REVIEW ARTICLE

LECTURING EFFECTIVELY: BORROWING FROM THE THEORIES OF TEACHING AND LEARNING A REVIEW OF LITERATURE

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ABSTRACT

Lectures are still one of the most commonly employed learning and teaching aid used in medical and dental schools throughout the world. However, they may not be the most interactive and participative teaching method. The educational literature is replete with suggestions on how the lectures can be structured and made more interactive so as to encourage conceptual learning. The desire to find evidence based approach backed by sound principles of teaching and learning led us to review different theories of teaching and learning and their usefulness in making lectures more learner-centered. To accomplish purposeful learning of our students, we need to take that humanistic leap from being a mechanized lecturer to the role of a facilitator. The principal focus should be to encourage students to learn by reading, listening, questioning and reflecting.

Keywords: Education, Lectures, Learning, Lecture Interactivity.

Lectures are still one of the most commonly employed learning and teaching tool used in medical and dental schools throughout the world. However, they may not be the most interactive and participative teaching methods. The major challenge faced by lecturers is to keep all the learners actively involved and engaged for the entire duration of lecture, while ensuring that they achieve maximum learning.

The educational literature is replete with suggestions on how the lectures can be structured and made more interactive so as to encourage conceptual learning. The desire to find evidence based approach backed by sound principles of teaching and learning led us to review the different theories of teaching and learning and their usefulness in making lectures more learner-centered. The literature in medical education suggests a myriad of approaches through which this issue can be addressed, with theories of behaviorism, neobehaviorism, gestaltism, cognitivism and humanism offering some pertinent guidelines. The humanistic approach presents an ideal solution but the question remains if it is possible to apply the humanistic approach to lectures. To to deal with this issue more comprehensively, it is important to borrow ideas from the more pragmatic cognitivist approach especially Dewey's and Ausubel's suggestions about the role of teacher[1].

The appreciation of humanistic approach stems from Carl Roger's suggestion of student-centred approach to education[2] and Maslow's theory of motivation[3]. Knowles' work on andragogy, which is principally rooted in humanistic psychology, with its assumption about adult learners being self-directed and responsible for their own learning3, also influences to focus on a predominantly humanistic solution[2].

Lectures are useful for introducing new subject matter and updating knowledge in domains with rapid advancements[1], yet, formal lectures are generally regarded as a passive teaching modality[4], with inherent disadvantage of not being student centered[6]. There are also difficulties associated with formal lecturing e.g.,

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excessive content, short attention spans, dependence on note taking and most critically the absence of discussion or feedback[5]. Despite these drawbacks, Bligh[6] observed that lectures can be as effective in transmitting information as other method of teaching. However, the aim of the whole exercise should never focus on just inculcating information, rather an attempt should be made to make lectures more student centered, with a perspective to incorporate more and more self-directed learning opportunities[5,7].

It is important to note that planning and delivering lectures with a humanistic perspective is quite complex. It is not easy to facilitate self-directed and learner-centered activities for the large classes that we teach in our lectures. To achieve that, the key is to understand the students, their expectations and educational level[3]. Deciding on the content and structure of the lecture is also paramount. In this regard, quality should always take precedence on the quantity of content. The quantitative deficiency can always be compensated by suggesting relevant reading resources or simply by initiating online discussions for raising questions and expressing ideas. Clarity in structuring the lecture facilitates systematic progression and ensures maximum involvement of learners[6]. Using signposts helps, as they delineate the structure and direction of an explanation e.g. I want to elaborate on first, I will outline the theory of next, we shall look into its justification. Equally important in this regard are frames, foci, links and summaries which impart structure to lectures and make it easier for the learner to construct knowledge and help them with the reinforcement of their concepts.

Preparation of lecture and appropriate supporting material is a critical step, something which is usually done nonchalantly but is quite important for ensuring effective learning[3]. Intelligently designed handouts can be an effective tool for participative learning, e.g. handouts with question(s), task(s) or problem(s), especially when handed out a few days before the lecture. This will enable students to do some pre-reading and come prepared for the lecture[6,8]. In certain cases structured quizzes or a series of questions can be prepared in advance for the students. Such an activity at the start of the session can help them in assessment of their own prior knowledge, which according to Ausubel, is the most significant factor affecting learning[4,9].

These questions/quizzes also help the facilitator to reinforce learners' prior concepts, dispel any confusion and construct the knowledge further. They also provide the opportunity to brainstorm which is useful for student-centered learning[3]. Even though extrinsic in nature, such quizzes can be a motivating factor for the learners to come prepared to the lecture. It is also important that the audio-visual aids and comfortable seating arrangement allowing maximum interaction are properly planned for facilitating learning[8].

The lectures can be started by inviting students to participate in defining the learning objectives which are clear, attainable and assessable with the principal aim of motivating them[10]. A brief brainstorming session can then be initiated for achieving the objectives stated earlier. Keeping in view the nature of topic a problem-centered lecturing technique can be used when possible by outlining a clinical problem and then discussing different options available to address it, e.g. how to deal with a dental implant failure. This approach not only generates curiosity, but also promotes critical thinking, which eventually leads to effective problem solving skills[11]. Comparative model of lecturing can be employed for juxtaposing two different methods/techniques of addressing a particular issue e.g. comparison of using artificial and natural light in the shade selection of artificial teeth. Alternatively a method which incorporates a short lecture followed by group discussion can be used. This not only ensures maximum participation but also helps to fulfill the social desire of the students to interact with each other, expressing their perspective, ideas and thoughts[12]. Irrespective of the lecturing technique employed, it is important to inform the

students about the basic outline of the lecture before starting the session[6].

Another essential imperative would be to exhibit enthusiasm, a manifestation which could be ensured through interesting openings, using structuring moves that help generate curiosity and motivation. Concomitant with that, marked decline in attention usually observed after 15 minutes of lecturing,6 also needs to be catered for by dividing the lecture into smaller units of varying learning activity of fifteen minutes each, thereby keeping the learner's interest and attention intact[3].

The first fifteen minutes in the lecture can be used to build core knowledge by defining specific learning outcomes, brainstorming and addressing a particular problem, questions, comparison or theory related to the topic. Highlighting clinical problems or scenarios apart from promoting critical thinking can be an effective tool to capture the interest and curiosity of students at the start of the lecture[13]. In the next fifteen minutes, depending on the response of the students, questions can be asked from the students, their queries can be entertained, and buzz group learning activity can be employed for promoting discussion and establishing links to the next learning activity of the session. Providing summaries periodically helps to emphasize important points and link subtopics[6]. The third learning unit can be used to construct knowledge by considering practical applications of the concepts discussed and using examples to elaborate on it. The last session can be used to summarize important points but more importantly to ask open ended, higher order probing questions that require analysis, synthesis, exploration and evaluation to facilitate critical thinking[14-16]. While summarizing critical analysis of the subject matter questions can be asked from the students to promote reflective thought. It has been observed that students refrain from posing questions to the lecturer[9]. It is therefore paramount to create an environment where they are encouraged to ask questions. A good way would be to give them the option to write them in, so that the questions can be answered in an anonymous and non-threatening manner[17]. Learning also needs to be assessed by giving assignments or tasks related to learning objectives, coupled with appropriate and timely feedback. It is essential to get periodic feedback from the learners about lectures, especially their views on whether they were interesting, thought provoking and relevant to their learning needs. This information greatly contributes to the process of self-improvement[18].

To accomplish purposeful learning of our students we need to take that humanistic leap from being a mechanized lecturer to the role of a facilitator of learning that Knowles[2] found so fascinating. Having stated that we need to establish certain ground rules by reminding students that they need to take responsibility for their learning, and clarifying that our role as academicians will be that of a facilitator. Our principal focus should be to encourage them to learn by reading, listening, questioning and reflecting. We will need to embody the attributes that Carl Rogers has delineated[19] i.e. to clearly establish the needs of our students and create a conducive environment, where we are willing to show flexibility in our lecture plans depending on their responses and learning requirements to keep them engaged.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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