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Perspective of Faculty Members Regarding the Use of Logbook to Improve the Quality of Dental Education

Background: This study aimed to assess the faculty members' perspective on the use of logbook to improve the quality of dental students' education.

Method: This descriptive analytical study assessed the perspectives of all faculty members of Qazvin Dental School about using logbook in 2019. A questionnaire with four domains: 1) necessity of using a logbook (score range: 7-21), 2) format design and logbook implementation process (score range: 8-24), 3) logbook content quality (score range: 20-60), and 4) method of completion of logbook (score range: 2-10) was used to assess. The internal consistency of the items was assessed using Cronbach's alpha method (alpha-Cronbach: 0.81). Data were analyzed using SPSS 21 ($p < 0.05$).

Results: Of the faculty members, 19.4% were males and 80.6% were females, with a mean work experience of 6.81 ± 5.3 years. The acquired mean total score was 18.72 ± 2.57 out of 21 for the necessity domain, 15.33 ± 2.78 out of 24 for the format design domain, 46.66 ± 7.77 out of 60 for the content domain, and 8.00 ± 1.43 out of 10 for the completion domain. Gender had a significant correlation only with the necessity domain score ($P < 0.05$). Work experience had a significant correlation only with the completion domain score ($P < 0.05$).

Conclusion: Over two-thirds of the faculty members agreed with the necessity of using a logbook and believed that its completion is highly important.

Keywords: Clinical skill, Education, Faculty, Dental, Logbook

وجهة نظر أعضاء هيئة التدريس فيما يتعلق باستخدام logbook لتحسين جودة تعليم طب الأسنان

الخلفية: هدفت هذه الدراسة إلى تقييم وجهة نظر أعضاء هيئة التدريس حول استخدام logbook لتحسين جودة تعليم طلاب طب الأسنان.

الطريقة: قيمت هذه الدراسة التحليلية الوصفية وجهات نظر جميع أعضاء هيئة التدريس في كلية قزوین لطب الأسنان حول استخدام logbook في عام 2019. استبيان بأربعة مجالات: (1) ضرورة استخدام دفتر (نطاق النتيجة: 7-21)، (2) تصميم التنسيق و تم استخدام عملية تنفيذ دفتر logbook (نطاق النتيجة: 8-24)، (3) جودة محتوى logbook (نطاق النتيجة: 20-60)، و (4) طريقة إكمال logbook (نطاق النتيجة: 2-10) للتقييم. تم تقييم التناسق الداخلي للعناصر باستخدام طريقة ألفا كرونباخ (alpha-chronbach: 0.81). تم تحليل البيانات باستخدام SPSS 21 ($p < 0.05$).

النتائج: من أعضاء هيئة التدريس 19.4% ذكور و 80.6% إناث بمتوسط خبرة عمل 6.81 ± 5.3 سنة. كان متوسط الدرجة الإجمالية المكتسبة 18.72 ± 2.57 من 21 لمجال الضرورة، 15.33 ± 2.78 من 24 لمجال المحتوى، و 46.66 ± 7.77 من 60 لمجال الإكمال اختصاص. كان للجنس علاقة معنوية فقط مع درجة مجال الضرورة ($P < 0.05$). خبرة العمل لها علاقة معنوية فقط مع درجة مجال الإنجاز ($P < 0.05$).

الخلاصة: وافق أكثر من ثلثي أعضاء هيئة التدريس على ضرورة استخدام دفتر، واعتقدوا أن استكمالها مهم للغاية.

الكلمات المفتاحية: مهارة إكلينيكية، تعليم، كلية، طب أسنان، logbook

دیدگاه اعضای هیأت علمی نسبت به استفاده از لاگ بوک به منظور بهبود کیفیت آموزش دانشجویان دندانپزشکی

زمینه و هدف: هدف از این مطالعه ارزیابی دیدگاه اعضای هیأت علمی نسبت به استفاده از لاگ بوک به منظور بهبود کیفیت آموزش دانشجویان دندانپزشکی بود.

روش: این مطالعه توصیفی و تحلیلی در سال 2019 در دانشکده دندانپزشکی قزوین انجام شد. یک پرسشنامه در چهار حیطه 1- ضرورت استفاده از لاگ بوک (دامنه نمره 7 تا 21)، 2- طراحی فرمت و فرآیند اجرای لاگ بوک (دامنه نمره 8 تا 24)، 3- کیفیت محتوای لاگ بوک (دامنه نمره 20 تا 60) و 4- نحوه تکمیل لاگ بوک (دامنه نمره 2 تا 10) ارزیابی شد. داده ها وارد نرم افزار SPSS نسخه 21 شد ($P < 0.05$).

یافته ها: 19.4٪ از اساتید مورد مطالعه مذکر و 80.6٪ مؤنث بودند. میانگین سابقه کار آنان 6.81 ± 5.3 سال بود. میانگین نمرات ضرورت استفاده از لاگ بوک 15.33 ± 2.78 از 24، میانگین نمرات فرمت و فرآیند 18.72 ± 2.57 از 21، میانگین نمرات محتوای 46.66 ± 7.77 از 60 و میانگین نمره تکمیل 8.00 ± 1.43 از 10 بود. بین جنسیت و حیطه ضرورت استفاده از لاگ بوک رابطه معنادار یافت شد ($P < 0.05$). بین سابقه کار و حیطه نحوه تکمیل لاگ بوک رابطه معناداری وجود داشت ($P < 0.05$).

نتیجه گیری: بیش از دو سوم اعضای هیأت علمی بر روی ضرورت استفاده از لاگ بوک توافق داشتند و معتقد بودند که تکمیل آن بسیار مهم است.

واژه های کلیدی: مهارت بالینی، آموزش، هیأت علمی، دندانپزشکی، لاگ بوک

دانتوں کی تعلیم کے معیار کو بہتر بنانے کے لیے لاگ بوک کے استعمال کے حوالے سے فیکلٹی ممبران کا نقطہ نظر

پس منظر: اس مقالے کا مقصد دانتوں کے طلباء کی تعلیم کے معیار کو بہتر بنانے کے لیے لاگ بوک کے استعمال کے بارے میں فیکلٹی ممبران کے نقطہ نظر کا جائزہ لینا تھا۔ **طریقہ:** اس وضاحتی تجزیاتی مطالعے نے 2019 میں لاگ بوک کے استعمال کے بارے میں قزوین ڈینٹل اسکول کے تمام فیکلٹی ممبران کے نقطہ نظر کا اندازہ کیا۔ چار ڈومینز کے ساتھ ایک سوالنامہ: (1) لاگ بوک استعمال کرنے کی ضرورت (اسکور کی حد: 7-21)، (2) فارمیٹ ڈیزائن اور لاگ بوک پر عمل درآمد کا عمل (اسکور کی حد: 8-24)، (3) لاگ بوک مواد کا معیار (اسکور کی حد: 20-60)، اور (4) لاگ بوک کی تکمیل کا طریقہ (اسکور کی حد: 2-10) کا جائزہ لینے کے لیے استعمال کیا گیا۔ اٹنمز کی اندرونی مستقل مزاجی کا اندازہ کرونباخ کے الفا طریقہ (الفا کرونباخ: 0.81) کا استعمال کرتے ہوئے کیا گیا ($p < 0.05$ SPSS 21) کا استعمال کرتے ہوئے ڈیٹا کا تجزیہ کیا گیا۔

نتائج: فیکلٹی ممبران میں سے، 19.4% مرد اور 80.6% خواتین تھیں، جن کا اوسط کام کا تجربہ 6.81 ± 5.3 سال تھا۔ حاصل شدہ اوسط کل اسکور ضروری ڈومین کے لیے 21 میں سے 15.33 ± 2.78 ، فارمیٹ ڈیزائن ڈومین کے لیے 24 میں سے 18.72 ± 2.57 ، اور تکمیل کے لیے 10 میں سے 8.00 ± 1.43 تھا۔ ڈومین صنف کا صرف ضرورت کے ڈومین اسکور ($P < 0.05$) کے ساتھ ایک اہم ارتباط تھا۔ کام کے تجربے کا صرف تکمیلی ڈومین اسکور ($P < 0.05$) کے ساتھ ایک اہم تعلق تھا۔

نتیجہ: فیکلٹی ممبران کے دو تہائی سے زائد افراد نے لاگ بوک استعمال کرنے کی ضرورت سے اتفاق کیا اور یقین کیا کہ اس کی تکمیل انتہائی اہم ہے۔

کلیدی الفاظ: طبی مہارت، تعلیم، فیکلٹی، ڈینٹل، لاگ بوک

INTRODUCTION

Several modifications have been made in the quality and modes of instruction in the past decade (1). Due to the presence of complexities in clinical practical instructions in dental education, researchers have always been in search of modalities to enhance clinical instruction (2).

Optimal educational programs should be dynamic, and follow specific objectives to improve the attitude and performance of students. Practice is imperative for dental students to improve their performance. In this process, the instructors need to create a suitable environment for students to prosper (3,4). Thus, some interventions may be required in clinical instruction in response to the existing needs to maximize its efficiency (5,6).

Educational assessment is the most efficient method for enhancement of the quality of instruction, and is an important step in educational processes. It is a systematic process that involves documentation and usage of data regarding the knowledge, attitude, and skills of students to accordingly revise the educational programs and enhance student learning (3,7). In other words, educational assessment comprehensively estimates the impact and benefits of an educational system (8).

Several methods are available for clinical educational assessment of students. Using a logbook is among the reliable and effective methods for this purpose (9). It is a record of events with regard to acquiring clinical skills (10). Using a logbook minimizes the gap between the theoretical and clinical instruction, and can help the instructors and students to achieve educational goals (11). The skills that need to be acquired by students are mentioned in the logbook and it is provided to students. After performing each task, the student checks it in the logbook with the date of completion of the task, and the instructor confirms it by signing it (3). Using a logbook enhances the student-instructor interactions, provides feedback, and improves educational assessment, which is a fundamental step in the learning process (12).

Heidari and Akbari (13) reported that using a logbook results in higher familiarity of students with their tasks and learning objectives, organizes their attempts towards better learning, and organizes the attempts of instructors for a higher quality instruction. It also improves learner-instructor interactions. Using a logbook has gained increasing popularity in medical and dental schools since learning of practical skills is a major part of medical and dental education (14). Poor educational assessment tools can lead to poor quality of learning and low knowledge retention (15). However, an efficient educational assessment increases the motivation of both students and instructors since it evaluates the quality of learning (16).

Although logbooks increase the skills and satisfaction of students, they do not allow the instructors to provide a direct immediate feedback right after each task, since they are not intended to serve this purpose. However, immediate feedback of instructors is an important part of clinical learning process and is imperative for learning promotion and reaching a standard level of practice (17).

The literature shows that student evaluations of logbooks are one of the most widely investigated topics in higher education research (18,19). However, the perspective of faculty members and instructors regarding their efficacy has not been evaluated. Since periodical assessment of the content and quality of design of logbooks based on the educational needs from the perspective of instructors can improve their efficacy, this study aimed to assess the perspective of faculty members regarding the use of logbook to improve the quality of dental education.

METHODS

This descriptive analytical study evaluated all the faculty members of Qazvin Dental School in 2018-2019 who were selected by census sampling.

A researcher-designed standard questionnaire with 37 questions was used for data collection with four domains of necessity of using a logbook with 7 items (score range: 7-21), format design and logbook implementation process with 8 items (score range: 8-24), logbook content quality with 20 items (score range: 20-60) scored 1, 2 or 3, and method of completion of logbook with 2 items (score range: 2-10) that were scored using a 5-point Likert scale. The face validity and content validity of the questionnaire were confirmed by a panel of experts comprising of 10 experts in the field of medical and dental education. They assessed the necessity of all items, and revisions were made according to their opinion. The reliability of the questionnaire was confirmed by calculation of the Cronbach's alpha to be 0.81. The questionnaire was then administered among the faculty members.

All Faculty members who had attended the clinical sessions of the course started study (inclusion criteria) and those who had not completed the questionnaire were excluded. A total of 36 completed questionnaires were evaluated. Data were analyzed using SPSS version 21 by independent t-test (for assessment of the correlation of gender with domain scores), Pearson's correlation test (for assessment of the correlation of work experience with domain scores) and Spearman's correlation test (for assessment of the correlation of specialty with domain scores), at 0.05 level of significance.

RESULTS

Of the faculty members evaluated in this study, 19.4% were males and 80.6% were females with a mean work experience of 6.81 ± 5.3 years (range 1-20 years). Of faculty members, 6 (16.7%) were from the prosthodontics, 5 (13.9%) were from the endodontics, 4 (11.1%) were from the restorative dentistry, 4 (11.1%) were from the pediatric dentistry, 4 (11.1%) were from the periodontics, 4 (11.1%) were from the orthodontics, 3 (8.3%) were from the oral medicine, 3 (8.3%) were from the oral pathology, 2 (5.6%) were from the oral radiology, and 1 (2.8%) was from the oral and maxillofacial surgery department.

Table 1 presents the perspectives of the faculty members regarding the items about the necessity of using a logbook for enhancement of the quality of clinical instruction.

Table 2 presents the perspectives of the faculty members regarding the format design and logbook implementation process. As shown, over 70% of the faculty members believed that using a logbook can greatly help in familiarizing students with their clinical tasks; 83.3% believed that using a logbook can greatly help organize the students' attempts towards their tasks. Over half of the faculty members believed that using a logbook can organize the attempts of faculty members in teaching the predefined topics; 66.7% stated that logbooks can serve as a tool for students' educational

demands; 88.9% reported that using a logbook can encourage the instructors to monitor the practice of students and provide feedback; 77.8% stated that logbooks can greatly enhance an efficient educational communication between learners and instructors; 100% discussed that logbooks can help in documentation of activities of students at the department, and 50% believed that logbooks cannot greatly help in familiarization of dental nurses with their tasks.

Table 3 presents the perspectives of the faculty members regarding the content quality of the logbook.

Table 1. Perspectives of the faculty members regarding the items about the necessity of using a logbook for enhancement of quality of clinical instruction			
Items about the necessity of using a logbook	No opinion Number (%)	I disagree Number (%)	I agree Number (%)
Using a logbook is imperative for assessment of the performance of students.	4 (11.1)	-	32 (88.9)
Logbook increases the motivation of students.	14 (38.9)	2 (5.6)	20 (55.6)
Logbook enhances the assessment of performance of students by instructors.	2 (5.6)	2 (5.6)	32 (88.9)
Logbook organizes the educational activities.	2 (5.6)	-	34 (94.4)
Logbook empowers the students in conduction of clinical tasks.	14 (38.9)	4 (11.1)	18 (50)
Logbook enhances the knowledge of students regarding educational goals.	-	4 (11.1)	32 (88.9)
Logbook improves the attitude of students.	14 (38.9)	4 (11.1)	18 (50)

Table 2. Perspectives of the faculty members regarding the format design and logbook implementation process			
Format design and logbook implementation process items	Low Number (%)	High Number (%)	Very high Number (%)
Familiarizing the students with their learning tasks	10 (27.8)	20 (55.6)	6 (16.7)
Organizing the attempts of students towards learning of the predefined topics	6 (16.7)	26 (72.2)	4 (11.1)
Organizing the attempts of faculty members towards instruction of the predefined topics	16 (44.4)	16 (44.4)	4 (11.1)
Creation of educational demands for students	12 (33.3)	18 (50)	6 (16.7)
Efficient educational communication between learners and instructors	8 (22.2)	28 (77.8)	-
Encouraging the instructors to monitor the practice of students and provide feedback	4 (11.1)	26 (72.2)	6 (16.7)
Documentation of activities of students at the department	-	14 (38.9)	22 (61.1)
Familiarization of dental nurses with their tasks	18 (50)	16 (44.4)	2 (5.6)

Table 3. Perspectives of the faculty members regarding the content quality of the logbook			
Items	Yes	To some extent	No
Educational goals of the course are included in the logbook.	16 (44.4)	20 (55.6)	-
Minimal educational requirements of each course are included in the logbook.	22 (61.1)	12 (33.3)	5 (5.6)
Rules and regulations of each department are included in the logbook.	24 (66.6)	6 (16.7)	6 (16.7)
List of reference textbooks and educational resources for students are provided in the logbook.	10 (27.8)	12 (33.3)	14 (38.9)
Clinical skills that need to be acquired in each course are included in the logbook.	18 (50)	16 (44.4)	2 (5.6)
Congress presentations are included in the logbook.	6 (16.7)	14 (38.9)	16 (44.4)
A general report regarding the number of clinical procedures to be completed in each course are included in the logbook.	24 (66.6)	10 (27.8)	2 (5.6)
Professional ethics skills are included in the logbook.	6 (16.7)	18 (50)	12 (33.3)

Table 3. Continued				
Items	Yes	To some extent	No	
Educational goals included in the logbook are in accord with the clinical theoretical topics.	24 (66.6)	12 (33.3)	-	
The minimal educational requirements included in the logbook are in accord with the clinical theoretical topics.	24 (66.6)	12 (33.3)	-	
The rules and regulations of the department included in the logbook are in accord with the clinical theoretical topics.	20 (55.6)	12 (33.3)	4 (11.1)	
The reference textbooks and educational resources mentioned in the logbook are in accord with the clinical theoretical topics.	20 (55.6)	10 (27.8)	6 (16.7)	
Clinical skills included in the logbook are in accord with the clinical theoretical topics.	24 (66.6)	12 (33.3)	-	
The activities included in the logbook are based on the requirements of students.	28 (77.8)	8 (22.2)	-	
The tasks mentioned in the logbook are based on the university facilities and equipment.	18 (50)	14 (38.9)	4 (11.1)	
The tasks mentioned in the logbook are based on the capabilities of students.	30 (83.3)	6 (16.7)	-	
Some of the activities included in the logbook are extracurricular activities.	10 (27.8)	12 (33.3)	16 (44.4)	
There is a section in the logbook for problems to be mentioned by instructors.	10 (27.8)	12 (33.3)	14 (38.9)	
There is a section for assessment of students by the instructors in the logbook.	18 (50)	12 (33.3)	6 (16.7)	
There is a section for self-assessment of students in the logbook.	10 (27.8)	10 (27.8)	16 (44.4)	

Table 4 indicates the mean total scores acquired in each domain. As indicated, the acquired mean total score was 18.72 ± 2.57 out of 21 for the necessity domain, 15.33 ± 2.78 out of 24 for the format design domain, 46.66 ± 7.77 out of 60 for the content domain, and 8.00 ± 1.43 out of 10 for the completion domain.

Independent t-test was applied to analyze the correlation of gender with logbook domain scores (Table 5), which showed a significant correlation between gender and necessity of using the logbook ($P < 0.05$). No other significant

correlations were noted ($P > 0.05$).

The Pearson's correlation test showed a significant correlation between work experience and completion of logbook ($P = 0.037$). No other significant correlations were noted ($P > 0.05$).

The Spearman's correlation test showed significant correlations between specialty and necessity of using a logbook and format design ($P < 0.05$). No other significant correlations were noted ($P > 0.05$). Table 6 presents the abovementioned correlations in detail.

Table 4. Mean total scores acquired in each domain					
Domain	Number of questions	Minimum score	Maximum score	Mean score	Std. deviation
Necessity of using a logbook	7	11	21	18.722	2.57
Format design and logbook implementation process	8	11	21	15.33	2.787
Logbook content quality	20	30	60	46.666	7.775
Completion of logbook	2	6	10	8	1.434

Table 5. Correlation of gender of faculty members with the acquired domain scores					
Domain	Gender	Mean (SD)	t	P value	
Necessity of using a logbook	Male	16.42 (4.276)	2.895	0.007	
	Female	19.275 (1.4)			
Format design and logbook implementation process	Male	15.143 (4.59)	0.84	1.99	
	Female	15.279 (2.484)			
Necessity of using a logbook	Male	43.428 (7.678)	1.237	0.22	
	Female	47.448 (7.725)			
Format design and logbook implementation process	Male	7.857 (1.864)	0.29	0.77	
	Female	8.034 (1.349)			

Table 6. Correlation of work experience and specialty of the faculty members with the acquired domain scores

Variable		Necessity of using a logbook	Format design and implementation process	Content quality	Completion of logbook
Work experience	Coefficient	0.264	0.211	0.067	0.349
	P value	0.119	0.216	0.696	0.037*
Dental specialty	Coefficient	0.5	0.459	0.307	0.209
	P value	0.002**	0.005**	0.068	0.2

DISCUSSION

This study assessed the perspective of faculty members regarding the use of logbook to improve the quality of dental education. The results showed that the acquired mean total score was 18.72 ± 2.57 out of 21 for the necessity domain, 15.33 ± 2.78 out of 24 for the format design domain, 46.66 ± 7.77 out of 60 for the content domain, and 8.00 ± 1.43 out of 10 for the completion domain.

Najafi et al. (20) evaluated the use of logbook for clinical departments from the perspective of instructors and nursing students in Zahedan University of Medical Sciences, and showed that the two groups had different perspectives in all four domains regarding the logbook. With respect to necessity of using a logbook, the majority of instructors agreed with its necessity while less than 50% of students believed that it was necessary. The mean scores acquired by instructors in the format design, logbook implementation process, and completion of logbook were higher than the mean scores of students. The mean total score of instructors was also higher than that of students. The perspective of instructors in the present study was similar to the perspective of instructors in the study by Najafi et al., (20) and both groups appeared to have adequate knowledge about the content and educational goals of the logbooks according to the curricula and approved its necessity and optimal efficacy for organization of educational activities, knowledge enhancement of students about educational goals, motivation of students, and promoting their clinical skills. Mirhoseini et al. (21) evaluated the satisfaction of midwifery students of Mashhad University of Medical Sciences with the clinical skills logbook as a method for evaluation of their clinical performance. Over half of the students were satisfied with the use of logbook, and 61.8% of students reported that it was in accord with the educational goals. However, only 5.9% of students were completely satisfied with the logbook. In the present study, satisfaction with the logbook was not evaluated; however, the results regarding the opinion of instructors about the necessity and completion of logbook indicated that they all believed in the necessity of logbook and its prominent role in assessment of clinical performance of students. Moshfeghy and Shahpari (9) evaluated the satisfaction of midwifery students with clinical assessment by a logbook and reported their relative dissatisfaction. This finding indicates that students are not as satisfied as instructors with the logbooks, and the logbooks in their current form cannot meet the changing needs of students in the clinical setting. This topic is worthy of consideration and

should be addressed by the authorities. Some modifications may be required for the logbooks to meet the requirements of students and gain their satisfaction.

Regarding the contents of the logbook, the mean score of instructors in the present study was higher than average, which was acceptable. In the study by Najafi et al., (20) the majority of the participants estimated the quality of the logbook to be good with regard to conference presentations, self-assessment, having the list of reference textbooks and educational resources, professional ethics skills, and rules and regulations of departments. However, over half of the instructors and students believed that the activities considered in the logbook did not match the students' requirements. The total score of the perspective of students was higher than that of instructors. In the present study, over half of the instructors believed that a logbook should contain educational goals, minimal educational requirements, rules and regulations of the departments, and professional ethics skills. This finding indicates that over half of the instructors had adequate knowledge about the content quality of the logbook.

Yousefy et al. (22) showed that logbook can be a valuable tool for assessing the clinical competency of nursing students. Kamali et al., (23) in their study regarding the efficacy of using a logbook for clinical courses from the perspective of instructors and nursing students showed that the items regarding educational goals, rules and regulations of the departments, professional ethics skills, conference presentations, and having the list of textbooks and educational resources had a low quality in the logbook. Similarly, only 17% of the instructors in the present study believed that professional ethics skills, and conference presentations are included in the logbook, which calls for revision of the logbook. Moreover, a section for self-assessment of students is missing in the current logbooks, which should be added since it can improve the clinical performance of students. Furthermore, inclusion of a section for recommendations of mentors and instructors for students can be highly beneficial. Educational goals should be part of the logbook as well (20,23).

In the present study, two-third of the instructors believed that completion of logbook is important. Najafi et al. (20) showed that the majority of the participants knew how to fill out the logbook, and over half of them reported daily completion of their logbooks. Also, since completion of the logbook was an educational task and a requirement for passing the clinical courses, both instructors and students were aware of the significance of its completion. A

significantly higher percentage of instructors than students in their study believed that logbooks can help achieve the desired outcomes. Also, many previous studies, in line with the current study, emphasized on high satisfaction of students with the logbook since it clearly indicates the expectations from students, and enhances mentor-student communication (10,24,25).

It should be noted that mentors have the responsibility to clarify the tasks mentioned in the logbook for students so that the students can clearly comprehend the tasks that need to be accomplished. This can improve the satisfaction of students with the logbooks. Accordingly, Karampourian et al. (24) discussed that clinical instructors have profound impact on the quality of clinical education, and can make it a joyful experience for students. Adequate knowledge of students about their daily responsibilities and tasks to be completed can decrease their stress level and help them organize their education.

Factors such as incompatibility of the educational goals and tasks mentioned in the logbook with the requirements of the course, incorrect scheduling and timing of additional programs such as conference presentations, difficult completion or comprehension of the logbook, inadequate information of mentors regarding completion of the logbook, inadequate feedback from mentors, inadequate emphasis on teamwork, and over-emphasis on quantity rather than quality of tasks can all lead to dissatisfaction of

students with the logbooks, and necessitate their revision and modification. Also, the quality of activities should be evaluated in addition to quantity, and some informatory sessions should be held for both instructors and students on how to accurately fill out the logbook (26).

This study had a small sample size and was a single-center study. Further multi-center studies on a larger sample size are required to assess the perspectives of both instructors and dental students regarding the efficacy of logbooks. Moreover, longitudinal studies should be designed to assess the effect of using logbooks on quality of instruction. Last but not least, the efficacy of logbooks should be compared with the efficacy of other educational evaluation methods.

Over two-thirds of the faculty members agreed with the necessity of using a logbook and believed that its completion is highly important.

Ethical considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors. The ethics committee of Qazvin University of Medical Sciences approved this research, ethics IR.QUMS.REC.1398.261.

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