

Dental students' perception of the role of dental technologists in their training

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Abstract

Objective: To assess the role of dental technologists, their relevance, and influence in the training of dental students in Obafemi Awolowo University, Ile-Ife, Nigeria. *Materials and methods:* A questionnaire designed to extract information on the role of dental technologists in the learning process and training of dental students was administered to 400 - 600 level dental students. The questionnaire consisted of two major sections. Section A majorly reflected on personal details about the respondents, while section B focused on respondents' perception of dental technologists' contributions to their training through day to day interaction. *Results:* Of the 120 questionnaires distributed, there were 106 respondents giving an 88.3% response rate. Demographic analyses showed a male preponderance among respondents (M: F 1.4:1). Of the 106 respondents, majority (56.6%) viewed the technologist as demonstrator who guided and supervised their works. Training and skill acquisition was the perceived role by over a quarter of them (26.4%) while 17% viewed their roles with indifference. *Conclusion:* The role of a dental technologist varies according to all the respondents, and these cover areas like; demonstration of laboratory procedures, giving guidance and supervision at achieving their clinical requirements, assisting in the acquisition of technical skills.

Dental technology remains a significant and valuable key to providing excellent outcome in patients' care. It is the technical arm of dentistry involved in the fabrication of appliances (prosthesis) to improve patient's appearance, speech, and ability to chew (function). Although their role is rarely recognized by patients, dental technologists are no doubt a crucial part of the dental team whose understanding of dental material science and skills of design and fabrication are often required. There are four specialist areas in dental technology. These include: prosthodontic technology, conservative technology, orthodontic technology, and maxillofacial technology¹.

With these areas of specialization, a dental technologist may choose to work as a general practitioner, producing a wide variety of technical items or specializes in one of the above areas. As a civil or public servants, working in government hospitals, at the state or federal level or with the armed forces. A good number of them are involved in research and teaching of undergraduate dental students the technical aspect of dentistry¹.

The role of dental technician (technologist) globally over the years has expanded, and evolved to include gatekeeper of new products, information advisor on new restorative materials and techniques, advocate of new technologies to improve restorative consistency and accuracy, and educator for improved chair side techniques².

In Nigeria, the history of dental technology started back in the 1960s with the training of some young Nigerians in

British Schools, and Colleges with City and Guilds Certification. These British-trained dental technicians were instrumental to the establishment of the first Dental Technology School in Lagos, Nigeria. The School went through series of transformations, and was eventually rebranded into the Federal School of Dental Technology & Therapy in 1978 with an enlarged objective of producing dental technologists, and therapists³.

Today, the only University in Nigeria offering a degree in Dental Technology is the Federal University of Technology, Owerri (FUTO), Nigeria. There is also a Dental Technologists Registration Board which is responsible for the training, and practice of the profession. Presently, there are less than two thousand licensed practicing dental technologists in Nigeria⁴.

There are eight accredited dental schools presently in Nigeria, and these are: College of Medicine, University of Lagos, Idi-Araba, Lagos; College of Health Sciences, Obafemi Awolowo University, Ile-Ife; College of Medicine, University of Ibadan; College of Medical Sciences, University of Benin, Benin City; College of Medical Sciences, University of Maiduguri; College of Health Sciences, University of Port-Harcourt; College of Medicine, University of Nigeria, Enugu campus; and College of Medicine, Lagos State University, Ikeja⁵.

The aim of this study is to assess the role of dental technologists, their relevance, and influence in the training of dental students in Obafemi Awolowo University, Ile-Ife, Nigeria.

Materials and methods

The study is a qualitative approach towards evaluating the opinions of 400 level - 600 level undergraduate dental students of Obafemi Awolowo University. A total number of 120 questionnaires were sent out, of which 106 were completed and returned, giving a response rate of 88.3%. The questionnaire was designed to extract information on the role of dental technologists in the learning process and training of dental students particularly at Obafemi Awolowo University, Ile-Ife in Nigeria. The questionnaire consisted of two major sections. Section A majorly reflected on personal details about the respondents, while section B focused on respondents' perception of dental technologists' contributions to their training through day to day interaction. Data was entered into the computer and analyzed using SPSS version 17.0.

Results

Of the 120 questionnaires distributed, there were 106 respondents giving an 88.3% response rate. Demographic analyses showed a male preponderance among respondents (M: F 1.4:1).

71.7% of respondents were in the age group 21-25 year; with only 2.8% in 31-35 year age group. Majority of respondents were Christians, 97 (90.6%) and unmarried, 100 (94.3%). Most of the respondents were in their final year of training (600 level). The range of respondent's duration of stay on campus was 4-10 years; but a vast majority (84.8%) had stayed between 4 – 7 years. 96.2% of respondents reported to have had contact with a dental technologist in the course of their training; most of them 88.2% had their first contact in year four (phantom head class), and the others had their first contact in part two (oral anatomy class).

Of the 106 respondents, majority (56.6%) viewed the technologist as demonstrator who guided and supervised their works. Training and skill acquisition was the perceived role by over a quarter of them (26.4%) while 17% viewed their roles with indifference.

The total number of technologist available to the students varied between 2 and 7 with an average of 4. The respondents considered the ideal number of dental technologist per student to be approximately 1:5.

Table I: Gender distribution and socio-demographic details of respondents

	Male (n = 62)		Female (n = 44)		Total (n = 106)	
	no	(%)	no	(%)	n	(%)
Age						
21-25	62	(58.5)	14	(13.2)	76	(71.7)
26-30	0	(0)	27	(25.5)	27	(25.5)
31-35	0	(0)	3	(2.8)	3	(2.8)
Religion						
Christianity	62	(58.5)	34	(32.1)	96	(90.6)
Islam	0	(0)	10	(9.4)	10	(9.4)
Marital status						
Single	62	(58.5)	38	(35.8)	100	(94.3)
Married	0	(0)	6	(5.7)	6	(5.7)

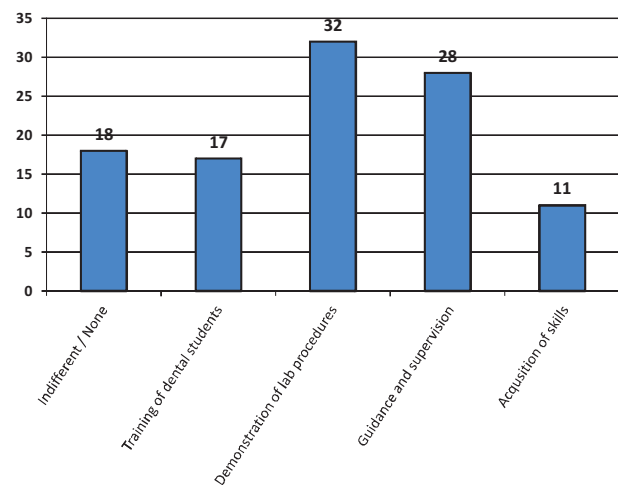


Fig.1: Respondents' perception of the roles of technologists in their training

Discussion

Almost all the respondents agreed to the fact that dental technologists are of great relevance in their training. The role of a dental technologist varies according to all the respondents, and these cover areas like; demonstration of laboratory procedures, giving guidance and supervision at achieving their clinical requirements, assisting in the acquisition of technical skills.

At the oral anatomy class, the interactions the respondents had one on one with the dental technologists impacted greatly on their ability to understand tooth anatomy, tooth morphology, the identification of individual tooth and the principle of tooth carving. These will be helpful in the clinical years for the restoration of badly broken down tooth resulting from caries or trauma.

During the pre-phase II training (phantom head class), interactions with the technologists imparted on the students the skill needed to produce good models of teeth (plaster tooth model), and edentulous models for pre-clinical teaching, acquisition of skills in the fabrication of impression trays; production of good dental casts from full mouth impression; acquisition of skills in the construction of wax bite blocks, and in the procedures of articulation. The acquired skills will make the students proficient in the fabrication of dental prostheses such as removable partial dentures and full-full dentures. Much of the skills they acquired in the fabrication of dies, crowns and bridges, metal casting procedures, and fabrication of metal frame work, came as a result of their day to day interactions with the dental technologists in the laboratory during their clinical training. During their rotation in the Department of Child Dental Health, they were able to have much understanding on the techniques involved in orthodontic model trimming, and also acquire skills in the art of bending of components of orthodontic retainers.

Presently there are 5 dental technologist in both the University and Teaching Hospital, and the average number of students in the clinical years is approximately 75, giving a technologist/students ratio of 1/15. Although the authors are not aware of the Nigeria University commission's recommendation on the ratio of dental technologist to dental students, the University should employ more technologist in order to reduce the ratio and enhance the impartation of skills

and better supervision of students for effective learning.

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