

Original Article

Interdisciplinary education of social accountability in short-term workshops of Shiraz University of Medical Sciences

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Abstract

Background: Accountability refers to a set of concepts and social actions by which individuals or organizations have a sense of commitment to explain and to justify their behavior towards the others. Since it is one of the overall objectives of each university, the present study conducted to evaluate the effect of interdisciplinary education of social accountability in short-term workshops on medical student's knowledge.

Methods: The present study followed a qualitative-quantitative method with the qualitative stage conducted as group interview. In the first phase, eight faculty members were selected in order to determine the scope and the main topics of social accountability. The second phase was training workshops of social accountability using intervention method. Before and after the course, the knowledge of concepts was assessed using a valid and reliable questionnaire.

Results: The main scope and criteria of the social accountability were extracted based on the results of the experts' group discussion in eight items. The results of investigating the quality of the workshops revealed the student's satisfaction of the quality of presentations (88%), the appropriate time management (86%), and the new information (85%). Also, the results of the second phase demonstrated the educational effectiveness of social responsibility in the student's comments (pretest Mean±SD=13.86 and posttest Mean±SD=14.80, $P=0.002$). The results of the workshop showed a significant effect of social accountability education on the participants.

Conclusion: The students comprehended the purposes of the application. So, the probability of changing the behavior in medical students is possible with the clinical perspective. However, the stability of this achievement needs sufficient enforcement.

Keywords: Accountability; Social responsibility; Training workshops; Personal satisfaction

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Introduction

Despite the rapid growth of the number of universities and students in the recent years, some functional weaknesses have attracted the attention of policy makers and managers to the necessity of accountability of universities. Although accountability in universities is

not new, in expert's viewpoint, the new global conditions and domestic issues have highlighted its significance (1). Because of its complexity, achieving a proper accountability system is one of the general objectives of the universities. So, authorities of each university analyze different aspects of this system according

to their perceptions, experience, and knowledge.

Accountability means the transfer, implementation, and continuing the application of lessons based on student's knowledge and experience to the clients who are mainly the result of the second type of knowledge or practical knowledge (2). Farman Barbar called this mission as the social accountability approaches in universities (3) and Scott considered it as the means of distinguishing modern universities and believed that university students should be able to deliver the appropriate health care and services based on the knowledge, skills, and their readiness to meet the expectations of local and national society (4). According to Chatterton et al., the attention of this mission is focused on the links between the university and the community, involving the universities in the regional and national development through increasing the skills and cultural awareness of students and the development of technology and innovation. In other words, this connection is deepening the consistency between experiences and learning outcomes of students in their job roles (5). Tynjälä named the university that is able to create these outcomes an action-oriented university that raises its social responsibility (6).

A university is defined with its accountability. So, the university should know the social and public dimensions and be aware of the student's ability in the real medical environment to insightfully meet the patient's needs and problems. The universities should consider the problems of the society and take the responsibility in order to prevent these problems and use some part of their human and financial resources in this way.

The mission as stated in the Islamic Republic of Iran's Fourth plan for the economic development for the sociocultural aspect of the country in higher education expresses the importance of this concern. In this plan, Rule No. 43

introduces the knowledge, technology, and skills as the main factors in the creation of the value added in the new economy and requires the government policies and strategies be directed to the renewal of research, technology, and education so that the country can be able to meet the social, cultural, and industrial needs and work in a competitive global environment. Rule No. 49 in the same Plan urges the government to define the missions and structures of universities and higher education institutions as dedication to prepare and train specialists, knowledge-based, creative and reliable human resources in a way that they meet the needs of the application movement as well as the social problems of the country. In order to achieve this goal, sections B and C of the mentioned Rules force the governments to continuously evaluate the universities and higher education institutions and revise academic disciplines based on the social needs, labor market, and scientific developments (8).

Therefore, it can be stated that a majority of universities in the world, especially those among the middle or high level universities in the regional, national, or global ranking, direct their future actions to the projects and practices that come from their strategic planning process (8). This can easily be understood from the vision, mission, and strategic goals of the university.

The medical education in the country is affected by the increase in the technological changes, development and improvement of new educational methods, diagnosis and treatment, as well as financial limitations and social and economic developments, experiences of new challenges to provide urgent proper response and to make necessary decisions to face these challenges long-term planning is required.

Considering the significance of this issue in sustainable development, the Education Development Center at Shiraz University of Medical Sciences made an attempt to

incorporate the issue of social responsibility to students in the form of short-term courses and university workshops to take a step forward to build a culture of social responsibility in the universities and introducing its role and importance to the academic community (2). The objective as expected to reach regarding teaching the concepts of social responsibility is that student's behavior in dealing with the problems and illnesses of the society change. Also, the sense of leadership, creativity in finding solutions of various problems, participation in the teamwork, interest in people's problems, and feeling the need for community participation of students are hoped to be established.

The results of the research conducted in the UK, Morley showed that there is a big gap between the level of knowledge and skills of college graduates and what employers expect. Rabelli et al. noted that university curricula and all the teaching and learning processes should be focused on social services, especially in response to local needs (9).

Domask argues that the society needs workers and graduates who understand beyond the theoretical aspects of professional knowledge, have professional skills, and demonstrate the necessary abilities during the educational problem to apply the academic learning in working environment (10).

Scott considers the social accountability as a sign of modern universities and believes that universities should be able to educate students who are knowledgeable, skillful and ready for social services to meet the expectations of national and local community. In other words, there is a consistent deep connection between student's experiences and learning outcomes and their future jobs as well as the role they will play in economy (4).

The results of the study by Pourabbas et al. shows that participants believe the available educational programs and curricula have been somewhat

unsuccessful in helping the students gain job capabilities in conformity with the labor market (11). Thus, the present study was conducted with the aim of evaluating the effect of interdisciplinary education of social accountability in short-term workshops in medical student's knowledge.

Methods

The present study was conducted in two qualitative and quantitative phases. The qualitative phase was conducted as a group interview. For the first phase of the study, eight faculty members were selected based on their experience and specialty, as the major groups, in each of the areas. Also, the expert faculty members were selected as the second group. The purpose of this phase of the study was implementing and evaluating the concepts and topics of education in college students. Members were selected based on their expertise and familiarity with the subject.

The faculty members of the first group participated in 10 group discussions for 3 months. The main group meetings were held in a conference room with enough light and ventilation. Each session took an average of 3 to 5 hours in the morning and evening. After each 1.5 hour of discussion, the members were given a 30 minutes of rest. All the meetings were conducted by the manager of the Development Research Center of Shiraz University of Medical Sciences. The main content of all the discussions were recorded by a general practitioner. Recalling the holding of the meetings to the members was done one week earlier. At the first meeting, members were introduced and the aim of the study was explained. Then, the research method, i.e. group discussion, was explained to the group. Between these sessions, other weekly sessions were held using Delphi method with the second expert group including faculty members and academic experts, professors, and representatives of Medical Education

Development Center. The Delphi method was used to collect the feedback of the second group and to identify the main topics. Also, to follow the ethical principles of Delphi methods, the responses of the second group were kept confidential and only representative of the Medical Education Development Center recorded them and informed members of the group in the subsequent meetings. To ensure the accuracy and reliability of the data, we made sure the second group were experts in the field of interest to guarantee the validity.

In the following sessions, each of these areas were stated and the members explained the main activities and sub-activities related to the brainstorming, respectively. At the end of each session, the expressed activities and sub-activities were categorized and the similar titles were merged. Next, all the categorized materials were summarized by colleagues and presented to each member in order to check weighted priority indices. Priority indicators selected for each of these areas are as follows: being programmable for each domain (possibility of planning), efficacy (effectiveness and costs of the program intended), required duration for intervention (long or short-term duration of treatment), intervention emergency (intervention speed), and problems and possible obstacles and health effects (impairment of health). After scoring each of the cases with the highest scores, the most important topics were selected. The results of this section are presented as a table based on their importance and priority in modern society (Table 1).

The second phase of the study was training workshops and social response to the intervention. This stage started by planning for teaching the main topics of social responsibility to the students at Education Development Center, Shiraz University of Medical Sciences. It was decided that these concepts be taught in workshops and the objective of holding the workshop were: to emphasize independent

learning, practical learning, problem-solving exercises in the real environment, similar to what students will face in their future professions, to take roles and to create a learning environment based on confidence, mutual support and education for students and teachers, and to rely on self-evaluation and to consider the actions and the application of lessons learned in dealing with the problems.

In order to achieve social accountability principles established in the first phase, a questionnaire was developed in Medical Education Development Center consisting of the titles and indices. The questionnaire included three questions on demographics (gender, age, and field of study) and 32 questions in eight areas related to the topics. The validity of the questionnaire was approved by four professors at Medical Education Department. Once the translation was complete, comparisons between the original English, the back-translated version, and the Persian version were drafted and revised by two professional translators and scrutinized for the changes. In order to assess the reliability of the questionnaire, the final Persian version was administrated to 20 medical students who participated in one of the workshops of Medical Education Development Center as suggested by statistical advisor. Statistical Package for the Social Sciences (SPSS) software version 14 was used running Cronbach's alpha to be 0.84, which is a sound reliability index.

The questionnaires were distributed prior to starting the course among the students participating in the social accountability workshop in order to assess their awareness of the issue. At the end of the workshop, the questionnaire was distributed in the target group, too. The number of students participated in this period was 93 whose awareness in the workshop was evaluated using census method. It should be noted that 82 of this 93 individuals completed the questionnaires correctly.

To teach the content of social responsibility, the following training methods were taken into account during the workshop:

1. Providing a training guide that included a summary of each topic and exercises that help the students to summarize and analyze the concepts and apply them in the practice. The guide was given to all the participants in the form of a package prior to the start of the course.
2. Holding one-day workshops on the content mentioned above and the approved topics by the faculty members of the university.
3. Building groups of 4-5 students to participate in the group activities during the workshops (classroom activities were designed based on the existing problems of the medical community).
4. Conducting group discussions at the workshops by a mentor, solving the problems related to the medical community receiving assistance from two other professors.
5. Making sure that sources of information were given by the teachers so that students could find the answers to each classroom activities.
6. Administering instruments for evaluation, including evaluation of theoretical knowledge and the ability to apply knowledge and acquired skills and evaluated behavior.
7. Conducting free discussions about social problems among students and teachers and exchanging experiences between patients and students.

Then, all handlers of the course were invited to train the students and the educational guide was thoroughly reviewed and teaching methods were discussed.

Moreover, at the end, the quality of education in the workshops was assessed using a questionnaires. The questionnaire, which its validity confirmed in the previous studies (12), consisted of 11 questions about the quality of the workshops on a five-point Likert scale (P=1 disagree to P=5 agree). The validity and reliability were already assessed and confirmed by the Medical Education Development Center. The validity of this questionnaire had been confirmed in the previous studies (12). Participant's recommendations were assessed using an open-ended question at the end of questionnaire.

Results

The results of the qualitative phase and expert group discussion on the importance of social responsibility and priorities of educational topics are summarized in the Table 1.

Next, a total of 93 students (43 male and 50 female) from different fields of medical sciences at Shiraz University of Medical Sciences attended in this short-time course of social responsibility. Participants were between 18 and 27 years old with the mean age of 22.3 ± 1.32 . A total of 63.7% were medical students and the rest were students of other majors (radiology, health care management, midwifery, nursing, audiometry, dentistry, optometry, and pharmacy).

Table 2 provides the mean and standard deviation for each of the domains of the social responsibility questionnaire demonstrating participant's knowledge in the workshop.

Table 1. The scopes and concepts of educational and social accountability from the perspective of university professors at Shiraz University of Medical Sciences

Row	Selected concepts and educational aspects of social accountability from the perspective of professors
1	Social responsibility, definition, and necessity of application in today's society
2	The challenges of the health system and university
3	Implementation of systematic evaluation system to increase commitment and organizational accountability
4	Promoting academic level and student's performance with respect to learning in the 21st century
5	Development of cooperation between universities and indigenous medical knowledge
6	Expanding the boundaries of science and technology, according to the needs of the community
7	Establishment of clinical governance
8	Strategic planning and its application in society

Table 2. Mean scores and standard deviation of social responsibility and its components in the workshop

Topics and areas of social accountability	Mean±SD	Max	Min
Social accountability, definition, necessity, and application in today's society	3.32±1.72	4.48	1.01
The challenges of the health system and university	3.06±1.01	4.56	1.25
Implementation of systematic evaluation system in order to increase organizational commitment and accountability	3.84±1.25	4.63	1.12
Promoting the academic level and student performance with respect to learning in the 21st century	3.98±2.31	4.92	1.36
Development of cooperation between universities and indigenous medical knowledge	2.98±2.04	4.01	1.23
Expanding the boundaries of science and technology, according to the needs of the community	3.58±1.68	4.21	1.02
Establishment of clinical governance	2.93±2.65	4.88	1.04
The importance of strategic planning and its application in society	3.79±1.08	4.32	1.03
Total score of social accountability	3.72±1.24	5.00	1.00

The results of the pre- and post-educational intervention and its effectiveness are given in Table 3. Also, the results of the quality of education

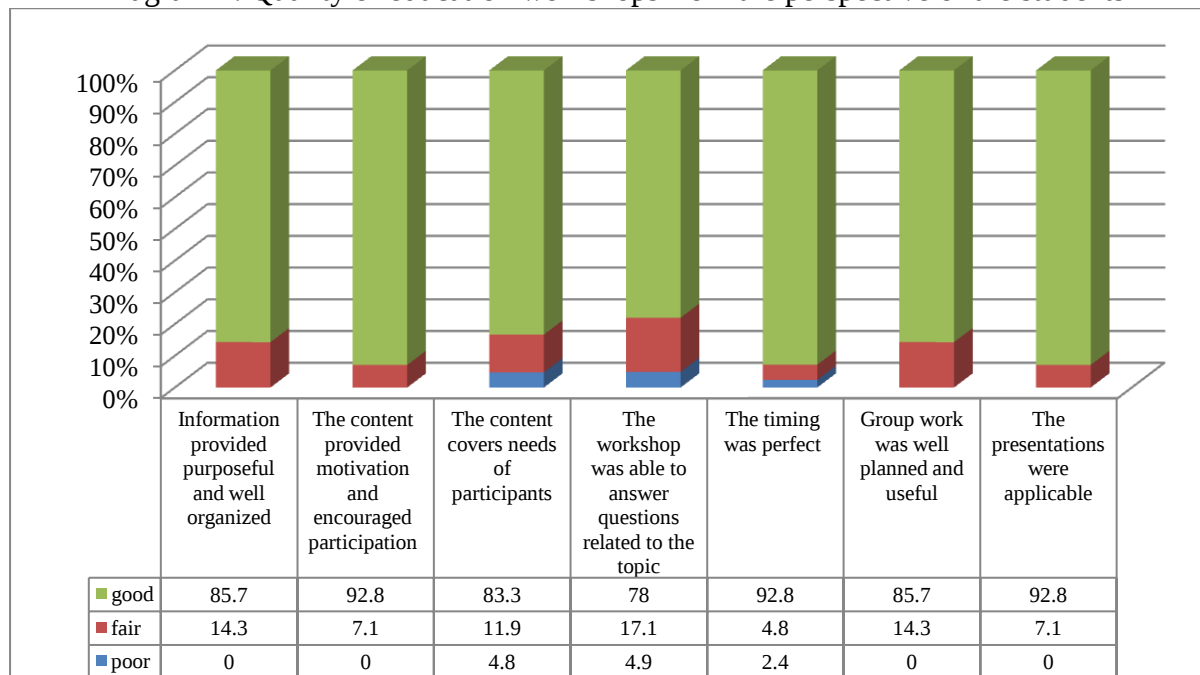
workshops from the perspective of the students participating in the course are illustrated in diagram 1.

Table 3. The pre-test and post-test scores of teaching social accountability and the scope of its training to the participating students in the course

Test	Mean±SD	95% confidence interval of the mean difference		df	P
		Upper	Lower		
Pre-test	13.86±2.33	11.241	15.932	23	0.002*
Post-test	14.80±2.42	11.031	16.214		

*The results of Paired t-test in this table indicates the significant and positive effect of social accountability education of the participants in workshops ($P<0.05$)

Diagram 1. Quality of education workshops from the perspective of the students



Discussion

Medical education in the twentieth century has experienced extensive success. Yet, despite the fact that training thousands of experts in different areas of medical sciences played a key role in reducing the mortality, medical education, especially in the past two decades of the twentieth century, faced widespread and serious criticism from experts and practitioners, as many professional associations, organizations and professionals, asked for serious changes and reform in Medical Education. Although the demand for reform does not mean ignoring the efforts of the past, the pace of health system change, and community needs, review of medical education is necessary in order to train doctors who are fit and ready to face the problems of the new era (2).

One of the most essential elements that must and can build and strengthen the relationship between university and community is the programs which are related to the education of social services, which is called the heart of the education and the mirror of the University's goals. Access to such programs needs to clarify the requirements and expected outcomes (8).

Social accountability is one of the missions of higher education and universities should pay a special attention to its preparation and implementation, and many factors that can influence it, including quantitative growth of students and the limited compliance of the university education with the needs of the labor market and employers, which to some extents, have been neglected. The universities should be responsible for the

utilization of public resources and their teaching and research should aim at not only promoting knowledge but also, with regard to the needs of society, providing efficient educated human resources (13). Scott at the conclusion of his research considered the mission-oriented universities as a critical factor in local and national needs to increase productivity, to prevent loss of resources, and to increase the motivation of teachers and students (4). Shiea et al. in their descriptive study in 2016, mentioned the social accountability indices of the medical schools in Iran after the implementation of the 3 round Delphi, the 4 aspects of the organization and function, educational activities, research activities and participation in presenting the health services, and at the end introduced 58 indices in those 4 aspects (14).

In recent years, policy makers and managers speak of mission-oriented higher education. It seems that now paying more attention to this issue is one of the needs that universities feel they should implement and have emphasized it as one of the requirements of their training programs. Education Development Center, at Shiraz University of Medical Sciences, started implementing the plan to fulfill these requirements. In the first phase of the present study, the faculty examined thematic priorities of social responsibility for training and implementation of the university's educational issues. Based on the results of a similar study by Rengan and Oplikar conducted in Mumbai, India, prioritizing the needs of the community in the form of educational issues have been identified as an essential factor in social accountability of universities (15).

According to the findings of the present study, holding the social responsibility workshops was efficient and effective in improving medical student's knowledge and learning. Nily et al. conducted a study showing that in order to achieve effectively responsive educational programs, application of reform in the

curricula and training concepts are useful and effective, as consistent with the results of the present study (7).

Pourabbas et al. concluded that the assessment of social accountability concepts and indicators of achievement and their success in the future society is essential (11).

Also, Arcil, and Velden taught the students the concept of accountability in the form of work-centered learning, composed of professional learning in the professional environment, and the experience of skillful people and education with a combination of highly effective training courses whose findings are consistent with those of the present study (14).

Jalilian et al. reports that clear, respondent management and manager's evaluation based on social accountability should be included in social accountability principles of medical schools (2).

Burdick et al. reports that functional, enhancing and professor's educating systems based on social accountability and professionalism should be included as an investment in successful accountability programs (16).

According to the student's comments in evaluation of the workshops, the full dominance of all basic and clinical teachers on the importance of the community-based accountability basics is very notable. What is more, they considered the greater awareness of the families of the social accountability in the society as a key factor in the full implementation of the principles of social responsibility. They believed that holding such a workshop can also complete the insight and vision of the faculty members on the importance of the principles of social responsibility. This way, they would have more awareness about providing the individual and family health.

Educating the social accountability is necessary in order to lead the universities to accountability. It seems that educating different groups based on the indices presented in the present study brings its

effects in practice, but defining the practical influences of each of the mentioned issues on meeting the society needs requires doing further investigations. The present study aimed to institutionalize this training concept in the university students. Short-term workshops were held by Education Development Center, at Shiraz University of Medical Sciences, to train the students of different fields of the university. The results of student's evaluation in the current project showed that they learned the purposes in total, and they were satisfied with the program. This demonstrates that it is possible to change the attitude and behavior of medical students with clinical perspectives. However, the stability of this behavior in their professional performance in the future is not clear and it needs adequate implementation guarantee in the university and necessary legislation in this regard in the diagnosis and treatment.

The consequences of holding such workshops can also create a set of characteristics and competencies that students are expected to acquire in order to be able to provide desirable social services and to ensure the higher education stakeholders they will be efficient and effective professionals.

Conflict of Interest

Authors declare no conflict of interest.

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