Research Article

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Medical students' opinions on career planning course: evaluations of the relationship between course and faculty attributes and student characteristics

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Abstract

Objectives: The Presidency of the Republic of Turkey Human Resources Office has stated that a Career Planning Course (CPC) should be implemented in higher education curricula by 2020. An institutional CPC consisting of 10-online sessions was designed and implemented in at Ege University Faculty of Medicine (EUFM) curriculum. This study reports the design, implementation, and evaluation of this new CPC at EUFM.

Methods: A descriptive, cross-sectional research design was used in this study. An online questionnaire (n=253) focusing mainly on Kirkpatrick-model Level 1 was administered to gather students' feedback on CPC as well as perceptions regarding the concept of "Career Planning". Percentage distributions were used for categorical variables and mean ± standard deviation calculations were used for numerical variables. Student's t-test was used to compare students' characteristics with career planning and important factors, and Pearson correlation test was used to evaluate competency areas with the mean scores of important factors in career planning. Statistical significance level was accepted as $p<0.05$. Thematic analysis was applied to qualitative data.

Results: The perception of the term "career planning" revealed 12 themes of which "life" was the most common (140/245; 57.1%), followed by "professional life" (102/245; 41.6%). Participants' total satisfaction rate was found 65.6% (Mean=39.36 ± 14.88) for the course. Students were most satisfied with the goals and content appropriateness (7.77 ± 3.08). The stimulating and motivating attribute of the CPC was the least satisfactory item.

Conclusions: An evaluation report, based on students' feedback, was shared with the faculty members involved in education via an interactive web page. The survey not only benefitted course educators but also helped students to reflect on the course content. CPC can help students

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to address their strengths and weaknesses and hopefully to take supportive initiatives at the beginning of their career.

Keywords: career planning; Kirkpatrick model; medical education; motivation; professional life.

Introduction

A career is described as a series of job experiences that develop throughout the course of a person's life. It is evident that a career is highly subjective and complicated, unique to each person, and dynamic over time [1].

Personality types, personal circumstances, the effect of faculty and mentors, income and malpractice concerns, and heavy workloads and lifestyle difficulties have all been found to affect medical students' career selections. Students with various interests and talents consider a wide range of professions [2].

The dynamic changes in the working environment of medical graduates' demand revisions in the medical curriculum. Any such education and training activity that is newly designed and implemented should be accurately assessed to see whether it achieves the desired outcomes.

The Kirkpatrick model, which determines aptitude based on four levels of criteria, is probably the best known for this aim. In this model, while Level 1 (Reaction) measures participant reaction and satisfaction, Level 2 (Learning) addresses the improvement in knowledge and/or increase in skills and/or change in attitudes. Level 3 (Behavior) and Level 4 (Results) aim to evaluate more sophisticated outcomes like the use of knowledge, change in behavior and the positive impact on the organization, respectively. The simplicity of applying Kirkpatrick evaluation, ease of evaluation criteria and independence of individual and environmental variables contribute to the fact that the model is appropriate for evaluating educational activities [3].

This study aims to report the design, implementation and evaluation of a newly structured course, namely Career Planning, at Ege University Faculty of Medicine (EUFM). The evaluation is conducted via an online survey focusing mainly on Kirkpatrick model Level 1. Our goal was both to provide feedback to course educators and to help students reflect on the material.

Methods

Setting

EUFM is a Turkish public medical school established in 1955. The mission of the EUFM is declared as *"to contribute to the world of science by producing information on a universal scale and to improve the quality of public life in accordance with regional and national requirements by providing the highest level of medical education in the country and by training physicians culturally and scientifically equipped, productive and sensitive to national and international realities"* [4]. To accomplish this mission, EUFM conducts a high standard, outcome-based and, horizontally and vertically integrated six-year medical education curriculum. The first three years of the program are pre-clinical, followed by two years of clerkships, and finally a year of internship period [5].

Developing and implementing the curriculum

The general framework, goals and learning outcomes of the Career Planning Course (CPC) curriculum was developed by the Presidency of the Republic of Turkey Human Resources Office (HRO) [6] to be implemented in all higher education curricula throughout the country in the 2020–2021 academic year. As suggested by the HRO, the CPC curriculum is decided to be put into effect in the first year of the school's curriculum, to raise awareness about career planning processes throughout university education. Other objectives of the CPC were equipping students with the essential methods and practices in designing their own career paths acknowledging their own strengths and weaknesses.

The EUFM Education Commission initiated a discussion for implementing an institutional CPC and developed a 10-session course that is compatible with the proposed framework of the CPC (Box 1). Aligned with this discussion, The Dean's Office assigned an appropriate faculty member as the instructor for each session in which the content was developed by her/him in line with the proposed learning outcomes. The lecturers were chosen specifically from diverse backgrounds based on their career track. Thus, all sessions exposed the students not only to the knowledge and skills of the lecturers but also to their personal and professional career stories and experiences. As COVID-19 pandemic continued, all sessions were compelled to be presented via online teaching methods. Thus, 10 course sessions were delivered between October 2020 and January 2021 (once a week) via the Microsoft Teams platform utilizing online engagement tools (i.e. Kahoot [7], Menti [8]) to conduct interactive exercises (i.e. polls and quizzes). Although CPC was a mandatory course, the EUFM Education Commission and Assessment Committee decided not to conduct any assessment method to measure academic achievement in the very first year of implementation. An evaluation report was prepared based on students' feedback and shared with the lecturers via an interactive web page [9].

Box 1: The sessions of the CPC implemented in the first year of EUMF.

- Introduction to career planning
- What is a career?
- Basic communication skills
- Sector Day 1- Non-governmental organizations
- Soft skills
- Speech and body language
- Preparing a curriculum vitae and cover letter
- Effective job interview techniques
- Sector Day 2- Academy
- Sector Day 3- Entrepreneurship

Study design and participants

This study employed a descriptive, cross-sectional research design. All the students (n=419) enrolled in Year 1 in the 2020–2021 academic year were included in the study. Extreme values, forms without ethical consent, and responses with skipped questions were excluded from the dataset and the remaining responses of the students (n=277) were analyzed and reported.

Data collection tool

At the final session of the CPC course, students were asked to fill out an online (via the Surveymonkey platform) survey anonymously to evaluate the course. The survey consisted of 10 questions; of which, nine were structured items including demographics, and an open-ended question. Through the structured items, students evaluated each course session (total 10 sessions) in six evaluation domains by selecting "Yes" if the session fulfilled the related evaluation domain or in contrast, "No". Selections were scored as Yes:1 and No:0 which the total score of a session range from minimum:0 to maximum:10 points. Each session's total scores were summed up to calculate the course total score (minimum:0 to maximum:60).

Variables

Each evaluation domain's total scores and course total scores were compared with gender, graduated high school and current medical school academic score averages. Gender was structured as female, male and prefer not to say and due to very few (n=4) responses to prefer not to say option, female and male answers were included in the analysis. Graduated high schools were categorized as public and private schools. Students were categorized based on their current academic score averages as lower group (0–59/100) and higher group (≥60/100) according to the EUFM pass-fail threshold.

Analysis

The Microsoft Excel and IBM Statistics SPSS v.25 were used in data analysis. The quantitative data were presented with descriptive tables and graphics. Percentage distributions were used for categorical variables and mean ± standard deviation calculations were used for numerical variables. Levene's test of equality of variances was used to assess the variance homogeneity. Independent samples t-test was used to compare students' characteristics with mean scores of important factors in career planning. Pearson correlation test was used to evaluate students' competency domains with mean scores of important factors in career planning. The confidence interval was accepted as 95% and $p<0.05$ was considered statistically significant. Thematic analysis was applied to the qualitative data. Students' responses were classified to the themes independently by two researchers, and then a consensus was established among researchers finalized through a discussion meeting.

Table 1: Characteristics of the student cohort.

Characteristic		n	%[a]
Gender (n=253)	Female	120	47.4
	Male	129	51.0
	Prefer not to respond	4	1.6
Graduation (n=243)	Public high school	171	70.4
	Private high school	72	29.6
Academic score (n=253)	Lower group	20	7.9
	Higher group	233	92.1

[a]Column percentage.

Results

Out of 419, 279 (66.6%) first-year students answered the survey questionnaire. Of these, two students did not agree to participate in the study, 24 students did not give any feedback to the course evaluation domains. Therefore, the study continued with the analysis of 253 students' responses of which 47.4% were female, 70.4% were public high school graduates and 92.1% had higher academic scores (Table 1).

Of the student cohort, 245 participants answered the open-ended question *"Please define the term 'career' with a sentence."* Analysis of the participants' answers revealed 12 themes (Figure 1) of which the theme "life" was the most common (140/245; 57.1%), followed by the theme "professional life" (102/2,245; 41.6%) and the theme "development" (51/245; 20.8%).

As well known, in the first step of the Kirkpatrick program evaluation model participants' attitudes are evaluated regarding their reactions and effect of the course. In this study, participants' total satisfaction rate was found 65.6% (Mean=39.36 ± 14.88) for the CPC course.

Figure 1: Word cloud of students' qualitative data on career definition.

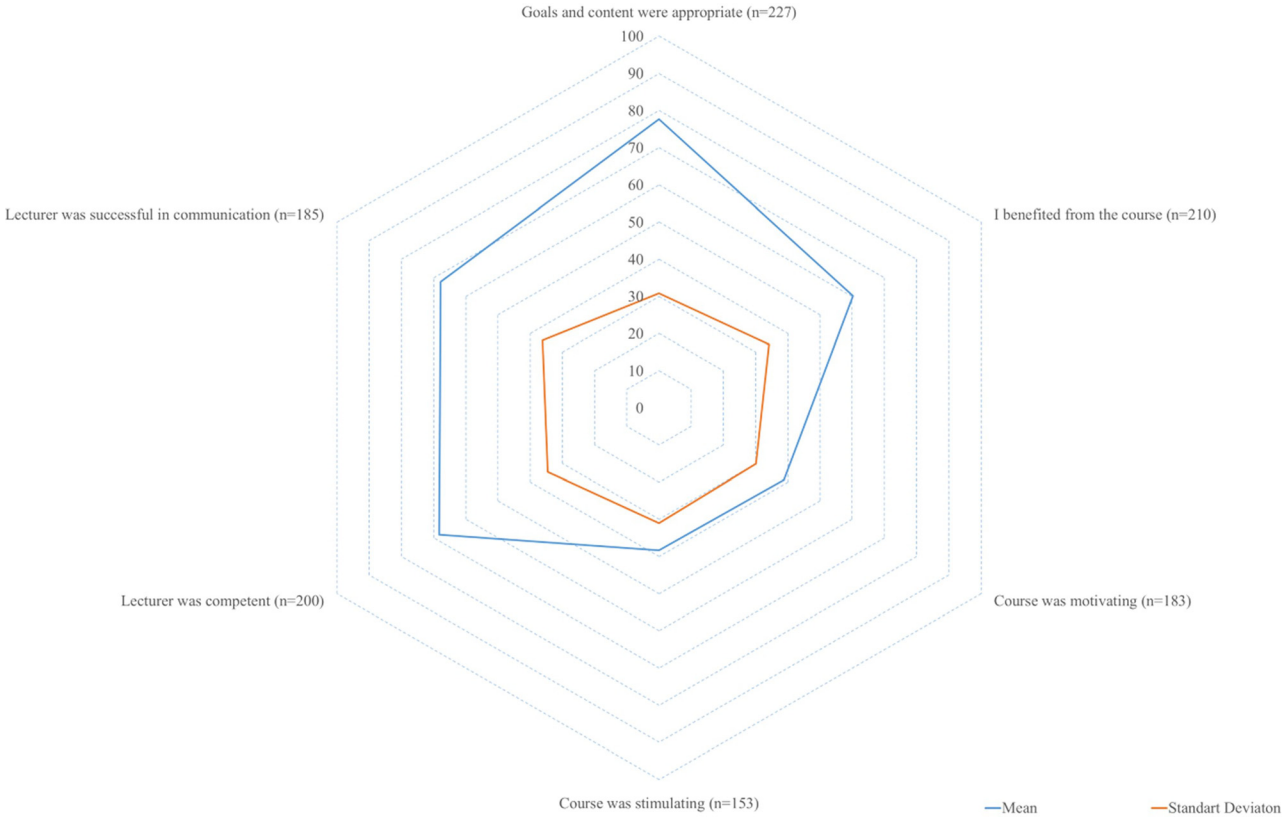

Figure 2: The radar chart of evaluation domain scores.

Our research questionnaire had three main categories including course content *"Goals and content were appropriate"*, lecturer characteristics *"Lecturer was competent"* and *"Lecturer was successful in communication"* and course impact *"I benefited from the course"*, *"Course was motivating"* and *"Course was stimulating"*. Study participants were most satisfied with the goals and content appropriateness (7.77 ± 3.08) of the course. In addition, the lecturer's competency (6.83 ± 3.45) and communication skills (6.78 ± 3.62) were also found satisfactory by the participants (Figure 2). As seen in Figure 2, the stimulating and motivating attribute of the CPC course was found to be the least satisfactory items.

There was a strong positive correlation between the course total scores and each evaluation domain's total scores. Maximum positive correlation was found between the domains "Course was motivating" and "Course was stimulating" and minimum positive correlation was found between "Goals and content were appropriate" and "Course was stimulating". All correlations were statistically significant ($p<0.01$) (Table 2).

To determine whether the impact of the CPC varied among students with different demographic backgrounds or characteristics, we investigated each such variable. In the comparative analysis, there was no statistically significant difference in evaluation domain scores by gender,

Table 2: Correlations between course evaluation domains.

	Course total score	1	2	3	4	5	6
Course total score	1	0.600[a]	0.704[a]	0.734[a]	0.782[a]	0.738[a]	0.696[a]
1. Goals and content were appropriate		1	0.465[a]	0.401[a]	0.364[a]	0.638[a]	0.621[a]
2. I benefited from the course			1	0.559[a]	0.513[a]	0.527[a]	0.530[a]
3. Course was motivating				1	0.872[a]	0.514[a]	0.474[a]
4. Course was stimulating					1	0.495[a]	0.512[a]
5. Lecturer was competent						1	0.661[a]
6. Lecturer was successful in communication							1

[a]$p< 0.01$.

graduated high school and current academic success (p>0.05). This insignificance was also evident in the total scores of the course by the same variables (p>0.05) (Table 3).

Discussion

This descriptive article reports the design and implementation of a new course in the first year of the curriculum of a state medical school. The aim of the course was to raise awareness on career planning even at the beginning of university education. Here, we describe how the design and implementation was carried out along with the main results from the anonymous feedback obtained from the students on the last day of the course. Our results indicate that the reaction part (Level 1) of the CPC program evaluation showed that the participants were satisfied with the course in general. However, they stated that the course was weak both to stimulate and motivate them. The results of an open-ended question on career definition indicated that the students align the term career with life, professional life and development.

The characteristics of our study participants were found similar to their batch who enrolled at EUFM in 2020. The majority (70.7%) of the 2020 student cohort were public high school graduates which was in line with our study findings. Gender distribution was also in favor of male students (57.2%) similar to our results [10].

The CPC course was positively endorsed by the students with high scores in the evaluation domains. High scores were related to, goals and content appropriateness, lecturer competency and lecturer's success in communication. However, evaluation items related to stimulation and motivation scores were found low.

As it is aimed by the Presidency of the Republic of Turkey HRO [6], CPC course was found successful in raising awareness regarding career planning among freshman medical students. This finding is supported by a study that reported career planning courses to increase the career readiness of graduate and postdoctoral trainees [11]. Studies showed that the majority of medical students make their career planning during their undergraduate studies [12–15]. However, another output of our study was that participant medical students lack motivation in regard to planning their professional life and career. In addition, there was a weak correlation between the item scores of course content and the motivational impact of the CPC.

The CPC was implemented for the first time in our medical school's curriculum and our year-one students took the course. Research showed that medical students in the USA make their final career selection late in their

Table 3: Comparisons of student characteristic with course evaluations.

	Gender						p-Value	Graduation						p-Value	Academic score						p-Value
	Female			Male				Public high school			Private high school				Lower group			Higher group			
	n	Mean	SD	n	Mean	SD		n	Mean	SD	n	Mean	SD		n	Mean	SD	n	Mean	SD	
1. Goals and content were appropriate	108	8.11	2.75	116	7.40	3.36	0.082	157	7.66	3.12	62	8.18	3.03	0.262	16	7.38	3.18	211	7.80	3.08	0.595
2. I benefited from the course	98	5.78	3.12	110	6.23	3.42	0.342	146	6.03	3.40	54	6.09	3.49	0.915	17	6.18	3.52	193	6.01	3.41	0.848
3. Course was motivating	88	3.81	3.03	93	3.93	3.04	0.794	128	3.66	2.99	48	4.38	3.06	0.161	12	4.58	3.87	171	3.83	2.95	0.401
4. Course was stimulating	67	3.67	2.94	84	3.99	3.25	0.537	103	3.56	3.03	43	4.37	3.34	0.156	11	5.09	3.62	142	3.73	3.05	0.162
5. Lecturer was competent	95	6.88	3.36	101	6.72	3.55	0.744	139	6.62	3.50	54	7.63	3.12	0.054	13	6.69	3.71	187	6.83	3.45	0.886
6. Lecturer was successful in communication	89	6.49	3.56	93	7.00	3.71	0.350	126	6.52	3.70	52	7.42	3.46	0.131	12	6.00	3.89	173	6.83	3.61	0.443
Total	120	27.13	15.95	129	27.70	17.74	0.790	171	27.25	16.62	72	28.22	17.71	0.682	20	24.65	19.85	233	27.68	16.62	0.441

clinical training years (third or fourth year) of undergraduate education [16]. This mentioned level corresponds to the 5th or 6th year of training in Turkish undergraduate Medical Education phases. Another study reported that first year medical students expressed their lack of knowledge to choose their specialty [17]. Our students took the CPC at the very beginning of their medical training, and they might have inadequate knowledge and experience regarding the healthcare field they recently joined. Therefore, this might have decreased the motivational impact of the CPC course among the students.

Two factors; obtaining students' evaluations anonymously and not implementing any assessment method to the CPC content, strengthen the power of the study as they prevent any possible bias. In contrast, scanty sociodemographic data is a limitation of our study. In addition, we collected the data from a single public university in Turkey, therefore the results of our study cannot be generalized to most public and private medical schools and to other countries and cultures.

Results suggest that running a career planning course is a promising approach to promote awareness in medical students of the different paths they can pursue as a physician. Furthermore, the big picture given through a CPC can help students to address their strengths and weaknesses and hopefully to take supportive initiatives at the beginning of their career.

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Informed consent: Informed consent was obtained from all individuals included in this study.

Ethical approval: The local Institutional Review Board deemed the study exempt from review.

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