

Examination of Career Expectations of First-Year Students in the Faculty of Engineering

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Article Info	ABSTRACT
<p>Published: 28.12.2022</p> <p>Keywords: Career Prospect Career Planning Career Development Engineering Faculty</p>	<p>In this research, it is aimed to examine the opinions of the first year students studying at the Faculty of Engineering about their career expectations. For this purpose, the phenomenological model, which is one of the qualitative research methods, is used. As a result of the literature review on the subject, 5 interview questions related to the career expectation of 15 1st year students studying at the Faculty of Engineering were prepared and data were obtained through the interview technique with these students. Content analysis method was used to analyze the data collected through face-to-face interviews. The findings obtained as a result of the analysis, "Career development process theme", "The theme of factors affecting career decision", "Skills theme", "Desired life theme", "The theme of obstacles in the career line" categorized as. As a result, the opinions of the interviewed students about career planning are mostly in the form of pre-planning and taking action. While students' individual goals and environmental impact are important in terms of factors that determine the future; According to the students' opinions in the professional process, personal and technical issues were seen as qualifications that should be improved. The findings of the research were discussed within the framework of the literature and related studies, and suggestions were presented regarding the results.</p>



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INTRODUCTION

In the globalizing world, individuals' perceptions and attitudes towards the future are changing dynamically. Especially in the 21st century, humanity's needs for life, which have been inevitably revised, are evidence in this direction. These needs were born in order to meet the needs of societies that were rapidly approaching each other in the previous century; has emerged as a factor shaping the future. According to Trilling and Fadel (2009), 21st century skills are; It consists of three main areas: life and career, learning and innovation, information and technology. Although these skills are an inseparable whole in terms of importance, it can be considered that life and career skills are one of the main factors for obtaining a job and career prospects.

In order to adapt to the changing world order in the 21st century; able to grasp the age in which he lived, aware of the needs of the society, able to access information easily and quickly, and most importantly, made lifelong learning a lifestyle; It is important to raise individuals who have the skills to respond to the needs of the period (Çiftçi, Yayla, Sağlam 2021). At this point, expectations in career life, which is the area where people express their productivity in the best way, have become open to re-evaluation. The growing competitive environment, especially in all areas of business life; It can prepare the ground for areas where individuals need to develop in terms of experience, education level and qualification. The competition between businesses, the desire to keep up with the rapid change and the desire to find the most suitable employees; experience, competency and personality traits are challenging for the sake of suitability (Parlak & Koçoğlu Sazkaya, 2018).

The concept of career is derived from the words “carriere” (running track) in French, “career” (profession or advancement in life) in English, “carrus” (carriage) and carrera (road) in Latin (Aktaş, 2015). According to Super (1980), the term career is a combination of roles played by the individual throughout his/her life. Career development process; it includes creating a career network, integrating with life roles, presenting values and self-concepts related to life role (Herr et al., 2004; Niles & Harris-Bowlsbey, 2013). At the same time, career can also be defined as the progress and experience of an individual in a certain field during the years in which he can potentially work (Çivilidağ & Durmaz, 2021).

In the literature, there are many career theory studies that examine the processes related to career expectation and future goals of individuals. Social Cognitive Career Theory is the theory that is based on the ideas that cognitive factors are effective in career development and career determination and that the person has the potential to direct their own career stages; This theory, which emphasizes the importance of the structure and interaction between personal, environmental and behavioral variables in people's career choice; It was developed by Lent, Brown and Hackett (1994) (Ergün, 2019). Lent et al. (1994) described the elements they defined as socio-cognitive mechanisms (knowledge about the essence of the individual, knowledge about the things that can be done and being able to create a connection between them) as self-efficacy, outcome expectations and individual goals (Çark, 2021). The key constructs here are outcome expectations, the result of practicing certain behaviors, and the beliefs developed in the process of doing that behavior. Result expectations; shapes interests, goals, behaviors and acquired skills; it may also be affected by the variables specific to the probable situation (job opportunities, opportunities to start an education, financial resources) (Niles & Harris-Bowlsbey, 2013). According to the theory in question, individuals' perceptions of competence and outcome expectations are affected by their past learning experiences. It is seen that the characteristics such as talent and interest that individuals attribute to themselves are under the influence of their perception of competence and result expectations (Bozgeyikli, 2004).

In our country, educated or uneducated masses have three main options in order to have a job. These options are; to take part in the private sector, to work in the public sector and to directly establish one's own business. While taking part in the private and public sector are paid working options; establishing their own business directly provides a chance to create new employment areas (Karaarslan & Özbakır, 2017). In this direction, the field and condition of young adults' professional skills together with their professional skills will affect the future of the country. At this point, one of the most important professions for production, which is extremely important for human life, is engineering. Engineers can contribute to the country's economy by providing job opportunities mostly in the region they are in, with the studies they develop with the contribution of their skills (Haldun 2006; Akgül, Uçar, Öztürk, & Ekşi, 2013).

According to Turkish Language Society (2006), an engineer means public works such as roads, bridges, buildings, based on meeting all kinds of needs of individuals; food such as agriculture, nutrition; science such as physics, chemistry, biology, electricity, electronics; It is defined as a person who has specialized in technical and social fields such as aircraft, automobiles, engines, construction machinery and has received a certain education. Engineering; It can be characterized as a profession that develops economic methods in order to present it to the benefit of humanity by systematically using the knowledge gained through experience and practice (Akbaba, 2003; Kordon, 2006).

The university, which is considered as one of the main lines of education, is the institution that affects the students the most in terms of their career journey. Universities are areas where the individual makes his own choices in order to specialize in his career line, where he needs the least direction, and where he is expected to reveal his free ideas and will. In this respect, it is aimed to conduct research on the career expectations of students who have started to study in this field, since the engineering profession is important in terms of putting the evidence presented by the positive sciences into practice and the legacy of civilizations.

METHOD

In this study, which aims to evaluate students' future career expectations, phenomenological design, one of the qualitative research methods, was used. Qualitative research is a study in which various qualitative methods such as document analysis, observation and interview are used, and a qualitative process is followed in order to create perceptions and developing events in a realistic and holistic way in their natural environment (Yıldırım & Şimşek, 2016). The goal of phenomenological research is to describe the various ways in which individuals experience, interpret, understand and conceptualize a determined side of a phenomenon (Taşkıran, 2017). In this direction, information about the expectations, opinions and perceptions of the students interviewed within the scope of the research was collected.

Study Group

The study group of this research consists of 15 Engineering Faculty 1st year students in the higher education level in the 2022-2023 academic year. Especially since they have just started university life, it is important to get opinions about the career expectation of first-year students, in terms of these students to take place in one of the important steps of their career path.

Research Instruments and Processes

In this study, the literature related to the subject was searched by using the interview technique as a data collection method. Interviewing is a data collection method that is widely preferred in qualitative research and is used to reveal social reality (Yüksel, 2020). In the process of preparing the

questions for data collection, the opinions of 5 expert academicians were taken; The following 5 basic questions were asked to the students in the interviews for the targeted study;

1. What does the concept of Career Planning mean to you?
2. What are the factors that have influenced the career decision so far?
3. What are the skills required by the department where you continue your education?
4. What kind of life do you have in the future, do you think you made the right career choice?
5. What are the obstacles that may arise in the process of reaching career goals?

Data Analysis

The content analysis method was used while analyzing the data collected for the answers given as a result of the interviews. The main purpose of content analysis is to reach concepts that will help explain the collected data, to gather similar data within the framework of certain concepts and themes, and to interpret them in a way that the reader can understand (Karataş, 2015). In this regard, in the findings, the themes and categories related to the data were created and sample interviews were included.

FINDINGS

In this section, the findings obtained as a result of the content analysis are shown in the tables by giving the frequency values. While addressing the research findings, direct quotations about the views of the participants were included and the real names of the participants were not included. Participants were represented by separate codes representing each, rather than their real names. In this direction, the letter "S", which expresses the word "student", was used.

Career Development Process Theme

Career development process theme consists of 3 categories. 6 of these categories, which were formed from the opinions of the students participating in the research, were listed as "Determining the plans for the future", 6 as "Taking steps in line with the goals", and 3 as "Living conditions". The opinions of sample students about these categories are given in Table 1.

Table 1. What does the concept of career planning mean to you?

Theme	Categories	f	Sample Reviews
Career Development Process Theme	Predetermining plans for the future	6	(S1: "Defining career planning for me is predetermining the steps I take for my future with the proper and most effective method.")
	Taking steps towards goals	6	(S2: "Taking action to prepare myself for the profession I aim to do in the future is the basic stage of career planning for me.")
	Living conditions	3	(S3: "Proper career planning is important as my career journey directly affects my life circumstances. ")

When Table 1 is examined, according to the students, the predetermined plans for the future and taking steps towards the goals are the most expressed categories of the concept of career planning. It is seen that it is important for the interviewed students to make effective plans for the future at the beginning of their career journey in terms of higher education. In addition, the life conditions of the individual stood out as a reminder factor for the students in terms of career planning in order to take action in line with the goals.

Theme of Factors Affecting Career Decision

The theme of factors affecting career decision consists of 3 categories. 7 of these categories, which were formed from the opinions given by the students participating in the research, were listed as "Targets", 5 as "Environment Factor", and 3 as "Skills". The opinions of sample students about these categories are given in Table 2.

Table 2. What are the factors that have influenced the career decision so far?

Theme	Categories	f	Sample Reviews
Theme of Factors Affecting	Environmental Factor	5	(S1: “The thing that impressed me the most during the decision-making process was that my relatives constantly conveyed their experiences in their own lives.”)
	Goals	7	(S2: “My goals, such as gaining economic freedom and gaining prestige, triggered me and influenced my decisions.”)
	Skills	3	(S3: “I have already learned the computer programs necessary for my future profession; I also think that I have the dexterity to use the machines.”)

When Table 2 is examined, the factors affecting the career decision of the students participating in the research; environment factor, it is seen that they are clustered as goals and skills. According to the statements of the interviewed students, the factor of goals comes first among the factors that affect the career decision. In addition, other factors affecting the career decision, being affected by the experiences of the people around the individual, and focusing on the areas in which the individual perceives himself/herself as competent in the career decision were the answers most expressed by the students.

Skills Theme

The Skills theme consisted of 4 categories. Of these categories, which were formed from the opinions given by the students participating in the research, 6 of them were listed under the headings of "Problem solving skills", 4 of them "Disciplined work", 3 of them "Manual dexterity" and 2 of them "Experience". The opinions of sample students about these categories are given in Table 3.

Table 3. What are the skills required by the department where you continue your education?

Theme	Categories	f	Sample Reviews
Skills Theme	Dexterity	3	(S1: "Dexterity to use both technological and mechanical tools is a skill that will always be needed.")
	Problem solving skill	6	(S2: "It is very necessary for my profession in the future to develop the fastest and most logical solutions to the problems I encounter.")
	Experience	2	(S3: "As in every department, having experience in both theory and practice prepares us for the process in order to be equipped.")
	Working with discipline	4	(S4: "Knowing how to work systematically, patiently, disciplinedly and hard is what enables acquired skills to be put into practice.")

When Table 3 is examined, it is seen that the answers of the students are clustered on 4 main topics. While the students continue their education, it is striking that the majority of students answer the skills required by the department as problem solving skills. Another prominent response is that students see systematic, patient and disciplined work as a necessary skill while continuing their education. The answers of students being prone to manual skills and having experience while continuing their education also stand out as important categories.

Desired Life Theme

The desired life theme consisted of 3 categories. 8 of these categories, which were formed from the opinions of the students participating in the research, were listed as "Prosperity", 4 as "Happiness", and 3 as "Service to Humanity". Opinions of sample students about these categories are given in Table 4.

Table 4. What kind of life would you have in the future, do you think you made the right career choice?

Theme	Categories	f	Sample Reviews
Desired Life Theme	Prosperity life	8	(S1: "The career choice that will provide a life where I can easily meet my needs, have no financial difficulties and easily reach what I want is suitable for me.")
	Happiness	4	(S2: "I would like a life where I feel peace and happiness, especially with my family, and where I am not bored while practicing my profession.")
	Service to humanity	3	(S3: "Choosing a career where I serve humanity by producing and feel proud and successful is the right decision for me.")

When Table 4 is examined, when the future expectations of the students participating in the research for the right career choice belief are examined; It is seen that the belief that a future where they can easily meet their needs and have no economic problems is the right choice of profession. Another important category is that they live a happy life and benefit humanity.

Theme of Barriers in the Career Line

The theme of obstacles in the career line consists of 4 categories. 5 of these categories, which were formed from the opinions of the students participating in the research, were listed as "Education system", 6 as "Indecision", 3 as "Material impossibilities" and another 3 as "Hopelessness". The opinions of sample students about these categories are given in Table 5.

Table 5. What are the obstacles that may arise in the process of reaching career goals?

Theme	Categories	f	Sample Reviews
Theme of Barriers in the Career Line	Financial difficulties	3	(S1: "In order to reach my goals, I need to improve myself in every area, but I am afraid that this will not be possible if I cannot make financial sacrifices.")
	Education system	5	(S2: "I think that if I am only obliged to theoretical teachings in the education I received at the faculty, I will not be experienced enough in the business field; This will inevitably have a negative effect on achieving my goals.")
	Indecision	4	(S3: "My ever-changing ideas cause inconsistent thoughts within myself, and my indecision negatively affects my motivation towards my goals.")
	Hopelessness	3	(S4: "The thought that negative things will happen all the time, which I cannot prevent in the future, causes hopelessness.")

When Table 5 is examined, it is seen that the students participating in the research answered the obstacles that may arise in the process of reaching their career goal as financial impossibilities, education system, indecision and hopelessness. From the answers given by the students, the answer that the education they receive in engineering faculties is limited to theoretical teachings comes to the fore. In addition, the personal indecision experienced by the students is seen as one of the obstacles in the career path. Other outstanding answers are that students have a hopeless view of the future and that their financial means are not seen as sufficient.

DISCUSSION AND CONCLUSION

In this research, career expectations of first year students studying at the Faculty of Engineering were examined. In the light of the findings obtained from the research, the definition of the concept of career planning by the students is that the plans for the future are determined in advance and they take action in this direction. In addition, according to the statements of the interviewed students, living conditions are among the reminders of career planning. According to Telman (2002), career planning reflects how individuals should behave in order to reach their future goals. Effectively realizing career planning depends on making the right choices, and the individual's decision at this stage can also be affected by various factors (Özkoç et al., 2018).

According to the opinions of the engineering profession candidates who make up the working group, the fact that there are more than one option in their career journey also enables them to be affected by many factors such as the environment, individual skills and goals during the decision stages. In particular, these factors can be evaluated within the framework of social and psychological factors affecting career choice. For example, while some occupational groups are an indicator of respect among the public, some of them can be seen as ordinary; For this reason, people may tend to prefer occupational groups that are accepted by their close circle and considered valuable (Yener, 2011). This situation can also indirectly affect the beliefs, attitudes and expectations of the individual psychologically. The main reason for the environment category in the career decisions of the interviewed students was seen as the family. The strength of the natural emotional bond that students form with their families has an important place in terms of self-expression of these students in their professional life. In this direction, according to the study of Çarkıt and Yalçın (2018), a relationship was found between positive emotion expression and family expectations.

Students are expected to have different skills as the Faculty of Engineering meets the employee needs of multiple sectors. In this regard, students' views on the professional skills they should have; manual dexterity, experience, disciplined work and problem solving ability. According to Kuzgun (2000), the engineering profession primarily requires skills such as analytical thinking, advanced numerical thinking power, and mathematical skills. In addition, for example, while communication skills are required in engineering departments with a relatively social content such as industrial engineering, it is not so important for more technical departments such as civil engineering and mechanical engineering. (Toy, 2007).

The words that express the life they desire as a result of the career choices of the students symbolize living a prosperous life in general, happy life and serving humanity. According to the opinions received, it is seen that students care almost equally about material and moral satisfaction while performing their profession. In addition, according to a study, it has been observed that as the grades of the students increase from the time they enter the university, their ideal career goals are replaced by the desire to earn money in order to reach their goals (Taşlıyan et al., 2011). This example may be an indication that students may turn to concrete goals rather than ideals as the term progresses.

Systemic reasons that did not originate from themselves were mentioned by the students as the most important obstacle that they could face. In addition, financial situation was evaluated as a factor that could affect the development of students, as in most of the other areas of life. The patterns of indecision and hopelessness that are assumed to affect the psychological structures of the interviewed students show that they describe them as obstacles in the process of reaching their career goals. Many of the definitions of the term career indecision are related to the difficulties experienced by the person in making a career decision during the career development stage (Şeker, 2021). In this regard, the indecision that students see as a threat in their career path and the lack of motivation that turns into hopelessness are the concepts that need to be emphasized.

As a result, since this research includes the opinions of individuals who have just stepped into higher education life, about their career expectations; It is important in terms of creating a framework for students, families and potential employers. Awareness that can be realized as a result of correct and professional guidance at the beginning of the university years will help students to manage the process better.

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