Research Article

Receptivity of students in a lecture class

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ABSTRACT

Introduction: Lecturing is widely used teaching method in higher education. Instructors of large classes may have only option to deliver lecture to convey information to large group of students. Various methodologies have been employed including lecture, PowerPoint presentation, and interactive sessions. The receptivity of students varies in different lecture sessions. This study was carried out to analyze interaction of students in a lecture class through a questionnaire-based study and also to improve the effect of teaching in various methods. **Aim:** The aim of this study was to assess the receptivity of dental students in a lecture class through a questionnaire. **Materials and Methods:** A questionnaire consisting of 20 questions was prepared to attain information regarding the receptivity of students in a lecture hall. This study was conducted among a sample of 115 students who were doing 1st and 2nd years in the Saveetha Dental College and Hospital. The data collected were analyzed. **Results:** Thirty-three agreed that communicating well with the lecturers helped them to improve their learning. Of 57 2nd year students, 42 agreed to this. Twenty-eight of the 1st year students answered that the team-based learning helped them to retain the learned things easily. Thirty-six of the 1st year students agreed listening to the lecture keenly helped to improve their performance. Most of them preferred the online quizzes and pointed out that visual and auditory materials help in recollecting the lectures. **Conclusion:** Blended learning with different teaching methods into dental education appears to be an important development and provided courses if appropriately designed, they can be instrumental in encouraging effective learning.

KEY WORDS: Interaction, Learning, Lecture, Presentation, Teaching

INTRODUCTION

Within higher education, there is an increasing trend toward transcending from traditional didactic, teacher-focused teaching to more student-centered methodologies that actively engage students in the learning process.[1] The process of learning has come a long way. The practice of teaching has changed dramatically in the years since the beginning of teaching. Teaching has become a far more interactive enterprise. While active learning emerged long before the World Wide Web and social media, the emergence of new technologies has changed the manner of the student's learning.[2,3] Educators and lecturers are now faced with the challenge of creating not just more dynamic teaching exercises but more meaningful ones, exercises that do more than convey facts and figures already easily accessed with the tap of a finger.[4]

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Learning in a lecture class is considered to be a two-step process including the reception and processing of information. The reception phase involves observable information and introspective information.[5] Researches reveal that certain techniques can improve learning and performance. Many researchers and studies have demonstrated that active learning creates more comfortable and improved learning spaces for many different kinds of students, including unacknowledged or alienated students who feel more welcome in peer learning environments, women and minority students who perform better in collaborative rather than competitive classrooms, and shy students who feel more at ease talking in small groups.[6] Improved experience and understanding of diversity is one particularly significant side benefit of active learning classrooms.[7]

Active learning pedagogy prepares students to work more creatively, and frequently more collaboratively, to tackle and solve problems, while negotiating differing opinions and diverse world views.[8] Educators have

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understood this teaching practice in both general and specific terms. In perhaps its simplest definition, active learning involves students in doing things and thinking about the things they are doing.[9] In its fuller definition, active learning provides "opportunities for students to meaningfully talk and listen, write, read, and reflect on the content, ideas, issues, and concerns of an academic subject".[10]

The receptivity of a lecture plays an important role in the development of the budding intelligence of future professionals. The students are the great assets to our society as they are the future visionaries. However, it is the knowledge that guides them to have great visions in the development of developing nations like India. The knowledge has to be poured into them through the lectures. Hence, the lecture classes are the primary source of knowledge and have to be a learner centered process.[11]

Instead of stressing on the facts of improving the performance of the students, the study focused on their receptivity in a lecture hall.[12] Thus, we could improve the learning settings to improve the learner oriented lecture. Through collecting data from questionnaire survey, this study investigated the student's receptivity, including before, during, and after a lecture in a classroom.

The aim of the study is to compare the students of higher and lower education so as to arrive at a decision to make the lectures more learners oriented. This study compared the receptivity of 1st year dental students and the 2nd year dental students.

MATERIALS AND METHODS

The questionnaire was prepared to attain the necessary information regarding the receptivity of students in a lecture hall. The information is necessary to increase the ability of the students to listen to the class effectively. Even though various factors determine the effectivity of receptivity, we had accounted some of the factors to achieve the expected results.

This study dealt with the receptivity of students in the lecture hall. Hence, this study compared the receptivity of the 1st year and 2nd year dental students to arrive at a result of what need to be done to increase the receptivity. By comparing the two groups of different standards, we could conclude that the students of higher standards would have learnt something to say increase their receptivity or lack the interest to increase the receptivity comparing the lesser group.

The study design was anonymous involving 115 students. This study was conducted mainly targeting a sample of general population involving students who were doing 1st and 2nd years in the Saveetha Dental College and Hospital. The students were selected after getting their consent. The students were selected randomly and were asked to gather in the lecture hall to answer. They were asked to answer the questionnaire in one session of 20 min.

This study was organized as a cross-sectional study containing 20 questions. The question in the questionnaire focused majorly on the following:
1. Activities in the lecture hall
2. Preparation before a lecture
3. Their understanding after a lecture
4. Their interest to learn.

The self-administered questionnaire consisted of 20 questions which were then analyzed separately based on the nature of it. The questionnaires were distributed to the students and they were given some time to answer. All 115 completed the questionnaire and were selected. This study was mainly directed toward the receptivity of students as the selected students were from two classrooms and from 1st to 2nd years of dental college and hence the 2nd year students were more experienced than the first and knew more about what they were doing rather than the first who were only eager to know what is meant to be in the dental college.

The data were evaluated to get descriptive statistics as percentages and frequencies using SPSS version 18 and statistically analyzed. The modified analysis was used to analyze the receptivity of students and the association between the students of two different settings in their nature and manner to learn. The results were taken for each question to imply the relations between them all.

RESULTS

Of the total 115 students, 58 were from the 1st year and 57 were from the 2nd year. Hence, it was a random equally distributed study. Of 58 1st year students, 23 were male and 35 were female. Of the 57 2nd year students, 30 were male and 27 were female. Regarding the male and female distribution also, it was an equally distributed study [Table 1].

Of 58 1st year students, 33 agreed that communicating well with the lecturers helped them to improve their learning. Of 57 2nd year students, 42 agreed to this. Twenty-eight of the 1st year students answered that

Table 1: The number of respondents taking part in the survey

Participants	Dental students after 1st year	Dental students after 2nd year	Total
Male	23	30	53
Female	35	27	62
Total	58	57	115

the team-based learning helped them to retain the learned things easily and 38 of the 2nd year students agreed to this. Thirty-nine of the 1st year students were interested in knowing the new content to be taken in the next class and 35 of the 2nd year students were not interested in knowing the new content.

Thirty-six of the 1st year students agreed listening to the lecture keenly helped to improve their performance and 40 of the 2nd year students agreed to this fact. Thirty-seven of the 1st year students felt that the PowerPoint presentations were not enough to promote the effective learning and 47 of the 2nd year students felt the same. Forty-two of the 1st year students said that the in class and online tests helped them to gain good grades in exams and 39 of the 2nd year students told the same.

Forty-three of the 1st year students suggested that all the study material given and taken in the lecture hall should be made available online, and it should be made readily accessible. Forty-seven of the 2nd year students agreed to this fact.

Thirty-one of the 1st year students and 30 of the 2nd year students told that the group activities helped them to stay concentrated while learning [Table 2].

When asked about the kind of tests to improve the efficiency, 33 of the 1st year and 29 of the 2nd year students preferred both the subjective and objective tests [Table 3]. When asked about the preference of the tests, most of the 1st and 2nd year students preferred the online quizzes [Table 4].

When asked about what kind of study material helped them to recollect a topic easily, most of them pointed out the visual and auditory materials [Table 5]. According to most of the 1st years, the mode of learning which helped the students to remember the lecture effectively was by practice. According to the 2nd year, logical understanding and reasoning helped them to remember the contents of the lecture [Table 6].

When asked about the goal, 40% of 1st year students told that they want to be the topper of the class and 34% of the 2nd year students told the same. This shows the immaturity in approaching the professional course. About 30% of the 1st year and 36% of the 2nd year students told that they would be understanding about themselves and their surroundings and implement everything that they have learnt in their professional course. This would be optimal choice as they are to be the future generation [Table 7]. Table 8 shows that the reason behind some of

Table 2: Questionnaire distributed

Questions	Dental students 1st year		Dental students 2nd year	
	Yes	No	Yes	No
Communicating with the lecturers	33	25	42	15
Team-based learning helps you to remember easily	28	30	38	19
Showing interest to know the new content	39	19	22	35
Listening keenly to the lectures	36	22	40	17
PowerPoint presentations are sufficient for effective learning	21	37	10	47
Online and in-class tests help to improve grades	42	16	39	18
All study materials should be made available online	43	15	47	10
Group activities help to stay in concentration	31	27	30	27

Table 3: Response for the test preferred to improve efficiency and the preference to be done

What kind of test do you prefer to improve your efficiency?	Subjective tests	Objective tests	Both	Oral interviews
1st year	3	5	33	17
2nd year	4	4	29	20

Table 4: Response for the periodic test preferred to improve efficiency and the preference to be done

What do you prefer the most from the following to be done more periodically?	In-class tests	Online quiz	Projects, survey etc.,	Portfolio
1st year	17	23	8	10
2nd year	15	25	10	7

Table 5: Response to study material to recollect topics periodically and to the mode of calling

What kind of study material helped you to recollect a topic easily?	PowerPoint presentations	Group interactions	Visual and aural materials	Manuscript, books etc.,
1st year	10	14	24	10
2nd year	9	11	25	12

the students learning more than other from a lecture was motivation and self-confidence.

Table 9 shows that their approach beforehand a new content to be taken in the next lecture was to watch prerecorded lectures online and discuss with friends. Table 10 shows the results of the factors helping the students to observe keenly and carefully and to remember thing easily during a lecture was watching visual-based materials.

When asked about which activity needs to be implemented to make the lecture more productive and engaging and help the students more efficient and promote effective learning was process-oriented guide inquiry learning [Table 11].

Table 12 shows that sitting with friends cause distractions during a lecture. Table 13 shows that working with the other students help to make friends.

DISCUSSION

In the recent years, the use of assessment or adjunct tools as a part of teaching has become more wide-spread across medical and dental schools. Educators have sought different methods of teaching in the dental curriculum; the present curriculum has changed from teacher-centered approaches to more student learner approaches. Lectures, discussions, computer-assisted learning, audiovisual source, video-based learning, demonstration, and role play are different teaching methods employed in educational institutions.[13,14]

Over the past decades, there have been many criticisms of introducing different teaching methods into the educational system.[15] However, if it is properly implemented, the method and medium of instruction can greatly influence the quality of learning by the students.[16] Demirjian has stated in his study that with the development of personal computers and useful software for education, it is possible to easily copy the

Table 6: Mode of learning to remember the contents more effectively

What mode of learning helped you to remember the contents more effectively?	Reading and writing	Logical understanding and reasoning	Practice	Helping and teaching your friends
1st year	11	16	17	14
2nd year	8	17	15	17

Table 7: Response to the goal and reason for students learning more than others

What is do you think that your goal would be?	Recognizing yourself by giving self-feedback	Getting the degree and to be done with it	Topping the class and getting into a nice job or higher education	Understanding about you and your surroundings and implementing everything that you learnt in professional course
1st year	12	6	22	18
2nd year	10	7	19	21

Table 8: Reason for some students learning more than the others from a lecture

What will be the reason for some students learning more than the others from a lecture?	They are working hard	They are gifted	They receive help from many others	They are highly motivated and have self-confidence
1st year	13	12	12	21
2nd year	15	10	10	22

Table 9: Response to approaching a content before its taken and to factors that help to observe during a lecture and kind of activity to implement

What do you expect to be done in approaching content before it is taken in the next lecture?	Read the content beforehand	Watch prerecorded lectures online	Discussing with friends
1st year	15	22	20
2nd year	19	17	21

Table 10: Response to approaching a content before its taken and to factors that help to observe during a lecture and kind of activity to implement

What factors will help you to observe during a lecture?	Just listening to the lecture	Writing notes	Watching visual-based materials
1st year	16	12	30
2nd year	14	11	32

Table 11: Factors helping in observation during a lecture

What kind of activity would you like to implement?	Debate	Process-oriented guide inquiry learning	Jigsaw
1st year	19	22	17
2nd year	21	23	13

Table 12: Response to reason that cause distraction and to attitude toward working with others

What would be the reason that distracts you during a lecture?	Fixed seats in the class	Friends sitting nearby	Your inability to concentrate	Not interested in the subject
1st year	12	17	14	15
2nd year	11	19	15	12

Table 13: Attitude toward working with other students

What would be your attitude toward working with other students?	You are basically forced to work with other students	I was able to overcome my shyness	It was a good way to get to know people	It helps you learn how to make friends
1st year	12	14	11	21
2nd year	13	16	11	17

teaching material on CD or flash drives and deliver it to students as a training pack. Keith and Prosser have advocated that critical appraisal is considered one of the integral parts of evidence-based learning.[17]

A majority of the participants agreed that communicating well with the lecturers helped them to improve their learning. They also felt that team-based learning helped them to retain the learned things easily. Many of the 1st year students showed interest in knowing the new content to be taken in the next class and this may be due to the fact that the 1st year students were new to the campus and were eager to know the subjects than the 2nd year students as they knew something about the subjects and lost the interest to know them. In this case, active learning helps.

A number of participants agreed that listening to the lecture keenly helped to improve their performance and hence the students must take responsibility in learning and show interest in listening to the lecture carefully and keenly. The PowerPoint presentation was not enough according to the students, more activities and more visual-based study materials need to be created to promote the active learning and effective learning in a lecture halls.[15]

Majority of the students said that the in-class tests and online tests helped them to gain good grades in exams. Pop-up tests in class and regular tests and online time limit tests needed to be done periodically to create effective learning and understanding of the subjects. They suggested that all the study material given and taken in the lecture hall should be made available online, and it should be made readily accessible. Group activities helped them to stay concentrated while learning. Hence, more group activities were needed to be implemented to make the students stay concentrated in the long run of a course.

The participants preferred both the subjective and objective tests. Hence, the combination of subjective and objective tests will be helpful in promoting the learning and improving the efficiency of the students. When asked about the preference of the tests, most of them preferred the online quizzes. It may be because it is not supervised as a one reason and also the students can interact with each other while deriving the answers and it would be helpful to remember thing easily while interacting and gain a lot of knowledge. Hence, the students preferred it the most.

Most of them pointed out that the visual and auditory materials helped them to recollect a topic easily, as these materials are so engaging and involving, they helped them a lot to recollect the subjects more readily. Hence, more visual and aural material are needed to be created to achieve a higher performance from the students.

In all the questions, the main focus was about the student's learning. When the priority comes to the learning process, the teaching would become as good as the self-realization. Teachers should keep two balances: The first one is independent thinking and discussion in class and the other balance is between externally keep student's attention in class and internally independent thinking.[18] The majority of the students have the idea that discussion is helpful. Students think actively during the discussion. Students will question about the explanation raised by other students if it seems not that reasonable. This would help students to form the habit of critical thinking.[19-21]

CONCLUSION

The learner oriented process of teaching would provide a necessary benefit in improving the learning process of the students. The students must have to be an active

learner to achieve a good knowledge. The students must engage in debates and other activities. More strategies and methods are needed to be implemented. Despite providing a definition of active learning or learner-centered instruction that precludes any particular methods or techniques, there are several activities that are considered as classic examples. Of course, any effective technique can be employed poorly, without care provided to the important aspects and steps that support a learner-centered educational environment, and thereby all but ensuring a poor outcome. Conversely, a less than great activity can produce powerful learning when conducted well and in a setting that has been cultivated for such learning. As is true with most things, employing learner-centered activities take practice and revision to maximum results.

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