Original Article

A systematic approach in design, planning and implementation of purposeful faculty empowerment program

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Abstract

Background & Objective: Considering the role and importance of faculty members in promoting education as one of the major aspects of university life, paying attention to the educational empowerment of faculty members is an inevitable necessity. This study was conducted to design a comprehensive inter-university educational empowerment program for faculty members of six universities of medical sciences in Iran.

Materials & Methods: The present study was started as a scholarship process in 2018, and the 6 steps of Kern's model were employed for its educational planning. First, in two stages of needs assessment (general level and target group), the dimensions of the program and the educational needs of the target group were determined. In the next step, the goals of the Purposeful Faculty Empowerment Program (PFEP) were defined and, based on them, educational strategies, including content and methods, were planned in the form of the PFEP document. In the following stages, the program entered the implementation phase and its effectiveness was evaluated.

Results: The results of two stages of needs assessment at the general and the target group levels led to the formulation of PFEP needs assessment guidelines and the targeted educational capabilities, after which the educational topics of the PFEP were determined. The educational content related to each of the workshop topics and the method of holding the empowerment course were compiled as separate instructions for PFEP courses. The results of the formative evaluation of each PFEP course were published as final reports of each course, and the information obtained from it was used to improve future courses.

Conclusion: This study led to the formulation of a comprehensive program for educational empowerment in six universities of medical sciences in Iran. The methods of planning and implementing this course can be a model for other universities to hold inter-university educational empowerment courses.

Keywords: Design, Faculty empowerment, Kern model, Needs assessment, Faculty development

Introduction

Considering the role and importance of faculty members in promoting education as one of the main dimensions of university life, it is inevitably necessary to pay attention to the educational empowerment of faculty members (1). Empowerment of faculty members refers to planned activities that are implemented to prepare or help faculty members to fulfill their roles in the fields of education, research, leadership, and management (2).

These programs lead to productivity, usefulness, and efficiency, as well as the personal and professional

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development of faculty members to achieve the goals, vision, and missions of the organization (3, 4). Educational empowerment is a process that prepares faculty members to play their different roles to be productive or up-to-date (5).

The planning and implementation of empowerment programs are done by focusing on the different roles of faculty members; therefore, the empowerment of faculty members in the educational dimension requires the adoption of specific and consistent strategies (5). So far, many studies have been conducted on the effectiveness of faculty empowerment courses. For example, in a systematic review, Steinert et al. reported some results of educational empowerment programs for faculty members both at the individual and organizational levels and emphasized the design of empowerment programs according to the needs of the program's audience (3). In 2018, Phuong et al. discussed behavioral changes observed in faculty members, such as improving teaching skills, gaining leadership positions, and increasing academic output following participation in educational empowerment courses (6).

The results of a study by Guraya et al. in 2019 showed the effect of faculty member empowerment programs on improving the knowledge and professional abilities of teachers (7). According to the findings of a study by Piryani et al. in 2018, the self-confidence of faculty members to teach increased significantly after participating in empowerment courses (8). The results of a study by Colella et al. in 2018 indicated the participants' satisfaction with the empowerment and knowledge enhancement course (9). In 2019, Saiki et al. also showed that by holding empowerment courses for faculty members, significant benefits were obtained, such as improved knowledge, increased self-confidence in teaching, and a positive role in creating group interactions in clinical education (10).

In Iran, various studies have been conducted in educational empowerment programs for faculty members in universities of medical sciences. According to the findings of a study by Kojuri et al. (2015) at the Shiraz University of Medical Sciences, Shiraz, Iran, by holding empowerment programs, positive changes were observed in the knowledge level of faculty members in teaching methods, providing feedback, student evaluation, and time management, as well as using these teachings in the real environment (11). The results of a study by Dehghani et al. (2019) also indicated that most of the participants were satisfied with the overall quality of programs to increase knowledge and positive attitudinal changes as well as using what they had learned in teaching students (12).

The aforementioned cases have well shown the value and position of systematic educational empowerment courses for faculty members. The systematic approach is a tool that allows managers to examine all aspects of the organization, relate the effects of one set of decisions to another set, and use resources to solve problems (13, 14). Despite the importance of educational empowerment of faculty members in universities, only a few universities have adopted a systematic approach to holding these courses. In the current analysis of empowerment and the depiction of the current situation, the following challenges can be mentioned.

1. Implementation of the programs is held separately (each university individually) without connection with other universities of medical sciences in the country.
2. Most of the designs are planned in a non-comprehensive, non-systematic manner and without a specific connection with promoting teachers.
3. In some programs, teaching roles and academic ranks of faculty members are not considered in the existing guidelines.

It is very clear that moving towards improving the quality of education needs passing through different stages and taking planned actions. To reach this aim, it is possible to use famous and efficient models of educational planning. One of these models is Kern's educational planning model (15). Kern's model provides a comprehensive approach to developing educational programs and is specifically designed for medical education (16).

The results of various studies have also shown the effectiveness of this model in planning the educational empowerment courses of faculty members. For example, in Loyal et al.'s study in 2018, educational empowerment courses for faculty members were designed based on Kern's model, and a very successful experience of using this educational model was reported (17). The program designed in this study was such that each of the junior teachers was trained with three methods of holding a professional development seminar, a consultation meeting with peers, and holding an introduction meeting in the educational group (17).

According to the aforementioned case, as well as the results of reviewing the literature and examining the educational empowerment programs of the mega-

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universities of six regions of Iran, it seemed necessary to design and implement a comprehensive program of empowerment in the following dimensions (the macro universities in the examined regions in Iran are a collection of several universities of medical sciences that are geographically close to each other. These universities are in Zanjan, Arak, Qazvin, Alborz, Qom, Saveh, and Khomein).

1. So far, the comprehensive program of empowering faculty members with the cooperation of Education Development Centers for Iranian universities of medical sciences has not been designed and held.
2. Educational empowerment programs of universities have been carried out without a systematic approach.
3. University educational empowerment programs have been designed and implemented without relying on a strong curriculum planning model.

Taking the above points into consideration, the purpose of this educational process was to design, planning, and implementation of a comprehensive inter-university educational empowerment program for faculty members in six universities of medical sciences in Iran.

Materials & Methods

Purposeful Faculty Empowerment Program or PFEP is a comprehensive inter-university empowerment program for faculty members that is known as TAHA in Iran because its Persian abbreviation. Readers of the article can find the detailed documentation of this program in this link (https://tinyurl.com/2opmptlg).

PFEP was designed and implemented based on Kern's model and in six steps: (i) problem identification and general needs assessment, (ii) targeted needs assessment, (iii) goals and objectives, (iv) educational strategies, (v) implementation, and (vi) evaluation (15).

Step 1. Problem identification and general needs assessment

Initially, the following questions were answered by reviewing the texts, examining the experience of the world's universities, and forming a needs assessment working group. The results of the evaluations and the opinions of managers, faculty members, and various beneficiaries were considered at this stage.

- What objectives will the empowerment courses cover?
- Which roles of faculty members will be targeted by this program?
- Which model of educational empowerment can be the most effective in holding an inter-university educational empowerment program?
- How is it possible to increase the flexibility of training courses by expanding the geographical spread of several universities and increasing target group participants?
- How is it possible to increase the participation of education development centers of medical science universities in educational empowerment programs?

Step 2. Targeted needs assessment

In this step, first, the PFEP Needs Assessment Questionnaire identified the educational needs and priorities of university teachers. To this aim, Loyal et al.'s Needs Assessment Questionnaire was used to design this tool (17). This questionnaire was sent to teachers through social networks, and the obtained data were analyzed using Excel 2019 and SPSS 26 software.

Step 3. Goals and objectives

Based on the results of the needs assessment, the initial version of PFEP regulations was compiled. In this document, 5 educational capabilities of teachers, including teaching, research, communication skills and professionalism, scholarship of teaching, and educational management, were targeted by the PFEP.

Step 4. Developing educational strategies

By holding a panel of experts, it was first determined which PFEP package would be implemented in the following course. After determining the educational package, the educational content of each educational topic was determined. Other decisions, including the instructor of each workshop, the time and place of the course, and the method of holding it, were also made in this meeting.

Step 5. Implementation of the program

Pilot implementation: considering scope of the program and its dimensions, it was necessary to implement it as a pilot in one university before holding it at the level of all target universities to use the received feedback to identify potential problems and take action to correct them. Implementation of the PFEP at the inter-university level: PFEP was implemented for the first time in the winter of 2021 with the cooperation of six universities of medical sciences in the country. So far, four courses of this program have been implemented.

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Because of the necessity of documenting actions and using previous experiences to change the future programs of the PFEP, after holding each course, a full report of how the course was held was prepared and made available to all the organizing universities.

Step 6. Evaluation of the program

Various methods were used to collect valid data about the effectiveness of the PFEP. In using these methods, it was tried to pay attention to different levels of the Kirkpatrick Model. Therefore, the evaluation of the PFEP was carried out in the following ways:

Kirkpatrick Level 1 (Reaction)

Evaluation form for each workshop: This form was designed in the EPOLL system, and the evaluation link was provided separately for each workshop at the end of each class. The participants expressed their opinions of the three areas of educational content, instructor's ability, and executive affairs of the workshop through questions and items rated on a 5-point Likert scale. Moreover, the participants' positive points, negative points, and suggestions were asked using 3 open-ended descriptive questions at the end of the questionnaire to improve the quality of the workshop.

Kirkpatrick level 2 (Learning):

Course assignment: In some workshops, the participants were required to submit assignments from the taught content. This assignment evaluated the level of improvement of teachers' knowledge. The deadline for submitting the assignment was determined as the end of the course.

Kirkpatrick level 3 (Behavior)

Workshop evaluation form based on reflection. This evaluation method was used in the fourth course of PFEP and highly valuable feedback was obtained from it. In this course, the teacher's presence in each workshop was reduced from 90 to 120 minutes, and the remaining 30 minutes of the workshop were dedicated to reflection. During this time, a reflection link to the content of the workshop was provided to the participants to reflect on what they had learned during the workshop by completing the related questions. Reflection questions were designed to ask participants to reflect on what they had learned and what they would implement in the educational setting from then on. This form was active until 19:00 on the same day of the workshop.

Kirkpatrick level 4 (results)

Expert panel meeting and criticizing the implementation method of each course: This meeting was held after the completion of each PFEP with the presence of program instructors and medical education experts from all six universities. The purpose of this meeting was to reflect on and criticize how the course was conducted. In this meeting, we tried to discuss and exchange opinions with the feedback received from different universities about the effectiveness of the workshops and how to improve them.

Results

First step: In line with needs assessment at the macro level, the PFEP needs assessment guidelines were compiled. In this document, three training packages were defined as follows based on the needs of the target group:

Package 1: for junior faculty members

Package 2: for promotion from instructor to assistant professor and from assistant professor to associate professor

Package 3: for promotion from associate professor to professor

Second step: Using the needs assessment questionnaire, the educational priorities of the three target groups of the program (Packages 1, 2, and 3) were identified, and based on that, the tables of the topics of the educational workshops of each of the packages were drawn.

Third step: In PFEP, the document of three special training packages for promotion to the rank of assistant professor, associate professor, and professor with various teaching methods was considered, and participation in these courses was considered a necessary condition for the promotion of faculty members. The general and specific goals of the program, its requirements, and how to implement the program were mentioned in full detail in this document.

Fourth step (Developing educational strategies)

According to the identification of the topics of the educational programs and the objectives of each of the PFEP packages, this step was dedicated to determining the content of the training courses and the methods of holding them. Finally, the results of the decisions were compiled as instructions for conducting the course and were made available to all universities and participants in the course.

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Fifth step (Implementation of the program)

Pilot implementation: The program was implemented as a pilot for 2 years at the Zanjan University of Medical Sciences, Zanjan, Iran, and its deficiencies were eliminated.

First course of PFEP: This training course was dedicated to covering package 1, and 16 workshops were held virtually by selected teachers in the six universities of medical sciences in the country.

Second course of PFEP: This training course covered the second package of PFEP and was held in the summer of 2021 in 15 workshops. Based on the feedback received from the first course, it was decided that in this course special workshops be held separately for the basic science and clinical teachers.

Third course of PFEP: This course covered the third package of PFEP. Considering the target group of this course (i.e., associate professors) and the specialized level of educational subjects, as well as based on the feedback received from the previous courses, it was decided that in this course; the workshops be held completely separately for the basic science and clinical teachers. First, the participants were divided into groups of basic sciences and clinical teachers. Workshop topics were held separately for both groups. To improve the level and quality of the workshops of this training course, it was decided that all the workshops be held as a flipped classroom learning approach. Therefore, the educational content of each workshop was prepared by the instructor as a video file at least one week before the online meeting and was made available to the learners by uploading it to the groups created in the social network. On the day of the online meeting, by grouping the participants and proving the opportunity for group work, it was attempted to discuss and exchange opinions about the workshop interactively and actively.

Fourth course of PFEP: After holding a full course of the three PFEP packages and receiving feedback and continuous evaluation of the program, it was held the fourth PFEP course with recent changes to improve its effectiveness. Based on the needs assessment meeting that was held at the inter-university level and by reflection on the way of holding the program, the following modifications were considered in the program:

1. Designing an educational needs assessment form by the Zanjan University of Medical Sciences and sending it to the education development centers of universities/colleges of medical sciences before the beginning of the training course.
2. Changing the registration method to an optional and selective mode
3. Changing the time sequence of holding workshops
4. Changing the duration of each workshop
5. Holding a coordination meeting for instructors at the beginning of the course
6. Changing the evaluation method of workshops

Based on the mentioned changes, the fourth course of the PFEP was held with a new plan specifically for PFEP package 1 in the summer of 2021. In this course, 16 workshops were held virtually. The most important feature of this course was the use of reflection papers to evaluate the workshops.

Sixth step *(*Evaluation of the program)

1. Evaluation form of each workshop: The results were extracted from the system the day after holding the workshop, and after being edited and analyzed, were sent to the workshop instructor in an Excel file.
2. Course assignment: This assignment evaluated the level of improvement of teachers' knowledge. The deadline for submitting the assignment was set until the end of the course.
3. Course evaluation form based on reflection: Following the reflection time, the obtained results were extracted from the system, and after entering the data into the Excel software, the edited file was provided to the workshop instructor. The best reflection feedback was published on the same day as quoted images, along with the word clouds obtained from all reflections on the PFEP social networks.
4. Expert panel meeting and criticizing the implementation method of each course: The results of this virtual meeting were sent to the universities as official minutes.
5. Reporting and monitoring holding programs: This report was compiled after each of the PFEP courses and was given to the managers of the universities.

Discussion

This study was carried out to design, planning, and implementation of the comprehensive inter-university educational empowerment program for faculty members in six universities of medical sciences in Iran using Kern's planning model. In this educational process, it was attempted to use scientific experiences and rich research support in educational empowerment of faculty members to achieve maximum educational

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quality for the participants. For example, Steinert (2006 and 2010) emphasized the utilization of a systematic approach in the longitudinal planning of faculty empowerment (3, 18) and considered it important to use methods such as feedback, reflection, and observational learning in educational empowerment courses (3).

As mentioned in the method section, the Kern model was used to design the present study. Although this model provides a precious of the program and information. In this study, to ease the effects of this uncertainty and not face implementation challenges, the PFEP was implemented for 2 years as a pilot in only one university (i.e., Zanjan Medical Sciences). This measure provided the following benefits:

1. Identifying and addressing the shortcomings of the PFEP (such as the precise definition of junior teachers).
2. Reviewing the method of evaluating workshops and training courses (using several methods to collect data instead of relying on satisfaction questionnaires).
3. Revising the method of giving feedback to the course instructors (immediately sending the results obtained from the workshop evaluation to the instructor).
4. Revising the way of registration for and an announcement of PFEP courses (creating an open menu feature in the selection of workshops by the participants. In this way, the participants of the course would have the options from the list of workshops to choose the time, day, and instructor of the event according to their needs, and register).

In 2020, Stockley et al. used a systematic approach to establish faculty educational empowerment at the Royal College of Physicians and Surgeons of Canada (19). King et al. also designed an educational empowerment course in 2021 using systematic approaches and developing an informal method based on observation and reflection (20). This systematic approach was considered in the current research process. In the study conducted by Loyal et al., Kern's model was considered for the educational planning of the empowerment course. The program designed in this study was such that each of the teachers was trained by three methods, namely holding a professional development seminar, consulting with peers, and holding an introduction meeting in the educational group (17). The educational planning and needs assessment model of this study was taken into consideration in the current research process. This method of needs assessment led to addressing educational needs both at the general level (universities of medical sciences) and at the target group level (faculty members). Regarding this, the success and extension of the PFEP can be attributed to the special attention to needs assessment since this program meets the exact expectations and educational needs of educational managers and teachers.

In this program, three educational packages were designed for junior, assistant, and associate professors in such a way that the educational topics proceeded from the introductory stage to the advanced level and then to the specialized level. Therefore, the sequence of topics and attention to advanced levels of educational capabilities were also been considered.

In studies conducted by Buckley et al. (2020) (21) and McPherson et al. (2015) (22), the benefits of using social networks in educational empowerment courses have been noted. These researchers emphasized informal approaches based on the formation of communication in formal meetings were effective in the instructor's formation's identity. According to the results, the use of separate informal groups in social networks was considered in the current research process.

Holding the PFEP jointly with several universities of medical sciences in the country resulted in valuable experiences:

1. Using all the specialized capacity of medical education: Holding the PFEP course led to the gathering of experts and intellectuals in medical education and other scientific fields in the education area, who helped to run rich workshops with their cooperation.
2. Cost savings: The cooperation of universities with each other and the synergy of forces made it possible to hold workshops with very little cost and, of course, with high productivity.

Among the limitations of this research process was the long geographical distance between the organizing universities. This factor made it highly difficult to hold face-to-face workshops in universities, and all workshops were held virtually and on the internet platforms.

Conclusion

The results of this scholarly research process led to the formulation of a comprehensive program for the

educational empowerment. This program is currently on the run and four courses have already been held. The evaluation results of the PFEP have shown the high satisfaction of the audience and its effectiveness in the educational process of the organizing universities. The evaluation results show that this program has been one of the most successful empowerment programs for faculty members.

The successful implementation of the PFEP can be a model for other universities to hold inter-university courses in educational empowerment. Therefore, one strength of this study, which distinguished it from previous studies, was the use of a systematic approach for planning empowerment courses between universities, which was presented as a novel experience at the level of the country.

Ethical considerations

PFEP was compiled in 2018 and its proposal was registered in Zanjan University of Medical Sciences in the same year with the ethics code IR.ZUMS.REC.1397.343. In all stages of implementing this study, the executive team was committed to complying with ethical considerations.

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Conflicts of interest

The researchers have no conflicts of interest in any of the stages of this project.

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