RESEARCH ARTICLE

Perceptions of Saudi medical students regarding self-directed learning: A qualitative study

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Abstract

Objective: To explore students' perceptions regarding self-directed learning, their experience of it, and how it may play a role in life-long learning.

Methods: The exploratory study was conducted at the Faculty of Medicine in Rabigh, King Abdulaziz University, Jeddah, Saudi Arabia, in January and February 2018, and comprised male undergraduate medical students from academic years 2-6. Data was collected through focus group discussions regarding the students' perception of self-directed learning. The sessions were audiotaped, transcribed, and analysed thematically. Validation was done by member-checking and external audit.

Results: There were 29 male students with a mean age of 22.4±1.9 years. A total of 4 focus group discussion sessions were conducted; 2(50%) with students of preclinical years 2 and 3, and 2(50%) with students of clinical years 4-6. Five major themes generated were: understanding of self-directed learning; views about self-directed learning as a strategy; process of the strategy; effects of self-directed learning; self-directed learning and life-long learning. Subthemes which led to developing major themes included self-study, personal efforts, and objectives and goals formed theme1; good strategy, boredom with lectures, and need guidance theme2; time management, outline of planning, and internet browsing theme3; deep learning and curiosity theme4; life-long learning and future progress theme 5.

Conclusion: The students were found to have mixed perceptions regarding self-directed learning. Most students perceived that SDL could affect their learning and future progress positively. However, they needed support to effectively use this strategy. The faculty role was found to be crucial in this regard.

Keywords: Self-directed learning, Qualitative study, Grounded theory, Constructivist approach.

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Introduction

Self-directed learning (SDL) is one of the main areas in the principles of andragogy.[1] SDL is described as a process in which an individual learner is responsible to make goals of learning, find the ways to identify resources, and ultimately to undergo self-evaluation to determine whether the goals have been achieved.[1] Others have agreed that better learning is achieved when it is self-directed, meaning the students control their own learning process by using planning, implementation, monitoring and evaluation.[2]

The role of SDL is established in health professional education as an effective strategy for learning in the domains of knowledge, skills and attitudes.[3] It enhances clinical reasoning and cognitive skills in medical students by triggering and provoking critical thinking process and giving them maximum accountability to find solutions of different problems. Learners find it interesting as well.[4] However, while developing a course with the intention to incorporate SDL, it is mandatory for the educators and learners to understand the components and processes of SDL so they can be effectively used for learning.[5]

Medical education in Saudi Arabia is experiencing a shifting paradigm from traditional system to a system where active participation of learners is promoted, and SDL plays an integral part by promoting existentialism-endorsing students' freedom, so that they can better tackle challenges in their professional lives.[6] Studies from Saudi Arabia show that medical students are motivated towards self-learning, and there is a positive correlation between SDL readiness (SDLR) and academic performance.[7,8] These students consider learning environment as an important factor in association with SDLR and give preference to student-centred approaches to learning over teacher-centred didactic teaching.[9] However, in-depth students' perceptions in this regard are yet to be explored.

Faculty of Medicine in Rabigh (FMR) was established in 2009. FMR offers undergraduate medical degree through a six-year programme. Year 1 is the foundation year, years

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2 and 3 are preclinical years, while years 4-6 are clinical years. The integrated modular curriculum employed at FMR uses active learning strategies, with SDL being a major part of it. However, the extent to which it is understood and practised by the students is unclear. A quantitative study using Dundee Ready Education Environment. Measure (DREEM) survey tool was conducted at FRM in 2016, and identified gaps in students' understanding of learning methods and overall educational environment.[10] It revealed a positive trend towards the educational environment, but could not explore students' views on learning methods, especially SDL, conclusively.[10]

The current study was planned to analyse students' views in detail regarding SDL as a learning method, their experience of using SDL, and how it may play a role in their life-long learning.

Subjects and Methods

The exploratory qualitative study was conducted at the male students section of FMR, King Abdulaziz University (KAU), Jeddah, Saudi Arabia, from January 1 to February 28, 2018.

The exploration in this qualitative study was based on the grounded theory with constructivist approach,[11] which was used to build a theoretical framework of SDL on already existing theory by focussing on the meanings constructed by the students. SDL is a part of the curriculum at FMR, but faculty members use various strategies in different modules, like problem-based learning (PBL), case-based learning (CBL), team-based learning (TBL), and some other strategies with the intention to enhance SDL. Furthermore, SDL is included directly in some modules as a learning strategy. Students are familiar with the term and its process. It was assumed that the students had a unique understating of SDL in their learning cycle.

After approval from the institutional ethics review committee, the sample was raised using purposeful maximal variation sampling method, inviting students from years 2 to 6 for voluntary participation. Students of the foundation year were excluded. Maximal variation depended on different characteristics and demographic variations, like students from different regions of Saudi Arabia, students with variance of activity during the sessions, and students with variation in their grades in the previous exams. However, students fluent in English language were preferred. Students were categorisded as the preclinical group from years 2 and 3, and the clinical group from years 4-6. Two FGDs were designed for each group; FGD-1 with year-2 students, FGD-2 with year-3, FGD-3 for years 4-5, and FGD-4 for year-6 students. The FGD was selected as a data-collection tool, to probe diverse opinions of the participants, and to generate new ideas during the discussion. All discussions were held in English which is the medium of education at the FMR.

Before the FGDs, a meeting of all the researchers, including the principal investigator, was held to make sure that all the researchers had the same operational definitions for the terms used in the probe. The questions and the probes were discussed to avoid any confusion. Each FGD was conducted by the two researchers; one medical educationist and one student currently working as an intern. The first language of the student intern was Arabic. There were two reasons to include a student in the FGD; firstly, to make the environment more comfortable so that the participants could express their feelings openly, and, secondly, if a participant needed some clarification in Arabic, that could be handled amicably. The arrangement was made to facilitate the discussion, and to make sure that all the relevant questions were included.

All FGD participants were informed verbally as well as in writing about the purpose of the study, and their participation was voluntary. They were asked semi-structured questions regarding their perceptions about SDL, their experiences about SDL, and the influence of SDL on their future professional growth. All FGDs were audiotaped and transcribed manually for thematic analysis. Validation was done by member-checking and external audit.

The transcriptions of all the FGDs were done by two researchers, with each doing two transcriptions. The two researchers separately read the transcribed material carefully, and codes were generated. Subthemes were then identified from the coding. Both the researchers collaborated to review the codes and subthemes for similarities and differences, and once they agreed on the subthemes, the same were placed under certain themes. The findings were discussed with the research team, summarised in important points, and sent to the participants for member-checking. Minor changes were made in the draft based on the relevant feedback.

During the entire process, data confidentiality was maintained, and it was ensured that all ethical principles of World Medical Association Declaration of Helsinki were followed at all times.[12]

Results

There were 29 male students with a mean age of 22.4±1.9 years. A total of 4 FGDs were conducted; 2(50%) with

Table: Themes and subthemes derived from the focus group discussions (FGDs) about students' understanding of self-directed learning (SDL) and its role in their professional growth.

Themes	Sub-themes
Understanding of SDL	Self-study
	Personal efforts
	No supervision
	Objectives and goals
Views about SDL as a strategy	Good strategy
	Boredom with lectures
	Need guidance
	Don't prefer
Process of the Strategy	Time-management
	Outline of planning
	Internet browsing
	Library-time
Effects of SDL	Deep learning
	Curiosity
	More efforts
	Grades
SDL and life-long learning	Life-long learning
	Help in professional life
	Future progress
	Decision-making habits

students of preclinical years 2 and 3, and 2(50%) with students of clinical years 4-6. Each FGD comprised 6-8 students. At the member-checking stage, feedback was submitted by 7(24%) students. Subthemes led to the generation of 5 major themes (Table).

Theme 1 was 'understanding of SDL'. When asked about their understanding of the word SDL, the participants shared their different opinions about SDL. Most of the participants understood SDL in its word-to-word meaning and described it as self-study and personal efforts for learning. The descriptions were evident from their wording; "*Stay at home. Pray to God, take 'shabora' (a local food) and tea, and hold your book*" [FGD1P4], "*In my opinion, SDL is all about my struggle in the learning process*" [FGD4P5].

Students had the opinion that supervision is not a part of SDL. Different verbatim, for instance, *"…without supervision..."* [FGD1P1], *"…. no guidance…"* [FGD2P3], and "…. *my own efforts…*" [FDD4P1], reflected this opinion.

Students also talked about the importance of goals in the process of SDL. However, some participants described the goals, outcomes, and objectives of their courses or modules, while only a few spoke about establishing the goals of their own learning. One participant explained it as, *"I must work on what is important for my learning"* [FGD2P8]. Another student mentioned, "*Goals and outcomes are already given in the study guide. What I need is how to achieve those outcomes"* [FGD3P1].

Students' understanding about SDL was mixed. Some students perceived it as self-study and personal efforts only, while others had the idea of goal-setting, and struggle in the process of learning and achieving outcomes.

Theme 2 was 'views about SDL as a strategy'. When the students were asked about their views about the use of SDL as a learning strategy, they mentioned SDL as a part of their curriculum. However, they expressed different opinions. Some of them considered it positive; "*It is nice especially when we get bored of lectures"* [FGD4P3] and "Good, helpful and important" [FGD3P6]. However, others believed it to be a burden; "*I swear to God it is a bad thing because I can't push myself*" [FGD2P8] and "*I don't like it; I am lazy*" [FGD1P1]. A few students thought they need to be trained for using SDL as a learning strategy "*They have not taught us about SDL*" [FGD4P5] and "*Although a good experience, but, let me say … some teachers could not teach us how to learn for the SDL session. And, it took me a lot of time to understand the process*" [FGD4P8].

So, the views were diverse. Some participants liked SDL as a learning strategy, while others expressed the feeling of uncertainty. They also wanted more support from their teachers.

Theme 3 was 'process of the strategy'. For the question on the process of SDL, various responses were recorded. The main challenge the students faced was time management. Students found it difficult to manage their time due to the heavy load of studies, assignments and other social activities. However, some students were able to manage it, as one participant claimed; "*I prefer it and I can manage it by organising my time"* [FGD4P2]. Another student described, "*I can do it better if I use my time properly*" [FGD2P4].

Another important point mentioned by the students was how they plan their SDL sessions. Most of them agreed that outline of the planning was important. The important factors suggested by them in the planning were; objectives of the session, learning sources, the time they could spend for SDL, and from where to get help; "The most important thing is how I organize my SDL session" [FGD4P4].

The participants mentioned different learning resources they use for their SDL sessions, including internet browsing, books, handouts and journals; "*Internet! I prefer to search Google for any query*" [FGD3P2], "*… multiple sources including books and internet*" [FGD4P2]. A number

of students suggested they require guidance in this regard; "*I am confused sometimes from where to get the information. This distracts me…*" [FGD3P1] and "*Without the help of my teachers, it is difficult for me how to organise my learning*." [FGD1P5]

Planning, time management, use of learning resources, and developing learning objectives were some important ideas, as a process of SDL strategy that were shared by the participants.

Theme 4 was 'effects of SDL'. For the question how they think SDL affects their grades and learning, and the probing question, how do they relate SDL to deep learning, most of the participants mentioned that SDL affects their learning and grades in a positive way; "*Absolutely ... it can make me a deep learner*" [FGD1P2], "*It would improve my learning better than any other way*" FGD4P4], "*Yes, it [SDL] affects my grades. I mean, I can answer difficult questions for the topics I learned as SDL*" [FGD3P1]. Even those who considered it difficult agreed on its positive effect on learning; "*When I learn a topic as SDL, I struggle more, think more, and learning is better and deeper*" [FGD3P4]. However, some students denied any benefit in their learning; "*It has no effect on my grades*" [FGD1P7] and "*Not necessarily; in some modules, I answered the questions better for the topics we discussed in lectures*" [FGD2P3].

Mostly, the participants perceived that SDL enhanced deep learning and positively affected the grades. However, a few students were of the opposite opinion.

Theme 5 was 'SDL and life-long learning'. When asked about the relationship of SDL with life-long learning, learning in future as a doctor and professional growth, most of the students found it helpful; *"Of course! Medicine demands life-long learning, and this is what I have learned throughout the five years at medical school"* FGD4P7], "*Because, in future, there would be no one to teach us ...*" [FGD2P2] and "*It increases my clinical judgement …"* [FGD3P1]. They considered it beneficial for their learning in future; "*Very useful after graduation as most of the recent studies are not included in our curriculum"* [FGD4P3] and "*It makes me up to date about new research*" [FGD1P1]. Interestingly, none of the students denied the importance of SDL in the professional growth of a medical student.

The participants perceived that SDL was helpful in making them life-long learners and the strategy would help them in future during their professional career.

Discussion

The themes that have emerged as a result of FGDs in this study have identified several weak areas in our educational process. The implications drawn from the study have helped all concerned to understand the short comings in the SDL process, and which implications are better from students' perspectives.

In spite of inclusion of SDL in the curriculum, there was confusion about defining SDL among the participants. Most were aware of the importance of SDL, yet they had variable understanding of SDL. It was observed in a study that students and faculty perceive SDL in different perspectives.[13] So, it is not surprising that our students, too, were confused in defining SDL. Therefore, it is suggested to define the process of SDL in the curriculum in a standardised way. All faculty members and students must understand the philosophy of SDL in its true essence.

The students in the current study showed mixed opinion about their liking of SDL. While most of them liked it, there were students who did not prefer the strategy. This mixed reaction, with uncertainty and confusion, towards SDL is often seen in different disciplines, including students from medicine, physiotherapy, computer engineering and psychology.[13,14] Their preferences could be related to their responses that highlighted the deficient guidance from faculty in using SDL effectively. This phenomenon was observed mostly in preclinical years, usually the time when students' likes and dislikes have developed. The students showed concerns about the role of teachers in guiding them. In addition, they discussed the importance of faculty support and assessment methods aligning with SDL.[13] In view of the findings of the study, it was suggested to include explicit SDL training of facilitators in faculty development programmes. There is evidence to support this suggestion from different parts of the world.[15] A study stressed the role of teachers and expressed the view that the learners needed support by their teachers not only for learning, but also for better performance in assessment.[16] One study[17] discussed the role of the teacher in the process of SDL, and mentioned that although the student is responsible for his / her learning in SDL, teachers still play a pivotal role in the process.[17] Another important factor is the development of SDL skills in students. It was observed that students whose performance was weak in cumulative assessment had weak SDL skills, measured by the lower self-directedness scores.[18] It is emphasised that teachers should educate students about how to learn,[17] again highlighting the fact that teachers have a crucial role in preparing students for SDL.[18] In order to achieve the goals of faculty development for effective SDL implementation, institutional support is an absolute necessity. One systematic review[19] discussed crucial

points about the factors that can influence the benefits of SDL, and interpreted that institutional support is mandatory in this aspect, and faculty development is a vital step. Furthermore, there should be an alignment of all components in the curriculum, and continuous support should be available to learners, especially beginners. The study also emphasised that faculty should provide support to enhance learners' motivation in developing SDL skills.[19] These principles might be adopted for each course while developing SDL as an instructional strategy.

The participating students in the current study gave different opinions about the effects of SDL on their learning and grades. Some of them thought that they were able to solve questions of higher cognitive level when they learned through SDL, while others perceived that in some modules, lectures were better for gaining the information that helped in solving questions in their assessment. This signifies the importance of context for using a specific learning strategy,[20] and alignment of assessment with the strategy.[21] For instance, for any learning strategy, SDL needs to be used selectively where it can be effective for achieving objectives. Similarly, assessment is crucial in the learning process of students, therefore, implementation of SDL as a learning strategy should also address the need for modifying the assessment methods accordingly. For instance, e-portfolio that enable students' self-evaluation skills can be used as an assessment tool.[19] Other tools with the same intention can be applied.

The participants in the current study mentioned different strategies they used for SDL, as reflected by the subthemes, such as time management, outline of planning, developing learning objectives, searching for learning sources, and seeking help in case of uncertainty. Two important points can be deduced from this discussion; time and learning resources. Time is a major factor, and concern for time has also been reported from another study conducted with Saudi students.[8] The other factor is from where they get the information. Many students prefer online search and browsing. It is revealed that technology usage by undergraduate students from a private-sector university of Saudi Arabia positively correlated with SDL.[22] Hence, it can be interpreted that Saudi students like to use new ways of learning. This seems to be an important point while planning SDL as an instructional strategy.

Almost all the participants in the current study agreed that SDL helped make them life-long learners and would guide them in their professional life. They considered it an essential part of studying medicine and reflected on the need for life-long learning skills in their profession. The finding is similar to students in other disciplines and regions.[23,24] This further signifies the importance of SDL in medical schools as the future physicians need to set their learning goals, search for the learning resources, and assess whether the goals are achieved; all on their own.

The current study has certain limitations. Being a qualitative study of a single institution, the results and interpretations cannot be generalised, though they may be transferable in certain situations. The FGDs were conducted in the English language which might have limited some students in terms of expressing their opinions as English was not their first language. Also, purposeful sampling might have affected the voice of other students who were not included in the study.

Conclusion

The students had mixed opinion about SDL though they found it helpful in professional growth. The students needed support and guidance, and faculty's role was found to be crucial, especially for guiding the students in their learning process. Therefore, effective incorporation of SDL in curriculum requires faculty training for the use of SDL and an educational process that motivates students and ensures that students use SDL appropriately.

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