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The Role of Faculty in Facilitating Self-directed Learning among Undergraduate Medical Students: A Scoping Review

Meenal Mohgaonkar[1], Rakesh Patil[2], Sandip Lambe[3]

Abstract

Background: Self-directed learning (SDL) is increasingly recognized in medical education which places learners at the center and faculty as facilitators. Both, Indian and international MBBS curricula now mandate SDL to foster lifelong learning, adaptability, and professional competence. Faculty play a pivotal role in guiding, motivating, and assessing SDL, yet their involvement varies widely across institutions. This scoping review maps the breadth of faculty roles in SDL, identifies gaps, and proposes strategies for effective implementation.

Methods: Following Arksey & O'Malley and JBI frameworks, we conducted a systematic search across MEDLINE, Scopus, ERIC, and IndMED for studies published between 2020 and 2025. Studies exploring faculty roles in SDL for undergraduate medical education were included. Data were extracted, thematically analyzed, and synthesized to highlight key trends and challenges.

Results: Included studies highlighted inconsistent faculty participation in SDL curriculum design, limited comprehensive SDL blueprinting, and a tendency to view SDL as mere preparatory reading rather than active student engagement. Assessment of SDL was seldom integrated into formal evaluations. Optimal environments were marked by accessible resources and smooth scheduling, though many institutions faced logistical and infrastructural barriers. Faculty development initiatives showed variability in both content and uptake, with calls for more robust, context-sensitive structured SDL training. Precisely, validated faculty readiness assessment tools remain scarce, especially for the Indian context, and most existing instruments (e.g., SRSSDL, SDLI) are student-focused. The impact of structured faculty facilitation on SDL attitudes and skills as well as its adaptability across policy contexts remains underexplored. Strengths of this review include methodological rigor and broad mapping, while limitations involve heterogeneous study contexts and language constraints.

Conclusion: Faculty facilitation, resource guidance, and assessment are keys for successful SDL implementation. Systematic faculty training, definitive SDL objectives, and adaptable evaluation frameworks are essential. For SDL to foster lifelong learning, institutions must prioritize and support both educators and students in contextually meaningful ways.

KEYWORDS: Faculty, self-directed learning, life-long learning, SDL frameworks.

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Introduction

Knowles defines self-directed learning (SDL) as a process where students actively determine their learning needs, establish objectives, locate resources, select strategies, and evaluate their progress.[1] SDL is conducted with faculty support serving as facilitators rather than merely content creators.[1] SDL is now formally required in both Indian and international MBBS programs in order to foster qualities that modern healthcare requires such as lifelong learning, adaptability and professional competence.[2-4] Effective faculty involvement, which includes establishing clear goals and facilitating guided, structured interaction, is associated with increased student motivation and participation in SDL activities.[1,4-6]

A scoping review methodology is necessary in this field due to the variety of definitions, methods, and institutional contexts pertaining to faculty roles in SDL.[2-4]

[1]Department of Radio-diagnosis, SMBT Institute of Medical Sciences and Research Centre, Nashik, Maharashtra, India
[2]Department of Community Medicine, SMBT Institute of Medical Sciences and Research Centre, Nashik, Maharashtra, India
[3]Department of Biochemistry, SMBT Institute of Medical Sciences and Research Centre, Nashik, Maharashtra, India
Corresponding Author: Dr Rakesh Patil
(**Email:** drrakeshpatil@gmail.com)

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A wide mapping is required rather than a limited synthesis because the literature employs a range of empirical techniques, including mixed-methods, quantitative surveys, and qualitative interviews. Recent developments, such as India's competency-based medical education (CBME) regulations, emphases the need for an inclusive, mapping-focused approach rather than a systematic review driven only by effect size.[2,3]

Additionally, emerging frameworks such as the Self-Rating Scale of Self-Directed Learning (SRSSDL) and CIPP (Context, Input, Process, Product) necessitate an inclusive synthesis to inform policy and practice.

Objectives:

This scoping review aims to:

1. Map the spectrum of faculty roles in SDL (e.g., mentors, assessors, facilitators).
2. Identify theoretical frameworks guiding faculty involvement in SDL (E.g., Knowles, CIPP: Context, Input, Process, Product and SRSSDL.
3. Highlight gaps in faculty development, assessment tools, and institutional support.

Methods

Scoping Review Design and Framework- We followed the JBI (Joanna Briggs Institute) and Arksey & O'Malley frameworks for scoping reviews, ensuring methodological rigor while accommodating diverse study designs.

The included studies primarily used the Arksey & O'Malley or JBI scoping review frameworks and concentrated on mapping the context, design, faculty activities, and institutional elements that support SDL implementation.[1,3,4] The charting forms contained domains such as learning context, outcome assessment, and facilitator roles.[1,3,4]

Protocol and Registration- Most protocols underwent iterative peer and institutional review or were legally registered. The data was extracted by two independent reviewers to increase validity and reproducibility.

Eligibility Criteria- The eligible populations included instructors and students enrolled in MBBS programs or similar undergraduate programs who were actively teaching in classroom, clinical, or online settings. All study types, including qualitative, mixed-methods, reviews, empirical, and guidelines, were included as long as they looked into clear faculty-SDL connections.

Information Sources and Search Strategy- Evidence was obtained through manual searches, grey literature, and major educational databases such as MEDLINE, Scopus, IndMED, and ERIC for the studies published between 2020 and 2025. Study used a three-step process that was inclusive and advised by the JBI. Search terms like "faculty roles", "self-directed learning" and "medical undergraduate education" were used.

Data Extraction- Two reviewers independently extracted data using a piloted template, capturing study characteristics (author, year, design), faculty roles (facilitation, assessment, curriculum design), theoretical frameworks employed, SDL outcomes and barriers. Discrepancies between primary reviewers during study selection and data extraction were resolved through discussion and, if unresolved, arbitrated by a third senior reviewer.

Thematic analysis was conducted, categorizing findings into facilitation strategies, institutional support, and assessment methods.

Critical Appraisal- Methodological quality was assessed using JBI checklists, though no studies were excluded based on quality to maintain breadth.

Results

Search Results and Study Selection- A total 33 sources of evidence were screened, out of which 32 were assessed for eligibility, and only 12 were included in this review (Figure 1). Primary reasons for exclusion were unrelated topic (14), unrelated population (2) and full text unavailability (4). Evaluations of faculty development modules, surveys, and qualitative interviews were included in literature from Saudi Arabia, India, and other international settings. However, the effects of comprehensive SDL assessment or faculty training have not been extensively studied.[1,2,7,8]

Characteristics of Included Sources- Participants included faculty members from junior to senior levels in both the clinical and pre-clinical domains, as well as students at various educational stages. Most lacked a standardized SDL focus; institutional policies and faculty development engagement varied.[4,7]

Thematic Mapping of Faculty Roles in SDL (Table 1):

- Curriculum Design: Most faculty acknowledged little involvement in SDL blueprinting, relying instead on module objectives[1,2-4,7] without explicitly mentioning SDL competencies. SDL was often misinterpreted as "preparatory reading" rather than active learning.[7]
- Mentorship & Facilitation: SDL was frequently perceived as preparatory reading instead of active peer learning, highlighting the need for faculty facilitation skills.[1,2-4,7] Barriers included time constraints and lack of training.
- Assessment & Feedback: Few universities recorded student involvement or included SDL-specific evaluation in tests, so there is room for improvement.[8] Peer feedback and reflective portfolios were underutilized.
- Environment: Participation was higher when meetings ran smoothly and materials were readily available. Scheduling conflicts and erratic access to technology or library resources were frequent challenges.[1,2-4,7]
- Faculty Development: Structured training was uneven, workshops were favoured over conferences, and few people showed up for regular sessions.
- Institutional Support: Access to digital resources and structured faculty training were key facilitators.[9] Scheduling conflicts and lack of incentives hindered participation.[1]

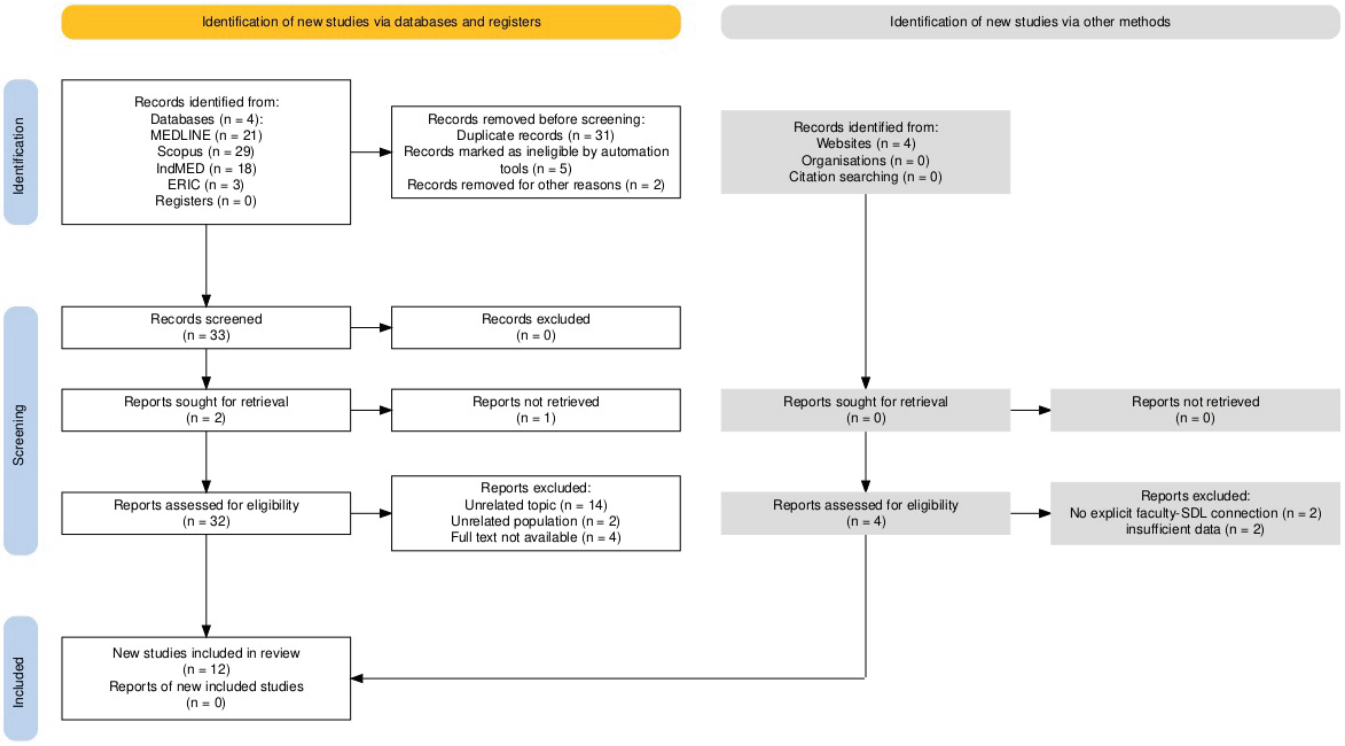

Figure 1: PRISMA 2020 flow diagram.

Table 1: Thematic Mapping of Faculty Roles

Role	Key Findings	Barriers
Curriculum Design	Limited SDL blueprinting; reliant on module objectives (Patra et al., 2020)	Lack of policy alignment (67%)
Facilitation	Mentorship boosted motivation (OR=4.2; Chaudhuri et al., 2025)	Time constraints (82%)
Assessment	<30% used SDL-specific tools (e.g., portfolios)	Focus on summative evaluation (78%)
Environment	Digital access increased engagement (RR=1.9; Balkheyour & Tombs, 2025)	Tech/library limitations (India: 65%)
Faculty Development	Workshops improved SDL literacy (ES=0.8)	Infrequent training (India: 2x/year)

Studies were categorized by study design or evidence type, summarizing faculty roles, key SDL outcomes, barriers, and gaps (Table 2). This organization helped in targeted synthesis depending on the nature of evidence.

Validated faculty readiness assessment tools, especially for the Indian context, were lacking, with most instruments focused on students (e.g., SRSSDL, SDLI: Self-Directed Learning Instrument).[4,7-9] The impact of faculty facilitation on SDL skills and attitudes and implementation in varied policy contexts remains underexplored.

Discussion

Particularly for the Indian context, there were not many validated teacher preparation assessment tools available. Most of these assessments, including the SDLI and SRSSDL, were student-centred. The effects of faculty facilitation on SDL attitudes and skills, as well as how they were used in different policy contexts, are still unknown. Faculty duties were closely related to Knowles' andragogy, which guides rather than directs, and they aligned well with constructivist frameworks, adult learning, and self-determination.[1,2,4,6] Peer evaluation and formative feedback were necessary for the development of self-regulation.[4,6,7]

It was essential to standardize faculty training in facilitation, include explicit SDL result objectives, develop context-sensitive readiness/impact assessments for faculty and students, and use blended models to boost participation.[2,4,10-12]

Strengths and Limitations- This review's breadth and methodological rigour were strengthened by its limitations,

Table 2: Summary of included studies

Study (Author, Year)	Faculty Roles	Key Outcomes & Findings	Barriers & Gaps
Qualitative Studies			
Balkheyour & Tombs (2025)[1]	Facilitation, Mentorship	Mentorship boosted motivation (OR=4.2); digital access increased engagement (RR=1.9)	Time constraints, tech/library limitations (India)
Chaudhuri *et al*. (2025)[2]	Facilitation	Module-motivated educators; faculty training variable uptake	Time constraints; need for standardization
Bansod *et al*. (2024)[7]	Facilitation, Mentorship	SDL often misinterpreted as preparatory reading	Lack of structured faculty facilitation training
Mixed-Method Studies			
Bhandari *et al*. (2021)[5]	Facilitation	Faculty support increased SDL acceptance	Limited formal SDL evaluation methods
Vijay & Thajudeen (2024)[6]	Facilitation, Feedback	Importance of formative and peer feedback emphasized	Variable faculty skill levels
Cross-Sectional Studies			
Siraja *et al*. (2024)[8]	Assessment, Facilitation	Few universities integrated SDL in formal assessment	Lack of incentives for training
Theoretical / Review Studies			
Charokar & Dulloo (2022)[4]	Assessment, Facilitation	Most assessment tools student-focused; peer evaluation vital	Few faculty-oriented assessment tools
Ravichandran *et al*. (2024)[12]	Facilitation	Faculty empowerment critical for SDL in CBME	Need systematic faculty support
Development/Implementation Studies			
Patra *et al*. (2020)[3]	Curriculum Design	Limited SDL blueprinting; SDL seen as preparatory reading	Lack of policy alignment
Dulloo *et al*. (2024)[10]	Facilitation	Cooperative SDL activities are recommended	Uneven faculty training
Kiran & Hema (2024)[11]	Facilitation	Need for clear SDL objectives and faculty input	Low engagement without faculty guidance

which include heterogeneity that prevents quantitative effect-size synthesis, an over-representation of Indian contexts, and language barriers.

Recommendations for Future Research- Longitudinal studies on the efficacy of faculty development, validation of faculty readiness resources, and frameworks customized for specific institutional and cultural contexts were desperately needed.

Conclusion

Faculty support, which includes facilitation, resource guidance, and assessment, was crucial for the successful implementation of SDL. It was crucial to give context-sensitive objectives, collaborative opportunities, and methodical faculty training top priority. SDL can only enable lifelong learning when educators and learners were institutionally empowered and systematically supported.

Declarations

Funding- The majority of research was either unfunded or institutionally supported, highlighting the necessity of allocating funds specifically to increase high-quality faculty development.

Conflict of Interests- There were no noteworthy conflicting interests.

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