



Evaluation on the Teaching and Learning Arrangement of Undergraduate Students at University of Health Sciences, Lao PDR

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: Evaluation is a systematic process of collecting, analyzing, and interpreting information to determine the extent to which pupils are achieving instructional objectives. Additionally, evaluation reflects value judgments about previous curricula and instructional designs. Evaluation critiques previous documents, plans, and actions. Dental school was established in

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1965, at that time as a dental assistant. In 1990 was extended the program for a 6-year course for the Bachelor's degree of Doctor of Dental Surgery(DDS), with limited dental education evaluation in Laos, there is no basis to conclude the performance of dental educators at the Faculty supposedly relies on their skill to conduct self-evaluation and improve teaching techniques and curriculum without formal and standardized procedures. So, this study focuses on student-centered evaluation of the teaching and learning process. The result of the analysis can be used to evaluate baseline data, determine the priority, and plan the strategy as a team in the future.

Methodology: This is a cross-sectional study descriptive study utilizing the questionnaires form with the 37-item. The sample size in this study is 1097 samples, divided as teachers group and students group. 94 teachers from three faculties in the university, and 1003 students are undergraduate students who are enrolled in the academic year 2022-2023, as separate for three faculties 281 dental students, 140 nursing students, and 582 medical students. Data analysis using the Statistical package for the Social Sciences Program (SPSS), and the Chi-square test or Fisher's exact test was used to describe and compare variables.

Results: 1) The teaching and learning arrangement sector found that: the teachers group was Satisfied (mean score = 3.877; SD = .8317) with the teaching and learning conducted in the university. And for the student group was Neither dissatisfied nor satisfied (mean score = 3.259; SD = .8011). 2) The educational evaluation sector found that: the teachers group was Satisfied (mean score = 3.521; SD = .8765). And for the student group was Neither dissatisfied nor satisfied (mean score = 3.087; SD = .8801) with the educational evaluation method in the university. 3) Classroom condition and teaching tools sector found that: Neither dissatisfied nor satisfied in the teachers group (mean score = 3.03; SD = 1.004) and students group (mean score = 3.11; SD = .9532).

Keywords: Dental education; teaching; learning arrangement; dentists students patients; oral anatomy; medical education.

1. INTRODUCTION

Evaluation is a systematic process of collecting, analyzing, and interpreting information to determine the extent to which pupils are achieving instructional objectives [1,2]. Additionally, evaluation extends beyond a test score or performance rating. Evaluation is the process of making a value judgment about the worth or quality of a student's performance or products developed by students representing their learning and competencies [3,4,5]. The evaluation reflects value judgments about previous curricula and instructional designs. Evaluation critiques previous documents, plans, and actions [6]. Evaluation of the teaching and learning is a part of the curriculum's evaluation that is for inspection of the quality of the curriculum. In 1965, was founded School of Dentistry under the School of Medicine, situated in the Vientiane Capital, Lao PDR. The School of Dentistry had offered a four-year curriculum for a Dental Assistant degree until 1990 when the Department of Dentistry was established under the guidance and administration of the Faculty of Medical Sciences, the National University of Laos, the Ministry of Education and Sport. The dental program extended its curriculum and added two more years, it became a six-year

course and the degree was upgraded from the degree of Dental assistant to a Bachelor's degree of Doctor of Dental Surgery. In 2007, the University of Health Science established the Faculty of Dentistry. The Ministry of Health is responsible for all education and training of all institutes of education of health professionals. The Faculty of Dentistry is the only dental school that produces dental health professionals as a dentist in Laos, the faculty offers a 6-year Bachelor's program for a Doctor of Dental Surgery. With limited dental education evaluation in Laos, there is no basis to conclude the performance of dental educators at the Faculty supposedly relies on their skills to conduct self-evaluation and improve teaching techniques and curriculum without formal and standardized procedures. So, this study focuses on student-centered evaluation of the teaching and learning process. The result of the analysis can be used to evaluate baseline data, determine the priority, and plan the strategy as a team in the future.

2. LITERATURE REVIEW

Teaching communication is comprehended to be important in dental education, a majority of dentists, dental students, and patients support

the integration of communicational education into dental curricula [7,8]. Faculty development is critical for a university to maintain or enhance its knowledge transfer effectiveness considering updates to diagnostic and treatment procedures and technology among other changes in medical education, dental education is no different. Promoting dental education can help students learn the necessary skills and widen their knowledge by learning the best dental practices and current technology, therefore improving their skills to best satisfy residents [9]. According to professors, effective teaching would be the last priority in higher education institutions because of the heavy emphasis on research and service. As is well known that drives learning [10,11], it is greatly important not only to teach but also to assess the teaching process. Evaluation is a systematic process of collecting, analyzing, and interpreting information to determine the extent to which pupils are achieving instructional objectives [1,2]. Additionally, evaluation reflects value judgments about previous curricula and instructional designs. Evaluation critiques previous documents, plans, and actions [3]. Evaluation of the teaching and learning is a part of the curriculum's evaluation for inspection of the quality of the curriculum.

3. METHODOLOGY

This study was designed in a cross-sectional descriptive study. The target group were teachers and students in 3 faculties in the University of Health Sciences (Faculty of Dentistry, Faculty of Nursing Sciences, and Faculty of Medicine). Included criteria: the students who had been enrolled in the second, third, fourth, fifth and sixth grades of the Doctor of Dental Surgery program (DDS), in the Medical Sciences program, and in the second, third, fourth grades of the Bachelor of Nursing Sciences program, of the academic year 2022-2023. The sample size is 1097 containing 94 teachers and 1003 undergraduate students: 281 dental students; 598 medical students and 140

nursing students, excluded criteria: the students in the first grade and who are involuntary. Data collection by using questionnaires form with 37 items (teaching and learning arrangement 24 items, educational evaluation 7 items and Classrooms condition and teaching tools 6 items) with scored on 5-point Likert scale [12]. Likert scale is shown in Table 1. Cronbach Alpha coefficient was calculated as .970 for the teachers' group, and .962 for the students' group. All items in the questionnaire were marked as required. All responses were entered into an Excel sheet (Microsoft Excel 2013 for window). Those items were reverse-coded in Excel before they were transferred to 'IBM SPSS 27' for data analyzing procedures. Descriptive analysis was accomplished by calculating the percentage, the mean, the standard deviation (SD), and Chi-square test or Fisher's exact test.

In this study, the samples were 94 teachers and 1003 students who responded to the evaluation form from three faculties. On average, the teachers' age was 40.97 ± 9.79 years old, and the student's age was 23.10 ± 3.96 years old; there were 59 (62.8%) female teachers and 35 (37.2%); almost half (45/94) 47.9% of teachers who had a Master degree; for the students there were 641 (63.9%) female students and 362 (36.1%) male students as shown in Table 2 and Table 3 respectively.

The overall results of the teachers showed that they were satisfied with two sectors as teaching and learning arrangement sector (mean = 3.877) and the educational evaluation sector (mean = 3.521), Neither dissatisfied nor satisfied with classroom condition and teaching tools sector (mean = 3.031) (shown in Table 4). For overall results of the students showed that Neither dissatisfied nor satisfied with all three sectors as teaching and learning arrangement sector (mean = 3.259), educational evaluation sector (mean = 3.087), and classroom condition and teaching tools sector (mean = 3.110) as shown in Table 5.

Table 1. Scoring range of likert scale of the evaluations

	Value	Range
Very dissatisfied	1	1.00 - 1.80
Dissatisfied	2	1.81 - 2.60
Neither dissatisfied or satisfied	3	2.61 - 3.40
Satisfied	4	3.41 - 4.20
Very satisfied	5	4.21 - 5.00

Table 2. Teachers' Demographic Distribution.

General information	Number(n=94)	Percentage
Sex		
Female	59	62.8
Male	35	37.2
Age		
20-30 years	15	16.0
31-40 years	38	40.4
41-50 years	22	23.4
Over 50 years	19	20.2
Education		
Higher education	3	3.2
Bachelor	28	29.8
Residency I	11	11.7
Master	45	47.9
Residency II	2	2.1
Doctor of Philosophy	5	5.3

Table 3. Students' demographic distribution

General information	Number(n=1003)	Percentage
Sex		
Female	641	63.9
Male	362	36.1
Class level		
2	269	26.8
3	209	20.8
4	195	19.4
5	155	15.5
6	175	17.4

Table 4. Mean and standard deviation of teachers' overall of the evaluation teaching and learning arrangement

	Mean	SD
Teaching and learning arrangement	3.877	.8317
Educational evaluation	3.521	.8765
Classrooms condition and teaching tools	3.031	1.0048
Total	3.477	.7207

Table 5. Mean and standard deviation of students' overall of the evaluation teaching and learning arrangement

Content	Mean	SD
Teaching and learning arrangement	3.259	.8011
Educational evaluation	3.087	.8801
Classrooms condition and teaching tools	3.110	.9532
Total	3.152	.7146

Table 6. Gender difference in teachers' opinion.

	female		male		t-test	Sig.
	Mean	SD	Mean	SD		
Teaching and learning arrangement	3.89	0.783	3.86	0.920	0.183	0.855
Educational evaluation	3.62	0.882	3.36	0.854	1.406	0.163
Classrooms condition and teaching tools	3.15	1.035	2.83	0.931	1.522	0.131
Total	3.55	0.728	3.35	0.699	1.346	0.182

Table 7. Gender difference in students' opinion

	female		male		t-test	Sig.
	Mean	SD	Mean	SD		
Teaching and learning arrangement	3.31	0.765	3.17	0.855	2.62*	0.009
Educational evaluation	3.15	0.839	2.99	0.942	2.66*	0.008
Classrooms condition and teaching tools	3.11	0.936	3.12	0.985	-0.18	0.857
Total	3.19	0.685	3.09	0.762	1.99*	0.046

*P<0.05

Table 8. Comparison the mean and standard deviation of teachers' opinion overall by age groups

	20y-30y		31y-40y		41y-50y		over 50y		F-test	Sig.
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Teaching and learning arrangement	3.83	0.748	3.76	0.844	4.00	0.816	4.00	0.913	0.54	0.655
Educational evaluation	3.47	0.812	3.54	0.739	3.73	0.997	3.29	1.032	0.87	0.460
Classrooms condition and teaching tools	3.37	0.876	2.95	0.985	3.11	1.123	2.84	1.001	0.92	0.436
Total	3.56	0.736	3.42	0.660	3.61	0.827	3.38	0.724	0.52	0.666

The results of the independent sample t-test of teachers are presented in Table 6. These results were not significant differences between females (mean = 3.55, SD = 0.728) and males (mean = 3.35, SD = 0.699). When comparing the mean scores of each sector shows that the Satisfied for two sectors as teaching and learning arrangement sector in both females (mean = 3.89, SD = 0.783) and males (mean = 3.86, SD = 0.92) and the educational evaluation sector (female's mean = 3.62, SD = 0.882; male's mean = 3.36, SD = 0.854). The Neither dissatisfied nor satisfied with classroom conditions and teaching tools in both females (mean = 3.15, SD = 1.035) and males (mean = 2.83, SD = 0.699).

The results of the independent sample t-test of students are presented in Table 7. These results were statistically significant between females (mean = 3.19, SD = 0.685) and males (mean = 3.09, SD = 0.762) for students' overall opinion by gender. When comparing the mean scores of each sector shown that Neither dissatisfied nor satisfied for all three sectors both female and male in the teaching and learning arrangement sector (female's mean = 3.31, SD = 0.765; male's mean = 3.17, SD = 0.855), educational evaluation sector (female's mean = 3.15, SD = 0.839; male's mean = 2.99, SD = 0.942) and classroom condition and teaching tools (female's mean = 3.11, SD = 0.936; male's mean = 3.12, SD = 0.985).

The results of Fisher's exact test of comparing the mean of teachers' opinion overall by age

group showed that no significant difference in each age group, the highest mean score was 3.61, and the standard division was 0.827 in the group of 41 – 50-year-olds as Satisfied with the teaching and learning arrangement conducted in the university (shown in Table 8).

4. DISCUSSION

In this study, the evaluation of teaching and learning arrangements conducted at the University of Health Sciences was examined in three faculties Faculty of Dentistry, Faculty of Nursing Sciences, and Faculty of Medicine. The study was conducted with 94 teachers and 1003 students, which the students in second to sixth-year undergraduate in the major of the Doctor of Dental Surgery program of the Faculty of Dentistry, another program Medical Doctor of the Faculty of Medicine, and second to fourth-year undergraduate students in major of Nursing of Faculty of Nursing Sciences. The study found that the teachers' opinion overall was Satisfied, and the students' opinion overall showed that they were Neither dissatisfied nor satisfied with the teaching and learning arrangement conducted at the university. When investigated in each sector as:

- 1) The teaching and learning arrangement sector found that: the teachers group was Satisfied (mean score = 3.877; SD = .8317) with the teaching and learning conducted in the university. And for the students group was Neither dissatisfied or

satisfied (mean score = 3.259; SD = .8011).

- 2) The educational evaluation sector found that: the teacher's group was Satisfied (mean score = 3.521; SD = .8765). And for the student group was Neither dissatisfied nor satisfied (mean score = 3.087; SD = .8801) with the educational evaluation method in the university.
- 3) Classroom condition and teaching tools sector found that: Neither dissatisfied nor satisfied both in the teachers group (mean score = 3.03; SD = 1.004) and students group (mean score = 3.11; SD = .9532). This sector contains six questions, when investigating each question was found that 5 of 6 questions in both the teacher's group and the student's group were Neither dissatisfied nor satisfied: the size of the classroom was not sufficient for the number of students, the course atmosphere was not quiet for students concentrate to their study/teaching because of the classroom building near the main road in the city, there was not adequate computers for students/teachers to use, there was an internet connection with low speed¹³ and unstable for teachers to use and no public internet for students to surf the internet and there were not various books/textbooks in the library with the traditional language for specific skills such as physical examination and procedures^[13].

5. CONCLUSION

In this study, we found that the university's teaching and learning arrangement seems to be more focused on the needs of faculties than on those of the students.

6. LIMITATIONS

The purpose of this study was to evaluate the teaching and learning arrangements conducted in the UHS. The data collected for the research study included a convenience of students from the class of academic year 2022-2023 with started the first semester not the same date according to each faculty. Because of the limited sample study, therefore the results may not be generalizability information of the UHS. Moreover, the results of the study were based solely on how the respondents rated the teachers/lecturers using the assessment form.

CONSENT

All participants were given a thorough explanation of the study's details and subsequently signed a consent form to indicate their willingness to participate.

ETHICAL APPROVAL

The study was approved by the ethic committee for health research from the University of Health Sciences, Ministry of Health, Lao PDR (No: 508/REC.2023)

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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