



ORIGINAL RESEARCH PAPER

STUDY OF IDENTIFICATION OF LEARNING APPROACHES AND STYLES ADOPTED BY SECOND YEAR MBBS STUDENTS AND ASSOCIATION BETWEEN THESE APPROACHES WITH THEIR PERFORMANCE IN THE UNIVERSITY EXAMINATION

Research in medical education

KEY WORDS: Learning styles, learning approach, medical students, ASSIST, O'Brien

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ABSTRACT

Background: Student possesses a wide range of learning process and it is necessary for every teacher to guide them effectively according to their needs. Multiple modalities are available to give information to the learner to keep their attention and motivation in their study so there is a need of shifting from traditional large group teacher centric education to the multimodal student centric interactive approach.

Aims and objectives:

1. To identify the learning styles and approaches of second year M.B.B.S students who passed out recently.
2. To inform the students regarding availability of different methods for optimum learning.
3. To sensitize the students regarding the pros and cons of different methods and make them aware regarding the proper utilization of learning methods.
4. To make them aware regarding newer methods for gaining knowledge and performing better in the examination.

Methodology: The current study was aimed to identify learning approaches and learning styles in second MBBS students by using questionnaire prepared by O'Brien (30 items) and ASSIST (the Approaches and Study Skills Inventory for Students 52 items).

Observations: It is observed that visual and haptic style and deep and strategic approaches are more common. Males are having more visual style (76%) while females are having more haptic style (75%). In combination, the students are having more visual and haptic styles (75%) as compared to the auditory (56%). Deep and strategic (in both 97%) approaches are more as compared to the superficial one (74%). Deep approach more in female as compared to male. Those are having deep and strategic approach as well as haptic and visual style of learning is having better grades than those having superficial and auditory style of learning.

INTRODUCTION:

Learners have different approaches to gain the knowledge and skill in their respective field of education and it is time tested that every individual have their own way of learning. The educationist have goals to guide him/her about pros and cons of the methods followed by them and what are the other better modalities available that can be utilized and able to improve their knowledge, skill and performance in examinations.

Every student is having different socioeconomic and cultural background and different level of competency and preparedness prior exposure to new environment and has their own way of understanding and remembering the subject. (1)(2) Teaching is the knowledge presentation while learning is multi factorial and depends on the mind set of each student. There are two types of motivation, extrinsic and intrinsic. The former is from the external factors such as learning environment while intrinsic is motivation born within without encouragement from outside.

ASSIST (Approaches and Study Skills Inventory for Students) was developed by the Centre for Research on Learning and Instruction in the University of Edinburgh in 1997. There is a paradigm shift in the approach to the principals of adult learning changing from earlier practiced teacher centered to student centered, i.e. from pedagogy to andragogy (3,4). Students in professional courses are having two types of focuses: one type of students entirely focuses on results in the examination and other type of students focuses both on understanding the subject as well getting good results. (5,6,7). In literature, we can find that the students can be classified into three groups: superficial or apathetic approach (SAA); deep approached (DA) and strategic approach (SA) with their learning approaches.

It is natural different students will have different learning styles. Generally, most of the students use their special senses like auditory and visual. Fleming and Mills developed different models on the basis of special senses to find out the learning approach in an individual known as VARK model. It is acronym for the Visual (V), Auditory (A), Read/write and Kinesthetic (K)(8).

The modality (learning channel preference) of 30 questionnaires reproduced by O'Brien (1985) has divided the students in to three groups namely visual, auditory and haptic (VAH). Auditory learning style is the least developed learning style still most of the instructions are conveyed via lecture mode. Visual learning style is

of many people, they learn best when they see the information. They preferred text books, photographs, charts, and take lots of notes over lectures. In the haptic learning style (Haptic GR. – moving and doing) the learner learn through brain activities such as moving, hands on experiences, practical application, use of models and real-life experiences (9).

To identify the learning approaches, one can use the Approaches and Study Skills Inventory for Students (ASSIST) – a 52 question based inventory which identifies three learning styles commonly followed by learner are deep, strategic and surface. (10)

In the era of internet and easy access to electronic tools, a large number of students are using enormous study material available on and off line. This material is available in the form of written, auditory, visual, stimulations, case based material, pictures, movies, videos etc. But they are using this material without any proper guidance hampering to achieve the desired output. The reason may be many teachers are not as enthusiastic as students using such material. If teachers know the type of learning approaches and styles, optimum use of these material would be beneficial to both the teachers as well as students.

Till date such study has not been carried out in the medical colleges located in the South Gujarat region, it is appropriate and will be useful to take up such study. The current study is aimed to identify learning approaches (deep, Strategic and superficial) and learning style (auditory, visual and haptic) among the newly entered second MBBS students.

AIM AND OBJECTIVES:

1. To identify the learning styles and approaches of second year M.B.B.S students who passed out recently.
2. To inform the students regarding availability of different methods for optimum learning.
3. To sensitize the students regarding the pros and cons of different methods and make them aware regarding the proper utilization of learning methods.
4. To make them aware regarding newer methods for gaining knowledge and performing better in the examination.

METHODOLOGY:

The present study was conducted after **ethical clearance has been obtained from institutional ethical committee** to analyze the learning styles and approaches adopted by the second-

year MBBS students during their learning in first year and same following till date.

The learning channel preference questionnaire reproduced by O'Brien (30 items) and ASSIST questionnaire (52 items) developed by the Center for Research on Learning and Instruction in the University of Edinburgh was used to assess the learning styles and approaches.

Aim and objectives of the study has been explained to the students before questionnaire was distributed among the second year third semester students during their demonstration/ practical class. Strict confidentiality has been maintained. The questionnaire distributed in two sessions, when ASSIST was given, 128 students were present while on VAH distribution day, 124 students were present. The data was collected and subjected to statistical analysis by SPSS version 16.

OBSERVATIONS AND RESULTS:

The ASSIST consists of 52 items, each item has five responses and the responded have to select one to five in each item. In this group, the items further divided in three groups, the surface and strategic approach consist of 16 items each, while the deep approach is having 20 items. The surface and strategic items having minimum and maximum scores varies from 16 to 80 while in deep approach from 20 to 100. The score 48 and above for the surface and strategic and 60 and above for the deep approach are considered as the cut of value. In learning style, there 30 items and the responded has to select 1 to 3 responses. This further divided in three groups, each group is having minimum and maximum score 10 to 30 and 20 was cut of score for each group.

On the day of study of learning styles 124 students were present, all three learning styles are well developed in all students. According to sex, 65 were males and 59 were females. At large the flat scores in the high 20 indicates both sexes have well developed the visual and haptic approach and able to use the modality that best fit to them while auditory style more predominant in male as compared to females.

Table No. 1 Frequency

Value	Visual	Percent	Auditory	Percent	Haptic	Percent
<20	31	25.0	59	47.6	31	25.0
> 20	93	75.0	65	52.4	93	75.0
Total	124	100.0	124	100	124	100.0

Table No. 2 Sex wise distribution

Value	Visual				Auditory				Haptic			
	F	%	M	%	F	%	M	%	F	%	M	%
<20	14	23.7%	17	26.2%	31	52.5%	28	43.1%	15	25.4%	16	24.6%
> 20	45	76.3%	48	73.8%	28	47.5%	37	56.9%	44	74.6%	49	75.4%
	59	100.0	65	100.0	59	100.0	65	100.0	59	100.0	65	100.0

Table No. 3 Mean calculation

	Sex	N	Mean	Std. Deviation	P- value
Visual	M	65	21.1692	2.33566	0.252
	F	59	21.6780	2.58937	
Auditory	M	65	20.1077	3.00584	0.117
	F	59	19.2034	3.37220	
Haptic	M	65	21.6000	2.35717	0.557
	F	59	21.3390	2.58384	

On the day of study of learning approaches 128 students were present in the class. 68 were males and 60 were females. It is observed that all students developed all three types of approaches but more common is deep and strategic then superficial. All student obtained more than 60 cut off value in deep approach while only two get less than 48 the cut off value in strategic approach. In superficial approach 74 students gets less than the cut off value i.e. 48 out of which 37 were male and 37 were female it means they developed more deep and strategic approach and less superficial approach as compared to others.

Table No. 4 Superficial approach

Value	sex				Total
	F	%	M	%	
<48	37	61.67	37	54.41	74
> 48	23	38.33	31	45.59	54
Total	60	100	68	100	128

Table No. 5 Strategic approach

Value	sex				Total
	F	%	M	%	
<48	6	10	10	14.71	14.71
> 48	54	90	58	85.29	85.29
Total	60	100	68	100.00	100.00

Table No. 6 Deep approach Table No.

Value	Frequency	Percent	Valid Percent	Cumulative Percent
<60	3	2.34	2.34	2.34
>60	125	97.66	97.66	100.00
Total	128	100	100	

7 statistic analysis

Group Statistics					
	Sex	N	Mean	Std. Deviation	P- value
Deep	Male	68	76.8824	10.78076	0.271
	Female	60	74.95	8.70111	
Strategic	Male	68	56.9265	8.12094	0.934
	Female	60	57.05	8.78447	
Super	Male	68	46.4265	10.56228	0.19
	Female	60	44.1333	8.89004	

DISCUSSION:

Various authors have conducted the study of learning approaches and styles among different groups of students. In Indian contest, recent study was carried out by Joshi A, et al (2017) (11) by using VARK questionnaire to find styles of learning in first year medical students and observed that students are having more visual and kinesthetic approaches in learning as compared to auditory, these findings are consistent in this study by using O' Brien questionnaire that students are having predominant visual and haptic styles of their learning. (12)

To find out the learning approaches, various authors have used the ASSIT questionnaire, Teixeira et al (2013) conducted a comparison between the studies carried out in different countries such as in **Norway** by Diseth (2001), **Ireland** Byrne et al., (2004) and Ireland Ballantine et al. (2008), **USA** Byrne et al. (2004), **Portugal** (South) Valadas et al. (2010) and Portugal (North) Teixeira et al., 2012 and he found that all learners in different countries have similar i.e. strategic and deep approach of learning as compared to superficial. In present study, similar results are observed.(13)

Stephen B et al (2015) (14), studied the approaches by using ASSIST questionnaire in BSc chemistry students and they found that students have adopted surface approach more common as compared to deep and strategic, similar results are observed by Zain ZM et al (2013) in the study carried out on business management students(15).

CONCLUSIONS:

There is no single best teaching-learning strategy that can work for every student, it is responsibility of instructors to address this diversity of learning styles among students and develop appropriate learning approaches. (14).

It is observed that those having strategic and deep approaches got more than 65% grads in their previous examinations while those having less than cut of value and having superficial approaches got less than 65% grads in their examinations. Similarly those having visual and haptic styles of learning got more than 65% grade in previous examinations while others have less grad in their examinations. Therefore it is concluded that deep and strategic approaches of learning are better as compared to superficial

approach and auditory style of learning. One can guide about their possible strengths and weaknesses and how to improve their academic performance.

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