

## Utilization of self directed learning allocated times by medical students

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The College of Medicine, Qassim University, Kingdom of Saudi Arabia (KSA) was established in the year 2000. It is the first medical college in KSA to introduce a community-oriented, integrated curriculum with a problem based learning (PBL) approach. The curriculum is hybrid with emphasis on PBL and self directed learning (SDL) with the goal of producing doctors with life long self directed learning skills. The pre-clinical phase of undergraduate education is structured on a modular basis. The weekly schedule of the module learning activities include PBL sessions, lectures, field activities in Primary Health Care facilities, laboratory sessions, seminars, clinical skills training, research studies and independent learning activity called SDL slots. The curriculum of the College of Medicine is horizontally and vertically integrated. The PBL approach follows the 7-jump Maastricht model.<sup>1</sup> Five hours per week are reserved in the timetable for SDL so that the students can access various educational resources, including faculty to fill their learning gaps. Problem based learning was developed in the mid 1960s and first introduced in McMaster, Hamilton in Canada.<sup>2</sup> The purpose of PBL is to expose students with problems from the first year that they were expected to see in real life settings. This is carried out by problem scenarios that are designed to facilitate students in seeing the relevance of basic sciences that include anatomy, physiology, biochemistry, pathology, and community medicine to the patient problem scenario given during PBL session and to understand the applied basic and clinical sciences in order to recognize the mechanisms that lead to the specific problem of the patient. Self directed learning is a process in which individuals take the initiative with or without the help of others, diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing, and implementing learning strategies and evaluating learning outcomes.<sup>3</sup> To meet the challenges of today and the future health care environment, SDL is a most essential skill that the medical graduates need to acquire. The aim of this study is to evaluate the use of time allocated to SDL in the schedule of learning activities during college timings by the students of College of Medicine, Qassim University, KSA.

A cross-sectional study was conducted on the medical students of preclinical phase (year 1, 2, and 3) of the

College of Medicine, Qassim University, Kingdom of Saudi Arabia in February 2009. A self-administered anonymous questionnaires were distributed to all male and female (298) students and the participation was voluntary. For all questions, a 5-point Likert scale response format was used where 1 indicated strongly disagrees and 5 indicated strongly agree. The questionnaire examined (a) whether time allocated for SDL was sufficient (b) How was the SDL time utilized by the students and (c) Use of library resources. Data was cleaned, double entered, and analyzed on SPSS version 11.0. Frequency tables were generated and each item response was cross tabulated and male and female students' response was compared. Chi-square test of significance was applied to determine statistical significance in difference of responses among male and female students.

The overall response rate was 181/298 (60.7%). One-third (32.6%) of the students think that the time allocated to SDL is insufficient, while about 46% consider it sufficient. A modest majority of the students agree that the time allocated to SDL is actually spent in pursuit of the PBL objectives; in 40% students spend the SDL time for preparation of seminars or revising the lectures; less than a third of students agree that the SDL time is used for self study; 42% say that they frequently use this time for group discussions. Interestingly, 32% students "somewhat agree" and 28% "agree or strongly agree" that the SDL time is used for non academic activities such as in cafeteria. Correspondingly, the opinion about assigning specific tasks to be accomplished during SDL time is also divided: 28% disagree, 35% somewhat agree and on one-third (32%) agree with this idea. A modest majority of students (56%) agree that they spend this time in the library more than twice weekly, while 28% say that they never use the library during SDL time. The comparison between male and female students provides some differences in opinions (Table 1). Regarding half of the female students think that the time allocated for SDL is not sufficient, while 56% male students think it is quite sufficient. Most of the female students spend the SDL time for achieving the PBL objectives and also for seminar preparation. Fifty-four percent of female students also agree that this time is used for reviewing the lectures, and 60% say that they spend this time in group discussions. On the other hand, male students' opinions regarding how the SDL time is spent are mixed: roughly one third of the male students disagree, somewhat agree or agree with the statements that the SDL time is spent for PBL objectives; preparing for the seminars or reviewing the lectures. Likewise, more than two-thirds of female students disagree that they spend the SDL time in non-

**Table 1** - Comparison between male and female students regarding the results of self-directed learning (SDL) time utilization survey among preclinical medical students, Qassim University, Saudi Arabia (N=181).

Items	SD/D n (%)		SWA n (%)		A/SA n (%)		P-value
	Male	Female	Male	Female	Male	Female	
Time allocated for SDL is sufficient	27 (23.5)	32 (49.2)	23 (2.0)	15 (23.1)	65 (56.5)	18 (27.7)	0.002
Time allocated for SDL used for problem-based learning objectives	23 (20.5)	11 (16.9)	35 (31.3)	8 (12.3)	54 (42.2)	46 (70.7)	0.03
Time allocated for SDL is used for seminar objectives	46 (42.6)	15 (22.7)	32 (29.6)	6 (9.1)	30 (27.7)	45 (68.2)	0.000
Time allocated for SDL is used for lecture objectives	37 (33.7)	15 (23.8)	35 (31.8)	14 (22.2)	38 (34.5)	34 (54.0)	0.12
I spend SDL allocated time for self-study individually	33 (29.9)	15 (23.4)	49 (43.0)	23 (35.9)	31 (27.1)	26 (40.6)	0.14
I spend SDL allocated time for group discussions	39 (34.5)	12 (18.5)	37 (32.7)	14 (21.5)	37 (32.7)	39 (60.0)	0.04
I spend SDL allocated time for non-academic activities	25 (22.5)	43 (67.2)	49 (44.1)	8 (12.5)	37 (33.3)	13 (20.3)	0.000
If the allocated time for SDL is increased then I will spend in academic activities	39 (34.8)	15 (23.4)	17 (15.2)	12 (18.8)	55 (49.2)	37 (58.4)	0.49
If during SDL time specific task is allocated then I will utilize it in academic activities effectively	34 (30.4)	17 (27.9)	43 (38.4)	21 (34.4)	35 (31.3)	23 (37.7)	0.86
<i>In SDL time I used the library</i>							
Not at all	48 (49.0)	28 (56.0)	13 (13.3)	5 (10.0)	33 (33.6)	17 (34.0)	0.02
Once a week	35 (36.8)	17 (45.9)	19 (24.4)	6 (16.2)	24 (30.8)	14 (37.8)	0.05
Twice weekly	28 (40.3)	13 (36.1)	25 (34.7)	10 (27.8)	18 (25.0)	13 (36.1)	0.48
More than twice weekly	42 (61.8)	6 (14.7)	10 (14.7)	7 (17.1)	16 (23.5)	28 (68.3)	0.000

SD - strongly disagree, D - disagree, SWA - somewhat agree, A - agree, SA - strongly agree

academic activities; only 22% male students have the same opinion. However, opinions of male and female students are similarly distributed when it comes to increasing the SDL time or assigning specific tasks to be accomplished during SDL time.

The purpose of the study was focused on utilization of allocated SDL time in the Blocks timetable. Problem Based Learning promotes SDL approach in students through use of various learning resources themselves for acquisition of knowledge.<sup>4,5</sup> Our students come from a traditional teaching, teacher-directed system. Reserving time slots for SDL was purposefully carried out for students who require meeting time with students to discuss learning objectives or any other learning activity or faculty guidance and support for transition into student-centered mode, where the onus of learning is on the students, from teacher-centered learning mode, where teacher is the main source of information or knowledge. Published literature on this specific area of usage of reserved slots for SDL during college time are not available; perhaps the reason for this could be that SDL is considered to be used differently and at ones' own timing. The purpose of reserving specific time was a well considered strategy by the College authority. Therefore,

we wanted to know specifically how our students are using the SDL time. Three issues that were of concern for the investigators were a) appropriate duration of time allocated for SDL b) proportion of students using the allocated SDL time for academic purposes, and c) use of the library. The students both male and female agree that the time allocation is sufficient. Our concern for utilization of SDL time in the schedule of activities was of prime importance. We combined the somewhat agree with agree and strongly agree categories, and found that 77% male and 32.8% female spend this time in non academic activities and 46.9% male and 44% female do not use the library at all during this time. The findings that more than two thirds of male students use this time for non academic activities and almost half of both male and female students do not use the library 'at all' needs to be further investigated. This study has raised concerns among the Administration and Medical Education Department of the College. The major limitation of this study is that we could not ascertain the cause of the behavior of the students because of the nature of the study design. Therefore, we recommend that a qualitative study should be conducted to find the reason for the attitude and behavior of the students

for inappropriate use of time allocated for self learning activities during college hours.

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