
The Eurasia Proceedings of Educational & Social Sciences (EPESS), 2016

Volume 4, Pages 499-507

ICEMST 2016: International Conference on Education in Mathematics, Science & Technology

PERSPECTIVES OF UNDERGRADUATE STUDENTS ABOUT POSTGRADUATE EDUCATION

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ABSTRACT: Nowadays, demand for postgraduate education is increasing so the necessity to determine undergraduate students' perspectives to postgraduate education is revealed. Thus, the aim of this study is to determine the perspectives of 4th grade mathematics students studying at faculty of arts and sciences and faculty of education about postgraduate education. In the study, qualitative research design was used. 129 undergraduate students participated in the study on fall term of 2015-2016 academic year. 69 students of them were from a faculty of arts and sciences and 60 of them were from a faculty of education. A form including open-ended questions was used to gather the data in the study. Data obtained were analyzed by descriptive and content analysis techniques. At the end of the study, it was found that 50.4% of the students did not want to get a postgraduate education, 41.1% of them wanted to get a postgraduate education, and 8.5% of them did not have an idea about this subject. Also, it was found that students wanted to get a postgraduate education to have much salary, to specialize in the fields, to make academic career, to improve oneself, and since they thought that being appointed as a teacher was more difficult. In addition, the most important reasons for some students who did not have an ambition or attempt to get a postgraduate education were found as they want to be a teacher, they thought they wouldn't have enough time to get postgraduate education, and they would have financial problems. Lastly, it was determined that students were offered to get a postgraduate education by their relatives, friends, and educators and they got information about postgraduate education mostly from their educators, friends, and internet.

Key words: Mathematics education, postgraduate education, teaching profession, academic career

INTRODUCTION

Scientific studies, public service, education and training activities are considered primary duties of universities (Erdem, 2005). Moreover, another task of universities is to spend effort to raise their students as qualified and skilled individuals who are capable of exhibiting their interest, skill, and performance and of doing research afterwards of their undergraduate education (Sayan & Aksu, 2005). Postgraduate education is considered as a structure guiding for specialization of individuals awarded their undergraduate degrees in the world and in Turkey on disciplines master and doctorate programs through scientific studies.

According to the Higher Education Law with 2547 serial number, execution of the postgraduate education is the task assigned to institutes; and it was stated that institutes are the frameworks which carry out postgraduate studies, education, scientific research, and practice at universities and faculties (URL 1). Postgraduate education is an activity similar to undergraduate education which applies numerous programs in formal education model and which awards certain degrees (Karakütük, 2001). When individuals complete an undergraduate study, they are entitled to apply postgraduate education programs opened by educational sciences, natural sciences, social sciences, health sciences, and advanced technology institutes (Demirtaşlı, 2002). Postgraduate education enables individuals to gain socio-economic, socio-cultural, and psycho-social developments beside knowledge, skill and attitude in academic process (Schaefer & Lamm, 1995).

Among the prioritized purposes of the postgraduate education, there is one which includes raising scientists who could introduce wise solutions; adjust to society and guide society in their problems (Gömlüksiz & Yıldırım,

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- Selection and peer-review under responsibility of the Organizing Committee of the conference

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2013). Purpose of postgraduate programs is to prepare qualified scientists who create information in their fields afterwards of the undergraduate education, who puts them into practice; in other words, who could vitalized the information that they create, who are beneficent to their society and able to make unique researchers (Bozan, 2012; Ergun & Çilingir, 2013; Günay, 2011; İlhan, Öner Sünkür, & Yılmaz, 2012; Karaman & Bakırcı, 2010; Kurnaz & Alev, 2009; Küçüköğlü & Ozan, 2013; Şahin, Calp, Bulut, & Kuşdemir, 2013). Furthermore, the purpose of the postgraduate education is not only making investment in own qualification, but also it is raising individuals who are problem solver, researcher, and questioning and to view those individuals as scientists at universities in the future (Bülbül, 2003). Accordingly, postgraduate education is the program aiming to raise scientists required in education, industry, science, fine arts, and health domains of countries.

If it is taken into consideration that education is positively and directly related with economic development level of countries, postgraduate education programs have great responsibilities in terms of raising qualified labor force and relevant competent scientists (Aslan, 2007). Therefore, postgraduate education programs are required to offer solutions for society's socio-economic, information communication technology, social-psychological, and cultural development (Dilci, 2009). Kilmen (2007) reported that number of applications to postgraduate education programs in Turkey has increased; postgraduate education has been further qualified; undergraduate degree is not sufficient alone therefore having graduate degree brings exclusivity to individuals. Additionally, Karakütük (2009) stated that postgraduate education has gained prominence recently in Turkey; and this development emerged necessity to raise faculty members for the new universities. Since expectations from postgraduate education have increased, it is necessary to pay utmost attention to this process; and to determine appropriate targets related with raising competent scientist; and individuals who would be recruited for the graduate programs are required to be selected sensibly.

There are studies in the relevant literature regarding expectations of teachers from postgraduate education and the issues within this process encountered by them (Alabaş, Kamer, & Polat, 2012; Alhas, 2006; Aslan, 2010; Başer, Narlı, & Günhan, 2010). There are as well studies on opinions of faculty members concerning postgraduate education (Bülbül, 2003; Dilci & Gürol, 2012). However, there are only limited up-to-date studies investigating into opinions of senior university students about participating into postgraduate studies. When the subject viewed from this angle, as the demand for postgraduate education increases in our contemporary period, it is necessary more than ever to determine opinions of university students' inclinations about postgraduate education. Consequently, it is considered that determination of views of senior university students regarding moving their education further with the postgraduate education is important. Therefore, in the present study, it was aimed to reveal point of views of senior students from faculty of arts and sciences and faculty of education regarding postgraduate education.

METHOD

This section includes information on the research method, study group, data collection tool, and data analysis.

Research Method

The study uses qualitative research method. Qualitative research is the method which allows systematical investigation of inferences that arise from the experiences of participant individuals (Ekiz, 2009).

Study Group

The research was conducted on 129 students in the fall semester of the academic year of 2015-2016. Of these students, while 69 were from arts and sciences faculty, 60 were from education faculty. In order to ensure maximum diversity of participant individuals who could be part of the examined issue (McMillan & Schumacher, 2006; Yıldırım & Şimşek, 2008), maximum diversity sampling method was preferred for the study. Some demographic characteristics of the undergraduate students were exhibited in Table 1.

Table 1. Demographic Characteristics of Undergraduate Students

Characteristics	Categories	Faculty of Arts and Sciences		Faculty of Education		Total	
		f	%	f	%	f	%
Gender	Male	29	22.5	20	15.5	49	38.0
	Female	40	31.0	40	31.0	80	62.0
Type of High School	Anatolian Teacher High School	-	-	10	7.8	10	7.8
	Anatolian High School	10	7.8	16	12.4	26	20.2
	Regular High School	46	35.7	33	25.6	79	61.1

	Superior High School	13	10.1	-	-	13	10.1
	Health Vocational High School	-	-	1	0.8	1	0.8
Department	Equal Weight	20	15.5	14	10.9	34	26.4
	Quantitative	49	38.0	46	35.7	95	73.6

According to Table 1, 62% of undergraduate students were female, 61.2% were graduated from Regular High School; and 73.6% were graduated from quantitative-based department.

Data Collection Tool

In the present study, a form composed of open-ended questions was utilized as data collection tool. In the beginning of the study, nine questions were determined by the researchers. Researchers submitted to these questions to three different researchers for their review; then, the ultimate form was established based on the received feedbacks. Thus, the final form utilized in this study was created. Afterwards of the pilot practice of this form on 23 students, four questions were combined into one and ultimate number of questions was reduced to six. Then, the survey was implemented in a classroom environment when students are available.

Data Analysis

Data collected through open-end questions were analyzed in terms of descriptive and content aspects. In the content analysis, the relevant codes were structured. Then, these codes were collected under certain categories. After researchers determined codes and categories, their frequencies and percentages were estimated. Since some students indicated opinions about multiple codes in one answer, total number of frequency of codes could be greater than the total number of student included in the study. In order to facilitate readers' job, codes and categories were exhibited in tables. Finally, findings were supported by referring citations of students.

Collected data was transferred into written form by researchers. Two of the data among the one transferred into written form were randomly selected by two researchers and coded by them individually. Consistency between codes prepared by researchers was estimated based on the formula of [Agreement / (Agreement + Disagreement)] (Miles & Huberman, 1994); and the conformity among coders was estimated at 0.91. Based on the ethical considerations, students were coded as S1, S2, S3, ... , S129.

FINDINGS

Frequency and percentage values of codes created based on opinions of students regarding meaning of graduate education were exhibited in Table 2:

Table 2. Inferences of Students Regarding to Graduate Education

Categories	Codes	f	%
Academic Inferences	1. Academic career	67	51.9
	2. A better life	5	3.9
	3. Doing research	4	3.1
	4. Creativity	3	2.3
	5. Making friends	2	1.6
	6. Having exclusivity	1	0.8
Personal Inferences	7. Self-improvement	64	49.6
	8. Nothing	12	9.3
	9. Difficulty	7	5.4
	10. Waste of time	5	3.9
	11. Exhaustion	2	1.6
	12. Stress	1	0.8
	13. Self-esteem	1	0.8
	14. Happiness	1	0.8
Professional Inferences	15. Specialization in their fields	21	16.3
	16. Success	9	7.0

According to Table 2, it was observed that undergraduate students' inferences about graduate education were accumulated under three essential categories of "academic inferences", "personal inferences", and "professional inferences". Of these categories, "academic career", "self-improvement", and "specialization" codes have come to prominence basically. Some of the answers given by undergraduate students to the 1st, 7th, and 15th codes were exhibited below:

"I would like to complete my master degree and to continue with doctoral study. Hence, I would like to have a good career. (S86)"

"I consider postgraduate education as a requirement to be a scientist. (S92)"

"Postgraduate education is the decision which always takes me a step further to be specialized in my field... (S118)"

Frequency and percentage values of codes prepared based on opinions of undergraduate students regarding continuing with postgraduate education afterwards of their graduation were exhibited on Table 3:

Table 3. Whether Students Have Desire or Initiative to Continue with Postgraduate Education, or not

Categories	Codes	f	%
Positive	1. Being reluctant to continue with postgraduate education	65	50.4
Negative	2. Being desirous to continue with postgraduate education	53	41.1
Neutral	3. Undetermined about continuing with postgraduate education yet	11	8.5

According to Table 3, it was observed regarding inclination of students to continue with postgraduate education that 50.4% of undergraduate students were reluctant; 41.1% were desirous; and 8.5% were indecisive. Examples of opinions of undergraduate students about these three codes were given below:

"Postgraduate education is waste of time for me because I do not like studying. Indeed, spending time for a laborious job seems boring to me. I am tired of studying courses along my entire studentship. (S20)"

"I am willing to start my postgraduate education as soon as possible. (S12)"

"No any idea. (S49)"

Frequency and percentage values of codes prepared based on opinions of undergraduate students regarding reasons of their willing or initiative for continuing with postgraduate education afterwards of their graduation were exhibited on Table 4:

Table 4. Reasons for Students for Their Willing or Initiative to Continue with Postgraduate Education

Categories	Codes	f	%
Professional Development	1. Better salary	20	15.5
	2. Specialization	16	12.4
	3. Success	6	4.7
	4. Learning new methods	1	0.8
	5. Making difference	1	0.8
Academic Development	6. Academic career	24	18.6
	7. Because it is difficult to be appointed as teacher	16	12.4
	8. Self-improvement	22	17.1
Personal Development	9. Increasing self-esteem	4	3.1
	10. For greater independency	3	2.3
	11. For curiosity	2	1.6
	12. For my future	2	1.6
	13. For better make use of my spare times	1	0.8

According to Table 4, it was observed that reasons of undergraduate students for willing or initiative to continue with postgraduate education were mostly classified under three categories of "professional development", "academic development", and "personal development". It was understood that "better salary", "specialization", "academic career", "difficulty to be appointed as teacher", and "self-improvement" codes have come to prominence ones under these categories. Examples of answers given by undergraduate students to the 1st, 2nd, 6th, 7th, and 8th questions were given below:

"I think postgraduate education provide us opportunity to earn higher salary. (S20)"

"I want to be specialized in a certain subject and to be competent on that field. (S105)"

"If I have graduate degree, I would have a good career. (S98)"

"We study, continue our education. Nevertheless we are not placed at a job. It is very difficult to be appointed as teacher. Therefore, I want to continue with postgraduate education. (S123)"

"I am thinking about continue with postgraduate education because I believe it will be helpful for me to develop myself... (S71)"

Frequency and percentage values of codes prepared based on opinions of undergraduate students regarding reasons of lack of their willing or initiative for continuing with postgraduate education were exhibited on Table 5:

Table 5. Reasons for Undergraduate Students not to Have Willing or Initiative to Continue with Postgraduate Education

Categories	Codes	f	%
Personal Issues	1.Desire to be a teacher	60	46.5
	2.Thinking that there would not be sufficient time	15	11.6
	3.Thinking that postgraduate education would take long time	8	6.2
	4.Thinking that postgraduate education would be difficult	7	5.4
	5.Considering postgraduate education as waste of time	7	5.4
	6.Considering undergraduate degree is sufficient	7	5.4
	7.Unwillingness to study	6	4.7
	8.Finding postgraduate education boring	6	4.7
	9.Having difficulty with foreign language	6	4.7
	10.Overaged	5	3.9
	11.Family issues	4	3.1
	12.Unwillingness to do research	4	3.1
	13.Not feeling ready	4	3.1
	14.Lack of supporting friends	4	3.1
	15.Lack of self-esteem	3	2.3
	16.Unwillingness for academic career	3	2.3
	17.Finding postgraduate education laborious	2	1.6
	18.Experiencing transportation issue	1	0.8
	19.Need for a break after the undergraduate education	1	0.8
Material Issues	20.Expecting material issues	27	20.9
Academic Issues	21.Discrimination in student acceptance process	5	3.9
	22.In sufficient student quotes	5	3.9
	23.Closure of some departments	4	3.1
	24.Exploiting graduate students by faculty members at the university	2	1.6

According to Table 5, it was observed that reasons of undergraduate students not to have willing or initiative for postgraduate education were concentrated under three categories of “personal issues”, “material issues”, and “academic issues”. It was understood that “desire to be teacher”, “thinking that there would not be sufficient time”, “expecting material issues”, and “insufficient student quotas” codes under these categories have been prominent. Examples of answers given by undergraduate students to the 1st, 2nd, 20th, 21st, and 22nd codes were given below:

“Postgraduate education is something good, but since we need to make economic contribution into our family after undergraduate degree, our first target will be chasing opportunity to be appointed as teacher or having a job... (S83)”

“There is no sufficient time. I think there would not be sufficient time for graduate study afterwards of undergraduate education. (S54)”

“I wish I could make graduate study. However, the most important factor hindering this is economic reason. (S3)”

“Since there are discriminations at universities, the reason could be the fact that some students have privileges over others instead of superiority in skills and knowledge. (S77)”

“I am hesitating about not be placed when there is no sufficient quotes for students. (S67)”

Frequency and percentage values of codes prepared based on opinions of undergraduate students regarding the persons suggesting postgraduate education were exhibited on Table 6:

Table 6. Persons Suggesting Postgraduate Education

Categories	Codes	f	%
Other	1.No suggestions	51	39.5
	2.From faculty members at the university	32	24.8
Educators	3.From relatives	15	11.6
	4.From family members	28	21.7
Friends	5.From friends	17	13.2

According to Table 6, it was observed that the person who suggest postgraduate education to undergraduate students were concentrated under four categories of “other”, “educators”, “relatives”, and “friends”. It was understood that “no suggestion”, “from faculty members at the university”, “from family members”, and “from friends” codes under these categories have come to prominence. Examples of answers given by undergraduate students regarding these five codes were given below:

“Nobody suggested. (S42)”

“One of my lecturers at the university whom I respect and like suggested. He thinks that I will be a very good academician. (S123)”

“Some of my relatives suggested that I should definitely continue with postgraduate education. (S45)”

“My family wants me to continue with postgraduate education because they think that person who complete postgraduate education have superior social status within the society. (S16)”

“My friends suggested. They think that I would be successful in this field. (S65)”

Frequency and percentage values of codes prepared based on opinions of undergraduate students regarding the information resources of undergraduate students about postgraduate education were exhibited on Table 7:

Table 7. Information Resources of Undergraduate Students Regarding Postgraduate Education

Categories	Codes	f	%
Educators	1.From faculty members at the university	66	51.2
	2.From administers from senior level	2	1.6
Friends	3.From friends	62	48.1
Internet	4.From internet	54	41.9
Other	5.Not informed	18	14.0
	6.From relatives	3	2.3
Relatives	7.From family members	2	1.6
	8.From books	1	0.8

According to Table 7, it was observed that information resources of undergraduate students regarding postgraduate education were concentrated under six categories of “educators”, “friends”, “internet”, “other”, “relatives”, and “academic resources”. It was understood that “from academicians at the university”, “from friends”, “from internet”, and “not informed” codes under these categories have come to prominence. Examples of answers of undergraduate students given to the 1st, 3rd, 4th, and 5th questions were exhibited below:

“I have investigated experiences and behaviors of my university lecturers only. I have consulted their opinions. (S8)”

“I gathered very positive information from my friends. I realized that they developed themselves with help of the postgraduate education. (S11)”

“I made more research on internet to gain information. (S92)”

“I could not claim that I have gathered information. (S93)”

DISCUSSION and CONCLUSION

As result of the present study which aims to determine point of views of undergraduate students regarding continuing their education process with graduate studies, following conclusions were drawn:

It was understood that undergraduate students’ inferences about the postgraduate education were classified under three titles of “academic”, “personal”, and “professional”. It was revealed that while 51.9% of undergraduate students’ inferences about postgraduate education were “academic career”; 49.6% were “self-improvement”, and 21% were “specialization”. In study of İyibil and Akpınar (2013), when opinions of pre-service science teachers who continued with postgraduate education are taken into consideration, it was determined that 36% of them perceived postgraduate education as specialization; 28% as academic career; and 26% as continuance to formal education afterwards of the undergraduate education. As it was seen from the relevant literature, it was understood that undergraduate students attribute different inferences to postgraduate education.

It was determined that 50.4% of undergraduate students were reluctant to continue with postgraduate education; 41.1% were willing to continue with postgraduate education; and 8.5% were indecisive about postgraduate education. İyibil and Akpınar (2013) reported in their study that 60.43% of prospective teachers were reluctant to continue with postgraduate education; 32.37% were inclined to continue with postgraduate education; and 7.2% were indecisive about this issue. Accordingly, it is possible to conclude that the interest among undergraduate students toward postgraduate education has been increased over the time. In the studies of Türer, Balçın,

Sevindik, and Er (2013), Bahadır and Özdemir (2014), they revealed that attitudes of undergraduate students toward postgraduate education were positive in general. Majority of teachers either prefer a graduate study in their fields or educational science in their fields; therefore, it is necessary that Ministry of National Education and universities to develop various educational policies supporting efforts of teachers (Ünal & İltar, 2010). As the number of students graduated with undergraduate degree increased, students are obliged to have advanced study degrees and to be equipped with different competencies (Karaman & Bakırcı, 2010).

It was understood that reasons of undergraduate students for continuing with postgraduate education or having initiative for postgraduate education were concentrated under the titles of “professional development”, “academic development”, and “personal development”. Among the reasons of undergraduate students for willing or having initiative for postgraduate education, reasons such as “better salary”, “specialization”, “academic career”, “difficulty to be appointed as a teacher”, and “self-improvement” have come to prominence. Based on these findings, it was understood that undergraduate students view postgraduate education as an investment made to enhance their salary and social status in the future (Bülbül, 2003). Price incentive for academicians in 2014 could have been influent on this situation. Tavukçu, Özkardaş, Erzurum, Çiftçi, Şahin, and Bilgin (2013) determined in their study that reason of prospective classroom teachers to continue with postgraduate education as specialization in their field and to have professional career. Alabaş, Kamer, and Polat (2012) determined in their study that teachers prefer postgraduate education for personal development, professional career, and academic career. These results exhibit similarities with the findings reported by the present study. Şahin, Demir, and Arcagök (2015) reached a conclusion in their study that prospective teachers consider postgraduate education as a mean for self-improvement at teaching profession and in academic area. Results obtained from these studies indicate that postgraduate education has become an inviting area for university graduates.

It was observed that reasons hindering willing or initiatives of undergraduate students to continue with postgraduate education were “personal issues”, “economic issues”, and “academic issues”. It was understood that there were “desire to be a teacher”, “thinking that there would not be sufficient time”, “think that there would be economic issues”, “thinking that there would be discrimination in student recruitment process”, and “insufficient student quotas” among the reasons indicated by the undergraduate students, which prevent them to continue with postgraduate education. In the study of Gömleksiz and Yıldırım (2013), it was reported that graduate students suffer from economic problems. As it can be understood from their point, some undergraduate students are in pursuit of economic welfare by following chances to be appointed as a teacher. It is known that postgraduate education is rather burdensome process for students without any social and economic security. Moreover, it is an interesting finding that some students think that there is discrimination in recruitment process of students for graduate programs. In this regard, it should not be underestimated that there is significant conscious responsibility for faculty members taking position in recruitment of students for postgraduate education.

It was determined that graduate programs are mostly offered by “educators”, “relatives”, and “friends” to undergraduate students. Furthermore, it was determined that suggestions were mostly coming from “students’ instructors from their universities”, “family members”, and “friends”. Şahin et al. (2015) came to conclusion in their study that prospective teachers think that they will experience problems in this process; and their supporters in this decision were family members, friends, and academicians from their universities. The fact that undergraduate students were given suggestions from their academicians at the university, their families or friends regarding postgraduate education indicates that they were aware about this subject.

Finally, it was understood that the resources from which undergraduate students were collected information about postgraduate education were concentrated under titles of “educators”, “friends”, “internet”, “relatives”, and “academic resources”. Furthermore, it was determined that “instructors from the university”, “friends”, and “internet” under these titles have come to prominence more than others. İyibil and Akpınar (2013) reported in their study that information resources of prospective teachers were academic personnel, internet, and friends. This finding conforms to the results of the present study. In the same study, İyibil and Akpınar (2013) also reported that 40.29% of prospective teachers were not informed about postgraduate education. In this study, only 14% of undergraduate students were not informed. Accordingly, it is possible to state that majority of undergraduate students could have access to the information resources regarding postgraduate education and they are informed about postgraduate education.

RECOMMENDATIONS

Based on results of the present research, following recommendations were made for future researches:

1. Based on the findings of the present research, it was determined that one of the reasons for postgraduate education to be preferred was economic reason. Concerning the academic profession, a perception that it is an education process which enables individuals to realize their scientific ideas rather than giving them prosperous

economic conditions. Accordingly, prospective teachers could be given seminars (Demirkol, Doğru, & Demir, 2014) or conferences about postgraduate education for better elucidation.

2. If it is taken into consideration that some students from faculty of arts and sciences and faculty of education are willing for graduate study because they think that their job placement as teacher is rather difficult, various regulations could be introduced to prevent undergraduate students to prefer postgraduate education because of their concern about employment. In this regard, the Ministry of National Education could offer priority in job placement for prospective teachers with graduate degree.

3. It was determined that the most important reasons for reluctance of some students to continue with postgraduate education were their desire to be a teacher, their thoughts that they would not have sufficient time, and experience economic difficulty. These circumstances could be prevented so that undergraduate students could continue their postgraduate education. In this regard, graduate students could be provided convenient job placement opportunity for the educational institution where they continue their graduate study (Gömlüksiz & Yıldırım, 2013). Furthermore, number and volume of scholarships provided to graduate students could be increased.

4. Academicians would prefer to inform undergraduate students in their university period about the postgraduate education. Thus, it would be ensured that students could be informed about pros and cons of postgraduate education along their regular education process to prepare them cognitively and sensibly.

5. As expectations from postgraduate education increases, it should not be ignored that the person who would be recruited for this education are required to be selected delicately and fairly.

6. The results of the present study were obtained based on the findings from the opinions of the students at the departments of mathematics and elementary school mathematics teaching. Further studies could be conducted to include students from other faculties (law, engineering, etc.).

7. For more extensive investigation, opinions of persons who incite students for graduate studies could be consulted.

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