Formation of postgraduate students’ professional competences through independent work

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Abstract
The purpose of this research is to get the opinions of the graduate students in order to establish their professional competences through an independent study. The research was carried out in accordance with the qualitative research method. The participant group of the research consisted of 40 students who were in the graduate programmes in various universities in Kazakhstan in the 2021–2022 academic year. Research data were collected with a semi-structured interview form prepared by the researchers. As a result of the research, the status of postgraduate students working in a job related to the education they received during their education was evaluated, and it was determined that the number of students working in an independent job and the number of students not working were close to each other. In the research, it was determined that the majority of students stated that independent work is important in the formation of professional competencies. Graduate students who participated in the research stated that they found their professional competencies

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somewhat sufficient. The vast majority of postgraduate students are concerned with the development of their professional competences through independent study. They suggested increasing employment opportunities for graduate students, providing students with the opportunity to practice by collaborating with the university and the industry, creating internship opportunities suitable for each programme and opening applied graduate programmes.

**Keywords:** Postgraduate education, independent work, professional competencies, student opinions;

1. Introduction

The knowledge that individuals have by receiving undergraduate education is at a level that can respond to a certain part of the age. In order for individuals to adapt to the ever-increasing knowledge, developing technology and the changing world in parallel, to be the pioneer of changes and developments, they need to constantly update the knowledge they have and become willing to learn. Therefore, it is impossible for individuals to use the knowledge they have only through undergraduate education for a lifetime. Universities carry out postgraduate education in order to improve the individual's self-development and increase his contribution to society after undergraduate education (Karaku\_tuk & Ozdemir, 2011).

1.1. Theoretical and conceptual framework

Postgraduate education is the education given to specialise in a particular field. Today, with the increase in the knowledge and skills required by the professions, the education received at the undergraduate level is insufficient to provide this specialisation. Many occupations require higher education. In addition to practicing the profession, concepts such as specialisation in the profession and career development have come to the fore. Therefore, the importance of postgraduate education is increasing (Varetska et al., 2019).

Postgraduate education is of great importance in terms of specialising, raising their own qualifications, following innovations and applying them in order for students to continue their on-the-job education after undergraduate education. Postgraduate courses aim to support students beyond the undergraduate level and provide them with the necessary resources to develop a more critical understanding of the role, purpose and function of higher education systems and practices (Aksoy, 2022). Individuals with postgraduate qualifications can play a more active role in the advancement of science, technology or education. These roles, on the other hand, are the key to innovation knowledge, development and implementation and knowledge transfer activities, and therefore business development and investment (Wang, 2018).

Graduate programmes, an important part of higher education, have become an effective and powerful way for graduates to define their career paths in recent years. Among the reasons why this has gained importance are the need for scientific research and new inventions, the desire to gain competitive power on a global scale, the creation of new service areas, the rapidly developing and changing technologies in the world and the increase in demand for qualified manpower in sustainable development. In addition, there is the emergence of new fields of specialisation and the preference of postgraduate individuals in public institutions, in the labour market (Black & Bonner, 2011).

Although postgraduate education is not compulsory, it has become a necessity for every individual who has completed his undergraduate education in all disciplines, as it is an opportunity
for the development of personal skills, professional recognition and status (Tavukcu, 2016; Wisker, 2007). Changes in economic, social and technological aspects force educational institutions, children and young people to successfully transition from school to work and direct the demands of this transition process (Elci & Uzunboylu, 2020). Postgraduate education provides individuals with a realistic perspective on possible employment options and career paths that match their interests and abilities. These paths are connected with career fields (Niles & Harris-Bowlsbey, 2013). The aim of postgraduate education is to continue the development and maintenance of intellectual skills, to gain professional competencies and academic values in order to specialise in a field. Participation in graduate studies can shape a strong career identity with financial, cultural and institutional factors that contribute to the betterment of individuals (Lindley & Machin, 2013). Graduate programmes have become a route mostly used by university students for early careers. Research reveals that postgraduate education is generally preferred by individuals in terms of career development and improving independent work opportunities (Gardner & Barnes, 2007). In addition, some researchers have argued that the purpose of participating in graduate education offers individuals a clear advantage in the labour market, thus shaping the career decision-making behaviours of university students (Niles & Harris-Bowlsbey, 2013).

1.2. Related research

When the literature is examined, it is seen that various studies have been carried out in different fields and with different study groups regarding the professional competencies aimed to be gained in postgraduate education (Baran, 2016; Brown-Rice & Furr, 2019; Chatterjee, Ford, Rojewski, & Watts, 2019; Mowjee, 2013; Nerad, 2015; Petti, 2008; Pinto, Fernández-Ramos, Sánchez, & Meneses, 2013; Potgieter & Coetzee, 2013; Pothukuchi, Kumar, & Dash, 2014; Robertson, 2017).

In the study conducted by Başer, Narlı and Günhan (2005), it was concluded that the vast majority of teachers were able to apply the knowledge they obtained in postgraduate education in the classroom, share them with other teachers and recommend postgraduate education to all teachers. Stuart, Lido, Morgan, Solomon, and Akroyd (2008) stated in their study that graduate education is a motivating and stable way to invest in career development. Jepsen and Neumann (2010) argued in their research that doing postgraduate education in a field often leads to having professional qualifications. This type of training allows individuals to see clearly in which field they want to specialise, how they will progress in this field and how they will work successfully to achieve their career goals.

In his study, Rathnakara (2014) investigated the nature of the relationship between emotional intelligence and psychological well-being of public and private sector managers who received master’s degrees from well-known national universities. As a result of the research, it has been determined that the emotional intelligence of the graduates has a significant effect on their psychological well-being. Maharani, Intan, Mahlani, and Berlian (2020) investigated the work–life balance of working graduate students. The results obtained from the study showed that flexible working arrangement has not been proven to have a significant effect on the work–life balance of graduate students.

Chivers (2007) drew attention to the importance of developing professional competence through postgraduate learning and development in his study. Rose (2013) evaluated practices for the development of professional skills for graduate students at Canadian universities. In the research, it
was stated that the programming practices dedicated to the acquisition of transferable skills and competences in universities with ‘professional skills’ prepare students for business life.

Currey et al. (2018) investigated the effect of graduate learning outcomes on the development of professional skills on the basis of team-based learning. As a result of the research, it has been revealed that team-based learning contributes to the acquisition of professional qualifications and professional skills that are valued by employers. Dufty-Jones (2018) presented a study that revealed the career expectations of postgraduate students in Australia. As a result of the research, it was revealed that while the majority of students wished to work in academia, many of them felt very pessimistic about their hopes of being able to do so.

1.3. Purpose of the research

The purpose of this research is to get students’ opinions in order to create professional qualifications of graduate students through independent study. Parallel to this aim, the following sub-objectives have been established:

1. What are the views of postgraduate students about their working status while they are studying?
2. What are the opinions of postgraduate students on the importance of independent work in the formation of their professional competencies?
3. How do self-employed and non-working graduate students evaluate their professional competence?
4. What are the suggestions for postgraduate students to develop their professional competencies through independent study?

2. Method and materials

In this section, information about the method used in the research, data collection tools, the study group of the research and the analysis of the data are given.

2.1. Research method

The research was carried out in accordance with the qualitative research method. Qualitative research is a method that inquires about the problem it examines, interprets and tries to understand the form of the problem in its natural environment. In the process of designing and conducting qualitative research, researchers have a flexible and dynamic workspace. Flexibility, which is expressed as the ability of researchers to develop new methods and approaches at every step of the research process and to make new arrangements that will increase the impact of the research, is one of the main features of qualitative research. As in every research, there should be awareness and a sense of curiosity about the subject to be researched in qualitative researches. It is important to know the problem, to be aware of the problem and to be curious about the solution of the problem because during the research process the researcher can easily get distracted and bored. While determining the details of the problem by analysing, it is important to choose which of the alternative approaches to the solution will solve the problem consistently. Then, the study is designed and the data collection tool is developed. The data collection process may take a long time and the researcher may have obtained all relevant and irrelevant qualitative data (Neuman & Robson, 2014). At this point, it is necessary to classify the data. With classification, data are analysed.
and interpreted more effectively. Reporting, which is the last stage of the research, can make different problems visible because one of the purposes of qualitative research is to solve certain problems and facilitate the recognition of new problem situations. This cycle continues throughout the entire research process (Klenke, 2016). Considering these processes, students’ opinions were taken in accordance with the stages of the qualitative research method in order to establish the professional competence of graduate students through independent study.

2.2. Participants

The participant group of the research consists of students who were in the postgraduate training programme in various universities in Kazakhstan in the 2021–2022 academic year. The participant group of the research was formed on a voluntary basis. Demographic characteristics of graduate students participating in the research are given in Table 1.

Table 1
Demographic Characteristics of Graduate Students

<table>
<thead>
<tr>
<th>Gender distribution of students</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>17</td>
<td>42.5</td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>57.5</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age distribution of students</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–25 Years</td>
<td>11</td>
<td>27.5</td>
</tr>
<tr>
<td>26–30 Years</td>
<td>21</td>
<td>52.5</td>
</tr>
<tr>
<td>31–35 Years</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>36–40 Years</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students’ graduate areas</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>Engineering</td>
<td>11</td>
<td>27.5</td>
</tr>
<tr>
<td>Health</td>
<td>9</td>
<td>22.5</td>
</tr>
<tr>
<td>Science</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

42.5% of the graduate students participating in the research are female and 57.5% are male. 27.5% of the students are 20–25 years old, 52.5% are 26–30 years old, 12.5% are 31–35 years old and 7.5% are 36–40 years old. 32.5% of the students have a master’s degree in education, 27.5% in engineering, 22.5% in health and 17.5% in science. A total of 40 students participated in the research.

2.3. Data collection tools

Research data were collected with a semi-structured interview form prepared by the researchers. During the creation of the semi-structured interview form, a literature review was carried out and a draft form was created. The draft form was sent to five experts via email to receive expert opinion. The experts evaluated the suitability of the questions in the draft semi-structured interview form. The form was rearranged in line with experts’ opinions. The semi-structured interview form created was applied to three graduate students and a preliminary study was conducted on the clarity of the
problems during the application. After the preliminary study, the semi-structured interview form was made ready for application. In Table 2, a semi-structured interview form prepared to collect research data is given.

Table 2
Semi-Structured Interview Form

<table>
<thead>
<tr>
<th>Demographic Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your gender:</td>
</tr>
<tr>
<td>Your age:</td>
</tr>
<tr>
<td>Area of postgraduate education:</td>
</tr>
</tbody>
</table>

Questions on the formation of professional competences through independent work
1. Do you work in a job related to the field you studied during your graduate education?
2. What are your views on the importance of working independently in the formation of professional competencies?
3. How do you evaluate your professional competencies?
4. What are your suggestions for the development of professional competences through independent work?

In the semi-structured interview form, there are three questions determining the demographic characteristics of graduate students and four questions about the formation of professional competencies through independent study.

2.4. Data collection process

In the process of collecting research data, face-to-face interviews were conducted with graduate students. After informing about the content of the research and ethical principles, an appointment was made to meet with 40 graduate students who voluntarily agreed to participate in the research in a suitable environment within the university. During the interviews, the students were asked to fill in a semi-structured interview form. It took approximately 30–35 minutes for graduate students to fill out and submit the forms. It took approximately 3 weeks to complete all interviews with graduate students.

2.5. Data collection analysis

Research data were analysed by the content analysis method. Since content analysis is an inductive analysis type, it focuses on the origins of the investigated phenomenon or event. Through coding, the concepts underlying the data and the relationships between these concepts are revealed. In qualitative research, the researcher is in an effort to discover the themes related to the problem based on the descriptive and detailed data he has collected and to transform the data he has obtained into meaningful and systematic structures, i.e., to form a theory based on these data or to verify a theory. In the absence of a theory that can form a basis for the event or phenomenon examined, inductive analysis, i.e., content analysis based on coding, is required. Naming the meaningful parts (such as a word, sentence or paragraph) among the data by the researcher is expressed as coding. The coding process is necessary to divide the obtained data into sections, to examine, compare, conceptualise and relate (Eysenbach & Köhler, 2002).

3. Results

In Table 3, the employment status of the graduate students participating in the research in a job related to the education they received during their education period is evaluated.
Table 3
Employment Status of Graduate Students in a Job Related to the Education They Received During Their Education

<table>
<thead>
<tr>
<th>Postgraduate students</th>
<th>I am working</th>
<th>I am not working</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>Female students</td>
<td>7</td>
<td>17.5</td>
<td>10</td>
</tr>
<tr>
<td>Male students</td>
<td>12</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Sum</td>
<td>19</td>
<td>47.5</td>
<td>21</td>
</tr>
</tbody>
</table>

In Table 3, the employment status of the graduate students participating in the research according to their gender distribution is given. While 47.5% of the graduate students participating in the research stated that they work in a job, 52.5% of them stated that they do not work in any job.

In Table 4, the opinions of the graduate students participating in the research on the importance of independent work in the formation of their professional competencies are evaluated.

Table 4
Postgraduate Students’ Views on the Importance of Independent Work in the Formation of Their Professional Competence

<table>
<thead>
<tr>
<th>Proficiency level</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find it very important</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td>I find it important</td>
<td>21</td>
<td>52.5</td>
</tr>
<tr>
<td>I find it a little important</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>I find it unimportant</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>I find it very unimportant</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>Sum</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

In Table 4, the opinions of the graduate students participating in the research on the importance of independent work in the formation of professional competencies are categorised. 17.5% of the students find it very important to work independently in the formation of professional competencies, 52.5% find it important, 20% find it somewhat important, 7.5% find it unimportant and 2.5% find it very unimportant.

In Table 5, the opinions of the graduate students participating in the research regarding their evaluation of their professional competencies are given.

Table 5
Evaluation of Graduate Students’ Professional Competencies

<table>
<thead>
<tr>
<th>Proficiency level</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find it very sufficient</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>I find it enough</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>I find a little enough</td>
<td>23</td>
<td>57.5</td>
</tr>
<tr>
<td>I find it insufficient</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>I find it very insufficient</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>
In Table 5, the evaluations of the graduate students participating in the research regarding their professional competencies are divided into five categories. While 7.5% of the students found themselves very competent in terms of profession, 10% stated that they found it sufficient. 57.5% of the students stated that they found themselves somewhat competent in terms of profession, 20% insufficient and 5% very inadequate.

In Table 6, suggestions for postgraduate students participating in the research to improve their professional competencies through independent work are given.

Table 6

Recommendations for Postgraduate Students to Improve Their Professional Competence Through Independent Study

<table>
<thead>
<tr>
<th>Students' opinions</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing employment opportunities for graduate students</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td>Providing students with the opportunity to practice by collaborating with the university and the industry</td>
<td>25</td>
<td>62.5</td>
</tr>
<tr>
<td>Creation of internship opportunities suitable for each programme</td>
<td>21</td>
<td>52.5</td>
</tr>
<tr>
<td>Opening applied graduate programmes</td>
<td>17</td>
<td>42.5</td>
</tr>
<tr>
<td>Developing systems for the development of professional competences through independent work</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>Creating training content to increase the motivation to work independently</td>
<td>11</td>
<td>27.5</td>
</tr>
<tr>
<td>Guiding graduate students about independent study areas</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td>Finding solutions to the problems experienced in the field of independent work in graduate education</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>Sum</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

In Table 6, the suggestions of postgraduate students participating in the research on the development of their professional competencies through independent work are categorised. 80% of the students want to increase employment opportunities for graduate students, 62.5% of them provide students with the opportunity to practice by cooperating with the university and the sector, 52.5% of them create internship opportunities suitable for each programme and 42.5% of them have applied graduate programmes offered as suggestions. 35% of the students suggested the development of systems for the development of professional competencies through independent study and 27.5% of them recommended the creation of educational content to increase the motivation to work independently. In addition, 17.5% of the students suggested that postgraduate students should be directed towards independent study areas and 7.5% of them developed solutions to the problems experienced in the field of independent study in graduate education.

4. Discussion

The employment status of the graduate students participating in the research in a job related to the education they received during their education was evaluated, and it was determined that the
number of students working in an independent job and the number of students not working were close to each other. Postgraduate students’ views on the importance of independent work in the formation of their professional competencies were evaluated, and it was determined that the majority of the students stated that independent work is important in the formation of professional competencies. Franklin, Mohan, Merle, Lannin, and Nair (2021) revealed in their study that students from all disciplines evaluate professional skills as very important. In the study, it was also stated that the students mentioned the inadequacy of the content related to professional competencies in their curriculum. Le Roux (2018) also evaluated the conflict between roles arising from business life, personal life and managing conflicts on graduate students. In the study, it was stated that there are few studies on how to support graduate students, and it was stated that the coaching system would contribute to the integration of graduate students into life, including business life.

Graduate students who participated in the research stated that they found their professional competencies somewhat sufficient. The vast majority of postgraduate students are concerned with the development of their professional competencies through independent study. They suggested increasing employment opportunities for graduate students, providing students with the opportunity to practice by collaborating with the university and the industry, creating internship opportunities suitable for each programme and opening applied graduate programmes. Developing systems for the development of professional competencies through independent study, creating educational content to increase the motivation to work independently, guiding graduate students about independent study areas and producing solutions to the problems experienced in the field of independent study in graduate education are among the suggestions developed by the students. In their study, Olawale, Fapohunda, and Ilesnmi (2017) suggest that the government and management of organisations whose employees are students should help them achieve a work–life balance to help organisational commitment. In their study, Pan and Lee (2011) evaluated the academic performance and perceived employability of graduate students. The research reveals that employability is not only related to employment processes, but also to graduate students’ academic publications, providing insights into the potential benefits of increasing employability to both students and universities. Maharasoa and Hay (2001) discussed employability as a prominent element in higher education in their study. In the research, it has been revealed that universities should arrange the working opportunities of students in a way that will provide employment.

4. Conclusion

Postgraduate education is gaining more and more importance in our country as it is in the whole world. Postgraduate education is to train the manpower with high qualifications for scientists, researchers and all professions that the country needs. In this process, gaining professional competencies through independent work also gains great importance. For this reason, in this research, student opinions were taken in order to establish the professional competence of graduate students through independent study. As a result of the research, the status of postgraduate students working in a job related to the education they received during their education was evaluated, and it was determined that the number of students working in an independent job and the number of students not working were close to each other. In the research, it was determined that the majority of the students stated that independent work is important in the formation of professional competencies. Graduate students who participated in the research stated that they found their professional competencies somewhat sufficient. The vast majority of postgraduate students are
concerned with the development of their professional competences through independent study. They suggested increasing employment opportunities for graduate students, providing students with the opportunity to practice by collaborating with the university and the industry, creating internship opportunities suitable for each programme and opening applied graduate programmes.

6. Recommendations

The results obtained from the research necessitated the development of the following recommendations in order to establish the professional competence of graduate students through independent study.

1. Practical courses for the development of professional competencies should be included in all education programmes during the graduate education process.

2. The number of these courses should be increased in the programmes where there are applied courses related to increasing the professional competencies of the students during the postgraduate education process.

3. It is necessary to improve working opportunities in order to ensure the professional development of students by ensuring cooperation with the graduate education programmes and the sector.

4. Seminars and conferences should be organised within the university to increase the motivation of graduate students to work independently.

References


