

Competency-based Education in Dentistry—The Indian Scenario—Are We Late?

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ABSTRACT

Outcome-based education and competency-based education are two entities in medical or dental education where much is spoken about in the last few years. Very few institutions have taken this seriously and moved ahead to improve the standards of educations with respect to relevance and multidimensional training of the undergraduates and postgraduates. In the Indian scenario in the field of dentistry, we can observe the lack of impetus from the faculty to take up this and enhance the learning quality amongst the trainees. In this paper, the importance of such time-tested training strategy is stressed upon with the experiences of the author along with evidence from literature.

Keywords: Competency-based, Dental education, Dental skills, Outcome-based education.

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The dental teaching fraternity has been very busy training the students on the skill sets from various disciplines. In the real life scenario once they are out of the dental school they are on their own. In the schools it was observed that there is a clear disjunction between theory and practice. Integrating concepts with practice alone can enable outgoing graduates to apply what they learnt in their practice.¹ There is an increasing awareness of outcome-based education over the last two decades among many institutions all over the world.² Outcome-based education can be considered as a precursor of competency based education where the competencies have been outlined as outcomes.³ In dentistry these concepts have been ignored to a great extent. In the Indian scenario, very few attempts were made to imbibe such time-tested advancements into their regular practice. We find a few studies comparing some components of education technology being incorporated into the curriculum.⁴ Many problems have been identified like staff involvement, content complexity [use of new methodology in education]. The need of the hour is to revamp the curriculum of yesteryears to suit the generation of today.

The American Dental Association Academy [ADEA] has given guidelines to develop the outcome-based education using the necessary competencies for the 21st century dental professionals.⁵ The level of competency determines the caliber of the practicing dentist. During the training period, the student is taught the skills and techniques with some knowledge of the materials available and choices. The level of competency expected of the undergraduate or postgraduate with relevance to the practising dentist is neither mentioned nor assessed during the training period.⁶ Dentistry demands such a training to be carried out in a systematic manner with involvement of facilitators who can actively carry out the process in a graceful manner.

The facilitators should be equipped with skills of education technology to carry out such a curricular practice in their respective institutions. The Institution should conduct capacity building workshops for the faculty so that they can be on par with educators in the global scenario. There is a dearth of “skilled faculty manpower,” required to train, mentor and assess the development of the level of expected competency in a trainee.⁵

With this background, the author has made an initiative to develop a competency-based training framework for the

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undergraduates. The training program was developed for undergraduate interns and was named as SBV's SCORE—systematic competency-oriented training program of the University for Dental interns, which has been running for the past two years with reasonably good results. The University's SCORE program was implemented after approval from the board of studies and was passed in the academic council. A pilot run was done for the interns and the feedback and inputs were obtained and remedial strategies were implemented. The interns who underwent the training program consisted of systematic training on the skill sets required for a dentist. They were trained on competencies for each skill across various disciplines. Competency-oriented classes using problem-based approach and integrated approach was carried out every alternate weekend. Practical training was also given for necessary communication skills involved during counseling, discussing treatment options and also special instructions of maintenance as in oral hygiene instructions. The students were also evaluated on their competencies like ethical considerations, communication skills and other attributes of professionalism during patient care. The program was also registered under the Copyright Authority of India L 73178/2018.

It is urged of all the institutions to adapt any training framework in the lines of outcome-based education with a competency approach. The ADEA competencies for the general dentist include critical thinking, professionalism, interpersonal and communication skills, health promotion, practice management and informatics and patient care⁷ (Table 1).

Table 1: Description of competencies

Critical thinking	Use problem solving skills, link evidence and clinical practice, and use higher level of thinking to analyze, innovate, create
Professionalism	Using ethical standards, practice with interdisciplinary approach, understand limitations, fair code of conduct
Interpersonal and communication skills	Effective communication with patient, peers and seniors applying psychosocial and behavioral implications during communication
Health promotion	Preventive, intervention strategies, patient education, develop or intend to practice beyond traditional practice settings
Practice management and use of informatics	Principles of practice, working of the system—like SOPs, asepsis, use of information technology, applying concepts of quality assurance to enhance practice
Patient care	Assessment, diagnosis and planning treatment Establishment of treatment and maintenance of oral health

Table 2: Dreyfus model of measuring competence [Stuart and Hubert Dreyfuss 1980]

Expert	Intuitive, internalization of procedures, analytical approach to new situations	Teaching others	Postgraduate
Proficient	Remote supervision, holistic approach, situational presence of mind and decision meeting	Teaching others	Postgraduate
Competent	Need distant supervision, conscious planning involved, standard procedures can be performed	Doing	Undergraduate
Advanced beginner	Need guidance and supervision	Learning	Undergraduate
Novice	Need hand holding approach. Unable to take decisions	Learning	Undergraduate

The level of competence can be assessed usually with the time tested “Dreyfuss model of competence assessment.” The model describes five levels from beginner, advanced beginner, competent, proficient to expert⁸ (Table 2).

The last column shows the competency continuum from the undergraduate to post graduate level.

Each level depicts the behavior exhibited by the trainee in terms of the level of supervision required.⁹ For an under graduate, the trainee should be satisfy at least the third level by 50–60% of the trainees. 10% of the trainees may be able to reach the fourth level of competency. Very rarely the undergraduate reaches expert level of competence during the time period he or she is present in the course. For a postgraduate, expert level is expected by all the postgraduate for 70–80% of patients needing specialty attention. The trainee may be competent or proficient for the remaining percentage of patients, which may be attributed to lack of exposure to such patients [affordability, availability of patients]. Some address this as milestone to be competent in every activity or skill.^{10,11}

In training, the curriculum planner should develop the skill sets for the course. During the training, the facilitator should look for an observable change in the behavior [competencies as mentioned in Table 1] over a period of time. There also would be an observable change in level of competence from beginner to expert. The expected level should be informed to the trainee and assessed during the formative stage so that continuous feedback for improvement is provided. Feedbacks are very crucial to kindle introspection and self-evaluation.¹² The trainee also should be allowed for a chance to reflect and improve from a novice to expert. Portfolio and multisource feedback method of evaluation is preferred over conventional log books as they provide qualitative measures of progress apart from quantity. However, there were challenges felt in the past and also by the author in terms of compliance from implementation. The present day faculty are overburdened with other managerial responsibilities and they do not feel a need to have an additional responsibility of assessing the competencies.³ Competency-based education has

clear educational implications as pointed out by Spady.¹³ There is a need to change in the social role of a health care provider with changing demands. Apart from realizing the role and responsibility of a professional and a communicator, he would be able to integrate concepts in practice along with a choreographed execution of a procedural skill with his applied knowledge. Obstacles presented should not be felt as a threat. It should be considered as a challenge to be overcome. The healthcare professional including the dental care provider needs to assume a far more superior role than just a skilled technician. The concept of competency-based education need to be embraced. However, the processes can be modified or adapted from time-tested models, quality guidelines and can be custom-made for the parent institution.¹⁴

CONCLUSION

I wish to conclude with a quote by Woodrow Wilson, “It is easier to move a cemetery than to change a curriculum.” It is a herculean task for the dental educators to bring about a change in curriculum. The current reality of curricular reforms are minor tweaking in the schedule or pacing. Attitudinal change of the academicians is needed so that they shelve traditional concepts and open to change for providing better learning in terms of content, process and environment.

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