

# Topic-Based Study Guide: An Essential Learning Tool to Planned Teaching and Learning in Basic Science Courses in Medical and Health Sciences Universities

Anshoo Agarwal

**Abstract**—Study guides can make a major contribution to learning. Little is known about students' perceptions of use of study guides in many Universities in many countries. The use of study guides in education is growing exponentially, but available studies report wide variability in student perceptions about them, ranging from enthusiasm to very negative attitudes. Cross-sectional questionnaire based study was done to share description of the key features of study guides in Health Sciences Universities in India, Pakistan, Malaysia and United Arab Emirates and to review the international guidelines as how to prepare study guides for health professionals and compare them with the study guides designed in basic science courses in the Universities in India, Pakistan, Malaysia and UAE. Student's perception about study guides in different Universities of different countries was also analyzed. Questionnaire were distributed to the students in different Universities of India, Pakistan, Malaysia and UAE taking basic sciences courses. Regarding various aspects of study guides in Malaysia and UAE: 78% felt that study guides were informative. 85% felt that it was informative in communicating to students and teachers what the learner needs to know. 85% of them feel that study guides have been useful in the time of need. In India and Pakistan, the topic wise study guide was not available in many courses in basic sciences for health professional students. Few courses designed study guides for students, however majority of the students felt that it was not needed as it was not of much use to them. We hypothesis the reason could be that in Malaysia and UAE the curriculum is student centered and structured and based on learning outcomes therefore going through the study guides helps students to know what they need to study. However, in India and Pakistan still many Universities follow traditional curriculum which is still teacher centered therefore courses with study guides available were also not of much use to the students in such places.

**Index Terms**—Basic science courses, topic-based study guide learning tool, planned teaching and learning.

## I. INTRODUCTION

Study guides can make a major contribution to learning. They are different from textbooks. They can be seen as a response to changes taking place in the curriculum, to the challenge of information overload and to different approaches to learning. Study guides have three roles in facilitating learning: (1) assisting in the management of student learning; (2) providing a focus for student activities relating to the learning; (3) providing information on the subject or topic of study. Study guides may include an

overview of the course, the expected learning outcomes, the prerequisites, the timetable, the learning strategies and opportunities, assessment information, staff contacts and personal comments from staff. Steps in preparing a guide can be considered under the following headings: (1) deciding on the function and format of the guide; (2) relating the study guide to the curriculum; (3) writing the guide. A well-written guide is a management tool that encourages both the teacher and the student to assume responsibility for learning. Little is known about students' perceptions of use of study guides in UAE. This study will analyze students' perceptions about study guides and how the use of them influenced their satisfaction. The use of study guides in education is growing exponentially, but available studies report wide variability in student perceptions about them, ranging from enthusiasm to very negative attitudes. This variability may be due in part to student characteristics (e.g. schooling background, cultural difference, preferred learning style etc). In addition, study guides have significant variations in their designing and incorporated contents.

Study guides highlight the choices available to students in terms of:

- what they have to study;
- the methods of study;
- the sequence of learning

Study guides in pathology in our Universities are not integrated systematically in five year curriculum. In different colleges of Medical & health Sciences university (Medical, Dental, Nursing (BSN, MSN), Pharmacy) study guides are structured around major concepts such as: Faculty information and contact details, Name of the topics to be taught, faculty member responsible for teaching, dates and time when the topics are schedule to be delivered, assessment dates (Quizzes, continuous assessment examinations and final examinations), assignments topics and the faculty responsible for taking these assignments. Quiz topics, Venues where teaching will take place, learning outcomes and the academic calendar including all important events which will be taking place during the course and the learning resources. Studies by others have examined the usage of study guides by medical students. Despite the wide use of study guides and the perceived comfort, medical students have diverse opinion when it comes to using them. This can create challenges for the colleges who put in so much effort for their students in designing them.

Little is known about the students' perceptions about use of the study guide in Medical and Health Sciences

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Anshoo Agarwal is with Northern Border University, Kingdom of Saudi Arabi (e-mail: dranshoo3@gmail.com).

University. This study analyzed the students' perceptions about study guide and how the use of them influenced their satisfaction. The use of study guide in education is getting importance and makes a major contribution to students learning.

**II. AIM & OBJECTIVES**

- To share description of the key features of study guides in basic sciences courses in different colleges (Medical/Dental /Pharmacy /Nursing) at Medical & health Sciences University.
- To review the guidelines as how to prepare study guides for health professionals and to correlate whether the study guides designed in basic sciences courses for the students in Medical & Health Sciences University are based according to it.
- To analyze student's perception about study guides in basic sciences course at Medical & Health Sciences University.

**III. MATERIAL & METHODS**

Participants: Questionnaire was distributed during the end of semester to all the students in all the colleges in Medical & health Sciences Universities who are taking basic sciences courses. Participation was voluntary, no identifying information was taken, and confidentiality was assured. A survey questionnaire was developed after the literature review and discussion with the faculty and staff. Most of the questions were close-ended type. A pre-validated survey questionnaire was administered to students to know the perception of students about study guide.

Questionnaire designed for the study had Section A which is regarding collecting the demographic details, Section B comprise various components of study guides and Section C is to get their comments:

TABLE I: STUDENTS WILL BE ASKED TO PROVIDE INFORMATION REGARDING THEIR AGE, GENDER, NATIONALITY, LEARNING STYLE.

B	Various Aspects of the Study guide	SA-Strongly Agree	A-Agree	DK-Don't Know	D-Disagree	SD-Strongly Disagree
<b>1</b>	<b>Study guide</b>	XX				
a	informative					
b	not necessary					
c	include too many topics					
d	inspiring or motivating for the student					
e	informative in communicating to students and teachers what the learner needs to know					
f	impacting, with potentially a profound effect on the learner.					
g	contain all the information regarding delivery of the course contents and assessment methodology					
<b>2</b>	<b>Information related to study guide</b>	XX				
a	Have they used study guides before	AU (always use)	MU (Mostly used)	Used only in professional college	Occasionally used in few courses in professional college	Never Used
c	How helpful are study guides in their learning	Always useful	Mostly useful	Useful in the time of need	Sometimes useful	Never useful
d	How often they refer to the study guides	Always referred	Frequently referred	Referred when needed	Occasionally Referred	Never Referred
e	Do they bring study guides to the University for the reference?	Always Bring	Frequently bring	Bring when needed	Occasionally bring	Never bring
f	How is the quality of the study guide	Extremely good quality	good quality	Average Quality	Poor quality	Very poor quality
g	Faculty support in using study guides, with items such as "I go through study guides myself and understand information on my own." / "If I have difficulties, I contact the course faculty.	Visit regularly	Visit frequently	Visit when needed	Visit sometimes	Never visit
h	Satisfaction with the study guides. Items included "I recommend that all courses should have study guides" and "Study guides provide greater support for me when studying."	Fully satisfied	Mostly satisfied	Satisfied in doubtful situations	Occasionally Satisfied	Never Satisfied as it confuses more
<b>B</b>	<b>AS A WHOLE</b>	<b>E</b>	<b>G</b>	<b>S</b>	<b>U</b>	<b>P</b>
	I find the study guide					

E = Excellent G = Good S = Satisfactory U = Unsatisfactory P = Poor

C Comments/Suggestions for improvement

#### IV. RESULTS

Regarding various aspects of study guides in Patology:78% felt that study guide was informative,20% thought it was not necessary include too many topics,57% found it to be inspiring and 56 feel that it is motivating for the student;85% feel that it is informative in communicating to students and teachers what the learner needs to know, 30% felt it to be impacting, with potentially a profound effect on the learner, 98 % felt that it contain all the information regarding delivery of the course contents and assessment methodology. 95% of them have used study guides in few courses in professional college before. 85% of them feels that study guides have been useful in the time of need. for 10% referring study guides had always been useful and 5% had never been benefitted by it.35% of them answered that they always had been referring to the study guides,65% of them referred only in the time of need .37% of them never bring the study guides to University,33% of them occasionally bring and 30% of them said that they always carry the study guide with them.39% students felt study guide of very good quality while 51% felt it to be of good and 10% felt it to be of average quality. 34% of them mentioned that they take faculty support in using study guides whenever they get confused. 62 % students felt that they will recommend that all courses should have study guides.

#### V. DISCUSSIONS

Study guides provides an alignment of learning outcomes, teaching methodology and assessment and helps to make the overall learning experience more transparent and meaningful for the students The main purpose of study guides is to organize lecture notes and text book material so that students can increase their comprehension and memory of large amounts of information. Study guides are an adjunct aid has been defined by Richardson [1] as a group of activities; prepared in advance, designed to help the student organize information from the chapter and to suggest the use of applicable skills to the task . A guide is usually a typewritten copy keyed to the textbook that can be placed beside the text while the student is reading. Herber's [2] extensive work has been crucial in establishing the importance of study guides as an instructional tool [3]. Herber [2] cites two purposes for a study guide: to help students discover the important text ideas and to guide students through the reading and thinking ideas necessary for that discovery. Wood, Lapp and Flood [3] describe study guides as a "tutor in print." According to [4] the "purpose of a study guide is to prepare a plan for reading the text...". The purpose varies to suit the text, content, and curriculum objectives.

Study guides may be divided into two types: the interlocking study guide and the noninterlocking study guide [4, 5]. The interlocking study guide [2] centers on the hierarchical relationship between levels of comprehension—literal, interpretive and applicative. Each of these three levels of comprehension is grouped separately with the sequence moving from literal to interpretive to applicative. The noninterlocking study guide [6] is based on this

interactive definition and philosophy of reading. It exemplifies the interactive nature of comprehension by actively engaging the reader's participation in an ongoing dialogue with text through the use of personal experience and judgment. Since study guides vary in quality from teacher to teacher, the term teacher-constructed study guide is coined to the specific study guides used in the classroom which are different from interlocking and noninterlocking study guides.

Tutolo [4] suggested that the classroom research to be conducted to provide teachers with information on the most effective type of study guide so that they might construct better study guides for their students. Our study was done to analyze the information on the potential importance and use of study guides and student's perception about it and to see effects of study guides on student's attitudes.

A well-written guide is a management tool that encourages both the teacher and the student to assume responsibility for the learning [7]. It stated that "a study guide should include far more than merely a list of detailed curriculum objectives and a copy of the course timetable, for how else will teachers know what to teach, students know what to learn and examiners know what to examine." Others have stated the importance of giving students 'white space'. They said providing space for students to make notes was 'likely to be more effective at promoting effective learning by doing'. [8], [9]. In Babar S, *et al* study the perception about the usability of study guide was well appreciated by both students and teachers. [10].

Our study also highlighted that incorporation of learning outcomes in the study guide was useful for the students. [11]. There was no significant difference in perception between student groups (Females and Males) which may be due to familiarity among the both groups with the use of the study guide. On literature review it was studied that the ideal guideline / steps to prepare study guide include: Step-1 Content analysis (Total Theory and Practical sessions). Step-2 Determination of learning outcomes (LO). Step-3 Appropriate time duration to deliver that topic (1hr or 2hrs) Step-4 Faculties who is going to deliver it Step-5 Assessments planned during the semester or year according to the Academic calendar. Review also suggested that Study Guides should ideally contain: 1. Cover page having university logo 2. Program 3. Course number 4. Course Title 5. Credit Hours 6. Teaching faculty and staff details 7. Attendance 8. Teaching Schedule with dates.

#### VI. CONCLUSION

Study guides are meant to assist students in their learning process and help them in gaining the required knowledge of the courses undertaken by them. Teacher direction is required for a study guide to be effective. Study guides should be explained and modeled for students. While study guides can be valuable tools for the enhancement of instruction, the effectiveness of any study guide depends in a large part on how it is prepared by the individual teacher. In our study overall, the students appreciated the importance of the study guide in their learning process. The results of this study will help the concern faculty to make the

necessary changes and make the study guide more useful and student friendly.

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**Anshoo Agarwal** received the M.B.B.S. M.D. Pathology (Doctorate). She is a professor and chairperson in pathology and forensic medicine, RAKMHSU, United Arab Emirates. Currently, she is working as professor and coordinator pathology in Kingdom of Saudi Arabia.

She has many publications and presentations in national and international conferences more than 200. She has organized seminars, CME's, lectures, workshops and participated in the conferences more than 100. She has research projects supervisor-more than 100. She is teaching the undergraduate medical, dental, nursing, allied health professional and postgraduate students. She is working in M.B.B.S. under graduates for more than 20 years. She is also involved in teaching of medical laboratory technicians, pharmacy students, post graduates in pathology, masters nursing students and medical nutrition students.