me in reaching my learning goals.	1%	5%	26%	38%	29%	3.90	0.91
9. I set the priorities of my learning.	2%	3%	13%	52%	30%	4.06	0.83
10. Whether in the clinical practicum, classroom or on my own, I am able to follow my own plan of learning.	2%	7%	31%	38%	22%	3.71	0.97
11. I am good at arranging and controlling my learning time	3%	10%	33%	31%	23%	3.61	1.05
12. I know how to find resources for my learning	1%	5%	22%	43%	29%	3.95	0.89
Self Monitoring							
13. I can connect new knowledge with my own personal experiences	0%	2%	23%	48%	27%	4.01	0.75
14. I understand the strengths and weakness of my learning.	0%	2%	18%	52%	28%	4.07	0.73
15. I can monitor my learning progress.	0%	6%	30%	38%	25%	3.83	0.88
16. I can evaluate on my own my learning outcomes.	0%	8%	31%	38%	23%	3.77	0.89
Interpersonal communication							
17. My interaction with others helps me plan for further learning.	2%	4%	18%	47%	30%	4.00	0.88
18. I would like to learn the language and culture of those whom I frequently interact with.	2%	4%	22%	38%	35%	4.01	0.93
19. I am able to express messages effectively in oral presentations.	2%	8%	24%	45%	20%	3.72	0.96
20. I am able to communicate messages effectively in writing.	1%	2%	20%	38%	38%	4.12	0.86

Conclusion

The study shows that while students are ready for self-directed learning (SDL), challenges remain in planning and implementation. Bridging the gap between theoretical knowledge and practical application requires dedicated mentorship to enhance the effectiveness of SDL in medical education.
It is critical that medical students develop self-directed, life-long learning skills to navigate medical school successfully and for future career.

Acknowledgements

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