An evaluation of attitudes about educational strategies, school duration, specialty and technology in a group of Turkish dental students

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ABSTRACT

Aims: The purpose of this educational study was to evaluate Turkish dental students´ attitudes about educational strategies, school duration, specialty and technology.

Methods: A survey instrument with ten statements were used with a five-point Likert scale. A total of 187 dental students from a public university in Turkey were surveyed. The students were divided into five different groups according to their educational levels. The Kruskal Wallis test was performed to compare the responses among the groups.

Results: There was a significant difference among the groups in one of ten statements ($P<0.05$). Participants of the five groups agreed, on average, with each other in their responses to nine of the ten statements ($P>0.05$). All groups approved the statements about technology integration, while there were mixed opinions about electronic textbooks. Moreover, each group had positive views about the role of visual elements, social activities and congress or symposiums in dental school education. Dental students stated that faculty lectures were adequate and dental specialty education was required; however, the dental students stated that education duration should not be more than five years.

Conclusions: Dental school administrators should pay attention to the perspectives of dental students when making decisions about dental school education.

Introduction

Attaining a degree in the field of dentistry is known to be difficult, and it requires staying up to date with the latest developments and alterations (1-3). Some of these developments center around educational strategies, technological advancements, or school programs. Educators must improve and update their instruction expertise according to current conditions (4). Because education is interactive, student concerns and requests must be considered in the process (5). Attendant suggestions as well as student opinions about effective teaching must be considered because these are rather important when improving instruction and teaching quality (6). Therefore, student-centered education comes to the forefront to increase student motivation and attention.

How do learning and teaching best occur? Effective teaching methods come to mind. Bastick described “effective interactive teaching as maximizing lecturer/student course satisfaction and students’ educational attainment” (7). In effective teaching, a series of actions by and characteristics of the professor that lead to achievement of educational and learning goals by the students become prominent (8). Joint problem-solving by students and instructors, in combination with feedback, reassurance, and theory-practice, are components of effective learning that are linked, and curriculums should be rich with such elements (9).

Recently, technology has taken a more active role in education than before. Students have technological options, and their use in learning increases day by day. Digital textbooks and libraries are good examples of this instance. Advantages and disadvantages are associated with both electronic and printed textbooks. Electronic books are less expensive than print versions and are available on the Internet (10-13). Digital libraries comprise various sources that benefit students, but questions arise about being dependent on a computer when studying (14).

Several studies have been performed in dental education, and all have contributed various benefits to this field. Through these contributions, educators could improve the quality of their education systems. The purpose of this study was to evaluate, among Turkish dental students, attitudes about educational

strategies, the duration of the degree program, specialties, and the use of technology.

Methods

The study sample consisted of 187 dental students at Ordu University Faculty of Dentistry, Ordu during the 2016-17 academic year. Students were divided into five groups based on education level (Table 1) and were given information about the study at enrollment. No identifying data were obtained except sex and educational level. No specific exclusion criteria were used.

A ten-item questionnaire utilizing a five-point Likert scale (15) was used as the study instrument. Statements addressed 4 concepts: educational strategies, length of the degree program, specialties, and use of technology. Each participant indicated their level of education and degree of agreement with each statement, from 1 (strongly agree) to 5 (strongly disagree).

Data were analyzed using SPSS 20.0 statistical software (SPSS Inc., Chicago, IL, USA). The Kruskal-Wallis test was performed to compare group responses. Significance was recognized when $P < 0.05$.

Table 1. Study sample description by level of education and gender.

Year of education	Males	Females	N
1st year	24	40	64
2nd year	5	21	26
3rd year	12	19	31
4th year	12	21	33
5th year	15	18	33
Total	**68**	**119**	**187**

Table 2. Attitudes of students by number and percentage of the respondents to each statement.

Statements	1st year	2nd year	3rd year	4th year	5th year	P[a]
1st Statement: Dental students should follow the technological advances in the field of dentistry.						
SA	49 (78.6%)	19 (73.1%)	21 (67.7%)	20 (60.6%)	27 (81.8%)	0.361
A	13 (20.3%)	7 (26.9%)	10 (32.3%)	13 (39.4%)	6 (18.2%)	
N	1 (1.6%)	0	0	0	0	
D	1 (1.6%)	0	0	0	0	
SD	0	0	0	0	0	
2nd Statement: Electronic dental books (online) are more beneficial than printed books.						
SA	8 (12.5%)	3 (11.5%)	0	2 (6.1%)	2 (6.1%)	0.034*
A	10 (15.6%)	1 (3.8%)	2 (6.5%)	4 (12.1%)	2 (6.1%)	
N	22 (34.4%)	13 (50.0%)	9 (29.0%)	14 (42.4%)	15 (45.5%)	
D	20 (31.3%)	8 (30.8%)	15 (48.4%)	11 (33.3%)	13 (39.4%)	
SD	4 (6.3%)	1 (3.8%)	5 (16.1%)	2 (6.1%)	1 (3.0%)	
3rd Statement: Dental students should know how to use computer programs.						
SA	22 (34.4%)	12 (46.2%)	18 (58.1%)	11 (33.3%)	17 (51.5%)	0.075
A	30 (46.9%)	12 (46.2%)	12 (38.7%)	19 (57.6%)	13 (39.4%)	
N	11 (17.2%)	0	1 (3.2%)	3 (9.1%)	2 (6.1%)	
D	1 (1.6%)	0	0	0	1 (3.0%)	
SD	0	2 (7.7%)	0	0	0	
4th Statement: In dental education, lecturers should use visual elements						
SA	57 (89.1%)	24 (92.3%)	27 (87.1%)	29 (87.9%)	25 (75.8%)	0.303
A	7 (10.9%)	2 (7.7%)	4 (12.9%)	4 (12.1%)	6 (18.2%)	
N	0	0	0	0	1 (3.0%)	
D	0	0	0	0	1 (3.0%)	
SD	0	0	0	0	0	
5th Statement: The social activities are important education source for dental students						
SA	31 (48.4%)	16 (61.5%)	15 (48.4%)	19 (57.6%)	11 (33.3%)	0.163
A	25 (39.1%)	9 (34.6%)	13 (41.9%)	12 (36.4%)	17 (51.5%)	
N	7 (10.9%)	1 (3.8%)	2 (6.5%)	1 (3.0%)	4 (12.1%)	
D	0	0	1 (3.2%)	1 (3.0%)	1 (3.0%)	
SD	1 (3.8%)	0	0	0	0	

P [a]; p value from Kruskal-Wallis non-parametric test, *significant at p<0.05
SA; strongly agree, A; agree, N; neutral, D; disagree, SD; strongly disagree

Statements	1st year	2nd year	3rd year	4th year	5th year	P[a]
6th Statement: Dental students should make researches and present them in national congress or symposiums.						
SA	21 (32.8%)	6 (23.1%)	10 (32.3%)	11 (33.3%)	16 (48.5%)	0.535
A	26 (40.6%)	13 (50.0%)	14 (45.2%)	15 (45.5%)	10 (30.3%)	
N	11 (17.2%)	3 (11.5%)	7 (22.6%)	5 (15.2%)	4 (12.1%)	
D	4 (6.3%)	4 (15.4%)	0	2 (6.1%)	3 (9.1%)	
SD	2 (3.1%)	0	0	0	0	
7th Statement: There should be conventional assessments instead of technological assessments during educations.						
SA	15 (23.4%)	6 (23.1%)	4 (12.9%)	8 (24.2%)	10 (30.3%)	0.333
A	18 (28.1%)	10 (38.5%)	14 (45.2%)	13 (39.4%)	16 (48.5%)	
N	30 (46.9%)	8 (30.8%)	12 (38.7%)	11 (33.3%)	5 (15.2%)	
D	0	2 (7.7%)	1 (3.2%)	1 (3.0%)	2 (6.1%)	
SD	1 (1.6%)	0	0	0	0	
8th Statement: Dental education should be over than 5 years						
SA	1 (1.6%)	0	1 (3.2%)	1 (3.0%)	2 (6.1%)	0.352
A	3 (4.7%)	0	1 (3.2%)	4 (12.1%)	2 (6.1%)	
N	7 (10.9%)	2 (7.7%)	4 (12.9%)	4 (12.1%)	3 (9.1%)	
D	23 (35.9%)	9 (34.6%)	15 (48.4%)	7 (21.2%)	13 (39.4%)	
SD	30 (46.9%)	15 (57.7%)	10 (32.3%)	17 (51.5%)	13 (39.4%)	
9th Statement: In dental education, there is a need for specialist education						
SA	25 (39.1%)	7 (26.9%)	16 (51.6%)	13 (39.4%)	14 (42.4%)	0.195
A	27 (42.2%)	14 (53.8%)	15 (48.4%)	12 (36.4%)	9 (27.3%)	
N	7 (10.9%)	3 (11.5%)	0	2 (6.1%)	4 (12.1%)	
D	2 (3.1%)	2 (7.7%)	0	2 (6.1%)	5 (15.2%)	
SD	3 (4.7%)	0	0	4 (12.1%)	1 (3.0%)	
10th Statement: In dental education, license lecture (theoretical and practical) is sufficient in terms of number and time						
SA	11 (17.2%)	6 (23.1%)	3 (9.7%)	4 (12.1%)	10 (30.3%)	0.092
A	21 (32.8%)	8 (30.8%)	10 (32.3%)	11 (33.3%)	13 (39.4%)	
N	15 (23.4%)	10 (38.5%)	10 (32.3%)	11 (33.3%)	6 (18.2%)	
D	12 (18.8%)	1 (3.8%)	5 (16.1%)	7 (21.2%)	2 (6.1%)	
SD	5 (7.8%)	1 (3.8%)	3 (9.7%)	0	2 (6.1%)	

Results

Of 187 completed questionnaires, 64 were completed by first-year students, 26 by second-year students, 31 by third-year students, 33 by fourth-year students, and 33 by fifth-year students. The overall response rate was 100%. In Tables 2 and 3, results for each statement are given in number and percentage of respondents.

For nine statements, differences were not significant, and the groups agreed with each other in their average responses (P>0.05). All groups agreed with statements about integrating technology. Moreover, all had positive views about the roles of visual elements, social activities, and congresses or symposia in dental school education. Participants stated that faculty lectures were adequate, and that specialty dental education was required; however, they felt that the dental program should not take more than 5 years to complete.

For the remaining statement, the groups differed significantly in their opinions about whether electronic (online) dental textbooks were more beneficial than printed ones (P = 0.034).

Discussion

In education, it is rather important to consider student concerns and requests for effective teaching. In this study, we evaluated attitudes about various concepts in dental education among a cohort of Turkish dental students.

After our general assessment, we concluded that student groups (based on education level) agreed about most issues explored; average responses showed small differences. This is an important result in terms of student attitudes within the groups.

Among the various items in the instrument, participants agreed most strongly with statements about educational strategies: The greatest percentages of all five groups agreed or strongly agreed with these statements. Students agreed that lecturers should use visual elements. This finding is consistent with that of Al-Jandan et al. (16), who found that the majority

of dental students at Damman University thought videos made positive contributions to lectures. In the study by Lim et al., neuroscience students felt that videos should comprise one-third of lectures (17). In another study of teacher education, Marsh et al. (18) found that videos enhanced visualization and teaching. Through the data we acquired about social activities, most participants strongly agreed that these activities were important sources of education and agreed that national congresses or symposia were beneficial. This positive attitude among students is consistent with the findings of Abdelkarim et al. (14), who investigated dental students' attitudes toward various concepts.

In the statement about program duration, most participants disagreed or strongly disagreed that it should be increased. This data is consistent with that found by Abdelkarim et al (14). A large portion of the participants agreed there is a need for specialist education, a result similar to that found by Walton et al. (18), who examined Canadian dental students. Finally, participants agreed or were neutral toward the statement that license lectures were enough in terms of number and duration.

Most participants approached technology integration in a positive way. They were knowledgeable about the role of technology in education. All groups strongly agreed that technological advances should be ensued in the field of dentistry. Furthermore, participants shared positive views about knowing how to use computer programs.

Participants had mixed opinions about the benefits of electronic (online) textbooks over printed books. This might have been based on their opinions about studying at a computer monitor for long hours or needing various sources to find different or further information. Some studies investigating these opinions have been performed in this field. The one by Peterson et al. (20) found that students preferred the online textbooks over traditional textbooks. Brunet et al. (13) found positive attitudes toward electronic books among incipient dental students even though they had disadvantages as well as advantages. Dorn (21), however, found no differences in class performance between those using electronic and printed books for lab science. Some studies found that students preferred printed books over electronic books. McCann et al. (22) found that among dental students, digital books were effective, however hardcopy books were preferred. Similarly, Gupta et al. (23) found that among dental students at Birmingham University, e-courses were liked but came with some negative views. Finally, Strother et al. (12) found that students strongly expressed negative opinions about digital textbooks.

Conclusions

Through the responses of student participants, we suggest that visual elements, social activities, and congresses or symposia have positive effects on dental education. While faculty lectures are adequate, specialty dental education should be required. However, the education program should not be extended beyond 5 years. Also, technology integration is thought to be beneficial, but preferences for electronic textbooks vary.

Consequently, dental school administrators should pay attention to the perspectives of dental students when making decisions about dental school education. Our results should help educators determine how to improve their teaching effectiveness.

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The authors' contributions are: SKB and EG conceived the study ideas; EG collected the data; SKB performed statistical analysis; EG and SKB wrote the manuscript; SKB and HS supervised and revised the study.

Conflict of Interest

The author declared they do not have anything to disclose regarding conflict of interest with respect to this manuscript.

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