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Research Article

Health Professions Teachers at the Technical School for Medical Care, University of Health Sciences, Cambodia: Competencies and Training Needs

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Abstract

Background: There has been an increase in the number of private schools for health sciences in Cambodia. There are three new health sciences schools in Cambodia owned by government ministers. These schools recruit new and more faculties to perform their roles as teachers even those without knowledge on health professions education. Despite their official appointments, there are a few qualified faculty members who are equipped in both teaching and leading educational institutions [1]. Accreditation has also been implemented for public and private schools in the country [1] and given the limited number of qualified faculty members, the program is likely to just be confined in terms of policy.

Objective: To lay down the foundation for the health professions education curriculum based on identified needs and formulation of terminal competencies for health sciences teachers of the Kingdom of Cambodia.

Methodology: This is a descriptive survey design. Data were collected and analyzed to highlight "where we are now" through the use of a questionnaire. SPSS version 25.0 used to analyze the data. This study was conducted at University of Health Sciences (UHS) Campus 2, Cambodia. It was conducted from July-September 2013. A total of 81 respondents voluntarily participated in the study. This represented a response rate of 89 percent (81/91).

Result: The results of this study shown that respondents were 64.2 percent female and 35.8 percent male. Their age ranged from 24 to 64 years old with an average of 41.0 years, standard deviation of 10.75, and median of 40 years old. The most frequently occurring age is 43 years old with 7 respondents. Respondents reported that they are most interested in five areas in HPEd namely: (1) Curriculum Planning, (2) Instructional Design, (3) Educational Evaluation and Assessment, (4) Micro-Teaching, and (5) Clinical Teaching, with percentage rating of 72.8 percent, 71.7 percent, 66.7 percent, 63.0 percent, and 60 percent, respectively. The frequency and percentage distributions in the most interested area which chosen by each career stages towards each topic in HPEd. Findings show that instructional design rated as highest percentage 25% by senior career, 12.3% by mid-career stage, 22.2% by junior career stage, and curriculum planning was rated as highest rated of 16% by novice career stage.

The overall chi-square test statistics results show that there is significant association between the career stages and the topics identified by respondents that they needed further training on. Findings present adequate evidence to reject the null hypothesis and give way to the conclusion that career stages are related with the perceived values of topics in HPEd.

Keywords: *Competencies; Training Needs; Career Stages; Perceived Topics; Further Training*

Introduction

In its 1969, Convention, the WHO declared that "The problem of teacher training for health professions is of such magnitude and of such central importance to the world community that a systematic, sequential and wider attack must be launched without delay" [2].

The WHO has been actively advocating reform and improve medical education to meet the changing needs of health care. For the past six decades, WHO has intensified its efforts and has collaborated with a number of organizations and institutions at both global and regional levels to carry out activities aimed at improving human resources for health (HRH) through better quality of education [18].

Medical education is currently a hot topic. More and more people want to be involved in developing new educational and assessment methods and in conducting research in medical education [11]. But more than medical education, training the health professionals to competently teach is also imperative for those who teach nursing, dentistry, allied medical professions, public health, pharmacy, medical technology, and related sciences. In the Lancet article reported that all is not well in health professions education [7]. Health Professions Education is that branch of knowledge that functions at the interface of health professions and education that aims to improve the preparation of the health professionals for teaching [16]. In-service training taken to embrace activities which are directed specifically to the acquisition of new skills and knowledge and experience specifically connected with one's current or near future workplace employment; and refreshment and refurbishment of skills and knowledge [15]. If an institution recognizes that its faculty members belong to various developmental stages in their professional careers, a combination of these three faculty development programs will enhance the competences of health professions teachers [4].

The Cambodian Ministry of Health also stated that to increase competency and skills of health workforce to deal with the demand for accountability and high-quality care, including thorough strengthening in terms of allied technical skills and advanced technology, an increase in quality practice of training, career development is necessary [1].

The faculty members trained by local and international institutions might look significant. However, a one-time training is admittedly inadequate to make a critical mass of competent health professions educators. For CEDHP to prepare more relevant and sustainable programs for these faculty members initially for the Technical School for Medical Care of University of Health Science Cambodia (TSMC-UHSC), and generally to the Kingdom of Cambodia, a thorough analysis of the profile, these health professions teachers, their perceived needs for capability building program, and future becomes imperative.

Materials and Methods

Study design

This is a descriptive survey design. Data were collected and analyzed to highlight "where we are now" using a questionnaire.

Setting

This study was conducted at UHS Campus 2, it's located in Phnom Penh Capital City, Kingdom of Cambodia.

Study population

All health profession teachers involved in teaching at UHS Compus2. They included both male and femalr gender those who teach in all the academic programs without aged exclusion criteria.

Study period

It was conducted from July-September 2013.

Sample size

A total of 81 respondents voluntarily participated in the study. This represented a response rate of 89 percent (81/91).

Inclusion criteria:

- The participants who teach in all the academic programs.
- The voluntary participation.

Exclusion criteria:

- Those who were involuntary to participate in the study.
- Faculty members nominated by the MoH who have limited involvement in teaching students.

Sampling techniques

Convenient sampling was followed.

Data collection tools

A survey questionnaire was administered to the respondents of the study. The questionnaire is composed of questions on the following professional profile: age, sex, background, professional rank, duration of teaching, level of priority of training needs, and competencies of health professions education course. Individual appointment was conducted for a meeting to interview either at school or at their own workplace after a given consent has been secured. The questionnaire was made based on research objective using Likert scale for each topic in HPEd.

Instrument

Upon getting the approval of the National Ethics Committee for Health Research in Cambodia, Rector of UHS and the UP-Manila Research Ethics Board, a set of the questionnaire translated in Khmer language was printed and attached with informed consent document and the approval letter and was used to gather information from selected faculty members. The questionnaire was pilot tested among selected faculty members of UHSC main campus. This exercise was done to ensure the validity, clarity, and reliability of the instrument. Appropriate revisions on the questionnaire were made based on the pilot test. To ensure that the survey questionnaire can generate the correct information required by the study, the questions were constructed based on the following blueprint: 1. demographic and professional profiles of health profession teachers (6 questions), 2. the perceptions of health profession teachers at TSMC-UHSC on their competencies and training needs regarding health professions education (24 questions).

Data collection procedure

A self-administered questionnaire used to collect data from the participants. After explanation about the purpose of this study, the participants were requested to answer the question. The respondents were free to refuse to answer any questions that made them feel uncomfortable and they could give up any times without penalty. It was taken approximately 15 - 20 minutes in this survey.

Data entry and analysis

Data was coded by number in each question and analyze using Statistical Package for the Social Science (SPSS), version 25. In addition, we had done data entry and analysis by using two computers (double check) to valid data statistics.

Significance of the study

This study reveals that faculty members in the health sciences of Cambodia generally and proportionally belong to various career stages that of a novice, junior, mid-career and senior where the senior make up the biggest distribution. Results also reveal that even if they are in the advance career stage, their perceptions of competencies and training needs still give premium on basic topics in HPEd such as curriculum planning, instructional design, test construction, clinical teaching, and micro-teaching.

Ethical consideration

The study was approved by National Ethics Committee for Health Research and supported by rector of University of Health Science in Cambodia. The informed consent is not a contract. It is written explanation of what inquiries need for gathering as taking part in the study. Participants are not waiving any legal right of signing this informed consent document. Participant's approval by signing indicates that they agreed to take part in this study.

Results

General information of participants

A total of 81 respondents voluntarily participated in the study. This represented a response rate of 89 percent (81/91). The respondents were 64.2 percent female and 35.8 percent male. Their age ranged from 24 to 64 years old with an average of 41.0 years, standard deviation of 10.75, and median of 40 years old. The most frequently occurring age is 43 years old with 7 respondents. Demographic profile of respondents shows the typical characteristics of human resources for health of Cambodia composed of mostly female and in the early 40's.

The demographic and professional profile is summarized in the following table 1 and 2.

Variable	Range	Means	Standard Deviation	Median
Age	24 - 64 years	41.0	10.75	40.0
Other variables	**Frequency**		**Percentage**	
Male	29		35.8%	
Female	52		64.2%	

Table 1: *Frequency distribution of respondents according to age and gender (n = 81).*

Professional Degree	Frequency	Percent
Master's degree	4	4.9%
Medical Doctor (MD)	6	7.4%
BS in Pharmacy (BSPh)	8	9.9%
BS in Nursing (BSN)	9	11.1%
Bachelor of Midwifery (BMW)	3	3.7%
Bachelor of Physiotherapy (BPT)	1	1.2%
Associate Degree in Nursing (AND)	17	21.0%
Associate Degree in Midwifery (ADMW)	11	13.6%
Associate Degree in Medical Laboratory Technology (ADMLT)	11	13..6%
Associate Degree in (ADPT)	6	7.4%
Others	5	6.2%
Total	81	100.0

Table 2: *Frequency distribution of respondents according to their background (n = 81).*

Respondents' year of teaching experiences ranges from less than 1 year to more than 10 years. Following Baldwin's career stages of faculty members according to years of teaching, there were 18.5 percent (15/81) who have been teaching for 0 to 2 years and could be considered novice teachers. There were 22/81 (27.2 percent) with > 2 to 5years of teaching and could be considered junior faculty member while there were 15/81 (18.5 percent) who have been teaching from >5-10 years and could classified as in their midcareer stage. There were 29/81 teachers who have been teaching for >10years representing 35.8 percent. These figures indicate that the highest percentage of teaching experiences falls to those who have been teaching for more than 10years and this stage is the peak of a faculty's career stage. The distribution of each stage clearly reveals a balance distribution of teachers according to years of teaching experiences such that the new ones can be mentored by the juniors and the latter can be coached by those in the mid-career and then can be mentored those in their late career.

In addition, findings show that among 81 respondents, there was only 11.1 percent who hold the title of Assistant professor and the rest comprising of 88.9 percent who do not hold any professorship title. TSMC is relatively more junior in terms of faculty items compared to the UHSC where many faculty members notably from medicine and dentistry hold titles as Assistant, Associate, and Full Professors. These ranks are honored in a special recognition differently; Full Professor appointed by the King, Associate Professor appointed by the Prime Minister, and the Assistant Professor appointed by the Minster of Health.

Although not holding any academic rank, a substantial number of respondents hold position of authority in TSMC. Data shows that there is a small percentage of 2.5 percent, 17.3 percent, and 2.5 percent for faculty serving as director, academic officer, administrator, respectively. The rest of respondents are just faculty members whose main responsibility is for teaching only. They are school's employees and commonly called as teacher or lecturer. With respect to prior training on health professions education, data reveal that among 81 respondents, there was a 28.4 percent who have never trained/attended which were accounted for 23 respondents and 71.6 percent who have been trained or have attended a seminar/workshop either for a short-time or for a long time period they were accounted for 58 respondents. Among these faculties who have attended/trained, there is a majority of 54 (66.7 percent) trained for a short period of time and 4 (4.9 percent) trained in a long-time period.

Perceived health professions education competencies and training needs

Respondents were given a list of competencies in health professions education. They were asked to select certain area in which they would be most interested in and needed if certain training can be organized or offered within the university in order to improve the quality of teaching in health sciences context. Rating scale has offered various options that ranged from not interested, less interested, moderately interested, interested, and most interested. Table 3 presented the frequency distribution of respondents on their perceived level of teaching competencies and training needs were rated by 81 respondents from the survey.

Competencies in HPEd	Not interested	Less interested	Moderately interested	Interested	Most interested
Curriculum Planning	1 (1.2%)	0 (0%)	3 (3.7%)	18 (22.2%)	59 (72.8%)
Instructional Design	3 (3.7%)	0 (0%)	1 (1.2%)	18 (22.2%)	58 (71.6%)
Evaluation and assessment	1 (1.2%)	1 (1.2%)	1 (1.2%)	24 (29.6%)	54 (66.7%)
Micro-teaching	1 (1.2%)	1 (1.2%)	6 (7.4%)	22 (27.2%)	51 (63.0%)
Clinical teaching	1 (1.3%)	0 (0%)	6 (7.4%)	25 (31.2%)	48 (60.0%)
Introduction educational research	1 (1.2%)	1 (1.2%)	7 (8.6%)	37 (45.7%)	35 (42.3%)
Management and leadership	1 (1.3%)	0 (0%)	7 (8.6%)	41 (50.6%)	32 (39.5%)
Test Construction	1 (1.3%)	0 (0%)	4 (4.9%)	46 (56.8%)	30 (37.0%)
Attitude development	1 (1.2%)	1 (1.2%)	16 (19.8%)	41 (50.6%)	22 (27.2%)
Small group teaching	2 (2.5%)	3 (3.7%)	16 (19.8%)	40 (49.4%)	20 (24.7%)
Large group teaching	2 (2.5%)	3 (3.7%)	15 (18.5%)	43 (53.1%)	18 (22.2%)
Psycho-philosophy	2 (2.5%)	2 (2.5%)	9 (11.1%)	50 (61.7%)	18 (22.2%)

Table 3: *Frequency (and percentage distribution) of respondents according to perceived interests in health professions education subject (n = 81).*

Respondents reported that they are most interested in five areas in HPEd namely: (1) Curriculum Planning, (2) Instructional Design, (3) Educational Evaluation and Assessment, (4) Micro-Teaching, and (5) Clinical Teaching, with percentage rating of 72.8 percent, 71.7 percent, 66.7 percent, 63.0 percent, and 60 percent respectively. Due to these ratings, these five courses should be considered as the top priority if the training program can be offered within TSMC-UHSC. On the other hand, those areas scored below 60 percent included Educational Research, Educational Management and Leadership, Test Construction, Attitude Development, Small Group Teaching, Large Group Teaching, and Psycho-Philosophical Foundations of Education. They were rated by 43.2 percent, 39.5 percent, 37 percent, 27.2 percent, 24.7 percent, 22.2 percent, and 22.2 percent respectively by respondents. Therefore, they will be classified in the second step of activity if there will be further plan to organize. Table 4 summarized the frequency distribution of the areas rated of most interested perception to HPEds' topics by 81 respondents ranked from top down.

No.	Areas of HPEd course	Frequency	Percentage
1	Curriculum Planning	59	72.8
2	Instructional Design	58	71.6
3	Evaluation and Assessment	54	66.7
4	Micro-Teaching	51	63.0
5	Clinical Teaching	48	60.0
6	Educational Research	35	43.2
7	Management and leadership	32	39.5
8	Test Construction	30	37.0
9	Attitude development	22	27.2
10	Small Group Teaching	19	24.7
11	Large Group Teaching	18	22.2
12	Psycho-Philosophy	18	22.2

Table 4: *Ranking of areas in HPEd identified by respondents as most important and they want to be trained further (n = 81).*

In the attempt to identify training needs according to career stages of faculty members, the identified areas above were organized separately. Table 5 shows the frequency and percentage distributions in the most interested area which chosen by each career stages towards each topic in HPEd. Findings show that instructional design rated as highest percentage 25% by senior career, 12.3% by mid-career stage, 22.2% by junior career stage, and curriculum planning was rated as highest rated of 16% by novice career stage. Furthermore, findings indicate further description in the summary table below.

No.	Areas of HPEd course	Novice	Junior	Mid-career	Senior
		Frequency (Percentage)			
1	Curriculum Planning	13/59 (16.0%)	17/59 (21.0%)	9/59 (11.1%)	20/59 (24.7%)
2	Instructional Design	9/58 (11.1%)	18/58 (22.2%)	10/58 (12.3%)	21/58 (25.9%)
3	Evaluation and Assessment	10/54 (12.3%)	17/54 (21.0%)	9/54 (11.1%)	18/54 (22.2%)
4	Micro-Teaching	10/51 (12.3%)	15/51 (18.5%)	8/51 (9.9%)	18/51 (22.2%)
5	Clinical Teaching	8/48 (9.9%)	13/48 (16.0%)	8/48 (9.9%)	19/48 (23.5%)
6	Educational Research	7/35 (8.6%)	13/35 (16.0%)	3/35 (3.7%)	12/35 (14.8%)
7	Management and leadership	9/32 (11.1%)	8/32 (9.9%)	5/32 (6.2%)	10/32 (12.3%)
8	Test Construction	4/30 (4.9%)	9/30 (11.1%)	5/30 (6.2%)	12/30 (14.8%)
9	Attitude development	1/22 (1.2%)	7/22 (8.6%)	5/22 (6.2%)	9/22 (11.1%)
10	Small Group Teaching	2/19 (2.5%)	8/19 (9.9%)	4/19 (4.9%)	5/19 (6.2%)
11	Large Group Teaching	4/18 (4.9%)	5/18 (6.2%)	3/18 (3.7%)	6/18 (7.4%)
12	Psycho-Philosophy	4/18 (4.9%)	6/18 (7.4%)	3/18 (3.7%)	5/18 (6.2%)

Table 5: *Distribution of respondents according to career stages and preferred topics in HPEd (n = 81).*

Other findings

Respondents revealed during interviews that there were some faculty members who were never trained, and they expressed their strong willingness to get involved in training on HPEd especially the novice, junior, and mid-career. On the other hand, some totally rejected to participate in any HPEd activity and did not want to get involved with HPEd especially those in late career. Moreover, some faculty prefer to be higher educated on their own profession rather than just HPEd alone.

No.	Topics	Chi-square value	Degrees of freedom	P value
1	Instructional design	147.333	4	.001
2	Test construction	68.778	3	.001
3	Micro-teaching	111.778	4	.001
4	Clinical teaching	68.300	3	.001
5	Attitude development	68.568	4	.001
6	Large group teaching	67.827	4	.001
7	Small group teaching	59.062	4	.001
8	Introduction to educational research	82.272	4	.001
9	Psycho-philosophical foundations of education	98.815	4	.001
10	Educational management and leadership	55.049	3	.001
11	Curriculum planning	107.395	3	.001
12	Educational evaluation and assessment	94.700	3	.001

Table 6: *Chi-square test association between career stages and perceived topics needed for further training (n = 81).*

All 81 respondents were asked to rate their perceptions on each topic in HPEd. These ratings were tested for association with their career stages through the chi-square test statistics. The cross tabulations between career stages and particular topics in HPEd were analyzed, yielding the following results presented in table 6. The overall chi-square test statistics results show that there is significant association between the career stages and the topics identified by respondents that they needed further training on. Findings present adequate evidence to reject the null hypothesis and give way to the conclusion that career stages are related with the perceived values of topics in HPEd.

Theory and research on adult phase of life helps to clarify the evolutionary nature of academic careers. Scholars such as Daniel Levinson (1991) and Erik Erikson (1991) suggest that adulthood like childhood and adolescence is a time of growth and change. According to this perspective, adulthood is not a time of placid routine. Their research found that even if the faculty member s (like those of TSMC-UHSC) who are already in advance career stage can still value the more basic topics in HPEd. There are some certain advance topics in HPEd that respondents do not seem so much interested by those in their late career stage such as educational research and educational management and leadership. Instead, just like the younger faculty, they gave value to the most basic competencies on curriculum planning, instructional design, evaluation and assessment, micro-teaching, and clinical teaching.

Discussion

The goal of the HPEd is to prepare health profession teachers acquire the competencies to teach students of health sciences effectively and develop the appropriate knowledge, skills and attitude so they can provide quality health care to people. Moreover, the Master of Health Professions Education (MHPEd) program is geared to train faculty member with the appropriate roles, responsibilities, and tasks namely as a classroom manager, researcher, manager, and evaluator. The program also aims to equip health professions teachers with

ability to develop curriculum, establish instructional design, test construction and test blueprint, to conduct research and evaluation, to prepare clinical setting at school and hospital or clinic, to select proper teaching-learning strategies, to organize competencies on student assessment according to test blueprint, prepare institution to gain accreditation, and to evaluate the current situation of health professions teachers.

Findings of this study reveal that faculty members in the health sciences of Cambodia generally and proportionally belong to various career stages that of a novice, junior, mid-career and senior where the senior make up the biggest distribution. Results also reveal that even if they are in the advance career stage, their perceptions of competencies and training needs still give premium on basic topics in HPEd such as curriculum planning, instructional design, test construction, clinical teaching, and micro-teaching. The study further proved that a significant number of faculty members have never trained on HPEd and that their career stages are significantly associated with their perceptions on their training needs and competencies as health professions educators.

The blueprint for faculty development and health professions education in general, of TSMC-UHSC and Cambodia can be derived from this survey. The teachers' profile, career stage, professorship, status of seminar-workshop on HPEd, and perception of health professions teachers toward competencies and training needs on HPEd can serve as basis for the development of the succeeding curriculum in HPEd for Cambodia's human resources for health. In-service training can be offered immediately to acquire, refresh, and refurbish new skills and knowledge of these teachers.

On the other hand, the study also shows that the other requisite skills of health professions educators as educational leaders, managers, evaluators, and researchers were identified as not so popular. There is a clear indication that respondents did not choose them as most needed as they were most concerned with the competencies related with immediate delivery of instruction. While it is easy and convenient to conclude that these second set of topics therefore need not be included in the faculty development programs or capacity building of Cambodian HRH, these represent foundational competencies to develop an educational philosophy, vision, and curricular direction for a particular institution. It is therefore risky not to include these other sets of competencies in the blueprint of health professions education for the faculty members of health sciences in Cambodia.

Study Limitation

Not all health professions teachers at TSMC-UHSC and at private health sciences schools in Cambodia are engaged in teaching. Those who perform purely administrative functions were not included in the study. The study also did not highlight or identify the respondents' weaknesses or strengths in terms of teaching-learning strategies, setting up valid and reliable tests to assess student output, and other types of practical setting at school or at clinical site.

Conclusion

The HPEd program that should be implemented within the TSMC-UHSC would be those that will prepare faculty members on the basic competency standards of health professions teachers namely on educational planning, implementation, and evaluation. These are identified as the most basic by all groups of faculty members regardless of years of teaching and highest educational attainments. On the other hand, for these faculty members to completely prepare themselves not only for delivery of instruction but more importantly, for their future roles as educational planners, managers, leaders, researchers, and evaluators, the blueprint of HPEd in Cambodia should likewise focus on these other competencies.

Recommendation

The HPEd program and regulation, as well as policies on HPEd must be developed according to the context of the strategic plan of the UHSC. Once HPEd program and regulations and policies are considered in the UHSC's strategic plan, the implementation of HPEd could

function effectively without obstacles. The quality of teaching-learning shall be improved throughout the offering of appropriate faculty development program in form of seminars, workshops, short courses or degree programs reflecting faculty needs. To make this work successfully and in a sustainable level, the appropriate policy or regulation of the UHSC should be nationally recognized. Furthermore, the HPEd program should be recognized and supported by higher institution such as Ministry of Health. Moreover, the motivation and promotion on career path for faculty member should be considered and put forward in action especially to those faculties who have self-motivation and get trained on HPEd even the basic or advance.

Further studies on the culturally accepted approach for educational reforms in Cambodia should be conducted to make sure that the blueprint in HPEd is not just valid in terms of content but also in context.

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