

Software Expertise Education Participants' Unemployment Problem in Turkey

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Abstract

Nowadays, in Turkey, many educational institutions in the private sector have been conducting trainings under titles like Software Specialist Training, Systems Specialist Training, Network Specialist Training. The number of these trainings which are so popular is increasing each day. In this study, the profiles of the participants of Software Expertise Training that was organized by a private educational institution have been studied to elucidate the unemployment situation. The information about the participants as gender, education level, education area, status of employment, being a student or having a diploma were taken by a questionnaire. These variables which are associated with each other and the unemployment status, were examined according to the level of education. Participants' profile and unemployment problem were tried to be revealed.

Keywords: Education, Software education, private sector trainings, student profile, employment, level of education.

1. INTRODUCTION

Today we face unemployment as an important problem and it's getting more serious. As we take a look at the periodic results of TÜİK Manpower of Households Survey (TUIK, 2013), it's seen that the last decade's average rate of unemployment is more than 10,6%. Durak and Kaya (2014), shows us the unemployment rate in year 2012 as 9,2%, and in May period of 2013 as 8,8% on their studies about unemployment analysis of Turkey. They also indicate 15-24 age group as the most unemployed group, also shows us their unemployment rate in 2012 as 17,5% and in periodic data of May 2013 as 16,6%.

On the other hand, Kılıç specifies those; as of March 2014, every 3 of 10 employed graduates had an education exceeding the requirements of their jobs, 54,3% of young employed graduates have a job under their qualifications and there are 75.000 people in the 15-64 age group who had college education but have a job with no qualifications needed (Kılıç, 2014).

Furthermore, in Turkey, where participation in higher education is steadily expanding, education – employment relation is alarming with both educated unemployed people and high rate of people with jobs irrelevant to their education level and/or field of education. (Kılıç 2014)

Some of the young unemployed are from pre-graduates and graduates. According to the datas of May period in 2013, the rate of unemployment among graduates of higher education is 8,7%. (TÜİK, 2013). İzgi Balcı and Arslan (2008) remark that the young people think their inability of finding a job is a result of their insufficient qualities, and so this leads them to the master's degree programs. Judging by the IT, computer and software sector, we see young people are seeking for a more effective education they get in certification programs held by private institutions.

In recent years, Software Engineering and/or Software Expertise is a business area which grows in popularity. The trainings in the field of Software Expertise are given in the departments of the universities (Bahçeşehir, 2014; ITU, 2014; Okan,2014; Yıldız, 2014) like Computer

Engineering, Computer Systems, Information Systems, Computer Programming. On the other hand, many educational institutions in the private sector have been conducting trainings under the titles like Software Specialist Training, Systems Specialist Training, Network Specialist Training. The number of these trainings which are so popular is increasing each day.

When we take a look at the System Expertise Trainings given by the private educational companies, it is seen that the participants have different qualities. For example some participants are student at different educational levels, some participants have diploma(s) from different levels, some of them don't have a job; some of them have a job in the field of study while the others have a job in a totally different field. But the most interesting point is that, some of them are unable to find a job in their fields of study and they enroll to the same or similar training again. Based on this, in this study, the participants' gender, which area they come from, the educational status (student or alumni), education level if they are unemployed, relationship between educational levels and the area of employment were examined.

As a result of the findings of different variables in relation to each other has tried to put forward the followings: 1) Who prefers the software expertise training given by private educational companies? 2) Why do the participants prefer these trainings? 3) What is the relationship between the educational level and unemployment?

2. RESEARCH MODEL

In this study which examines unemployment problem by the help of the software training's participants' profiles of a well-known private educational institution, a questionnaire prepared by the managers of the private educational institution is used to collect data models. The administered questionnaire includes the questions about personal information of participants, level of education (undergraduate / graduate / postgraduate), employment status, their fields of study, reasons choosing Software Expertise education. 543 participants answered all the questions in the questionnaire make the sample of research.

3. METHOD and DATA ANALYSIS

In the study, data obtained from the participants of the Software Expertise training are shown on tables; percentages are calculated and related graphics are given. To make the study more clear, used terms are given below.

- *About Education Status:*
 - i. For being a student at another educational institution, "Student",
 - ii. Have graduated from another educational institution, "Graduate"
- *About working Status:*
 - i. Whether or not graduated for those who have a job, "Working",
 - ii. Who do not have a job, "Not Working"
- *About Education Field (in relation with System Expertise training):*
 - i. For related departments (Computer Eng., Software Eng., Computer Programming etc.), "Related",
 - ii. For sections close to relevant sections (Electronic Eng., Industrial Eng., Statistics, Physics, Mathematics etc.), "Semi-Related",
 - iii. For unrelated sections like business, banking, tourism, politics, "irrelevant".
- *About Education Level:*
 - i. "Pre-graduate", "Bachelor" (Under-graduate) and "Master" (post-graduate).

Also it will be explanatory to give a detail about the Software Expertise Training given by the private educational institution. The topics like Basics of Programming and Windows

programming, Database Programming and Management, Web programming, Advanced .NET Applications, Mobile Programming, Project are given in 300 hours.

4. FINDINGS

The results obtained in the study are as follows:

- 1- 104 of 543 participants (19%) are female and 439 (81%) are male.
- 2- Educational level of the participants ranged from undergraduate and postgraduate.
- 3- 327 participants (60%) have a diploma from pre-graduate, undergraduate or graduate level, while the remaining (40%) are students at one of these levels.
- 4- 178 employed participants (33%) are continuing this training, and the remaining 365 (67%) are unemployed.
- 5- In Table 1, numbers of students who attend the training from related, semi-related or irrelevant departments are given according to the gender. Figure 1 shows Table 1 graphically.

Table1. Gender - Education Field Distribution

Education Field	Men	Women	Total
Related	199	59	258
Semi-related	88	28	116
Irrelevant	152	17	169
Total	439	104	543

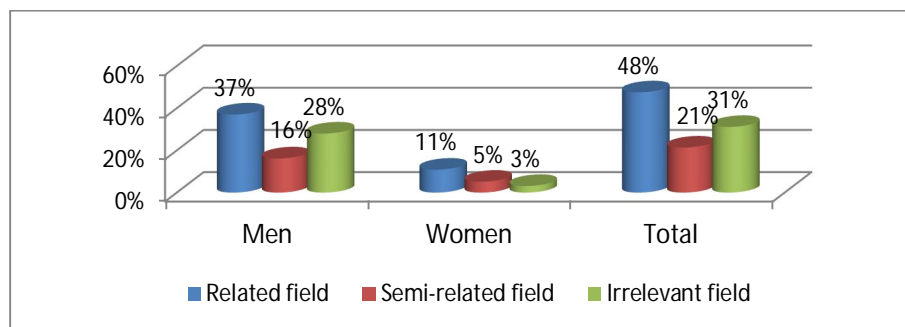


Figure1. Gender - Education Field Distribution

- According to Figure 1, percentages of the participants who have already been trained in this field (graduates or students) are 37% men, 11% women. So, for the second time about the training can be said is half of the total.
 - 16% male, 5% female, at the total 21% of participants are from semi-related field.
 - Completely unrelated section rate is 31% of the participants.
 - The female software expertise training participants from related study fields have a higher percent than total of other female participants from semi-related and irrelevant fields.
6. Numerical and percentage distributions of participants according to the field of education and graduation (graduate /student) are shown on Table 2 and graph can be seen in Figure 2.
- Graduated men who have previously received a related education (37%) constitute 22% of the participants.
 - 10% of the male participants who attend the training from semi-related study fields are graduates and 6% of the rest are students.

Table 2. Gender- Education Field- Education Status Distributions

Education field	Men		Women		Total
	Graduated	Student	Graduated	Student	
Related	122	77	36	23	258
Semi-related	56	32	18	10	116
Irrelevant	86	66	9	8	169
Total	264	175	63	41	
	439		104		543

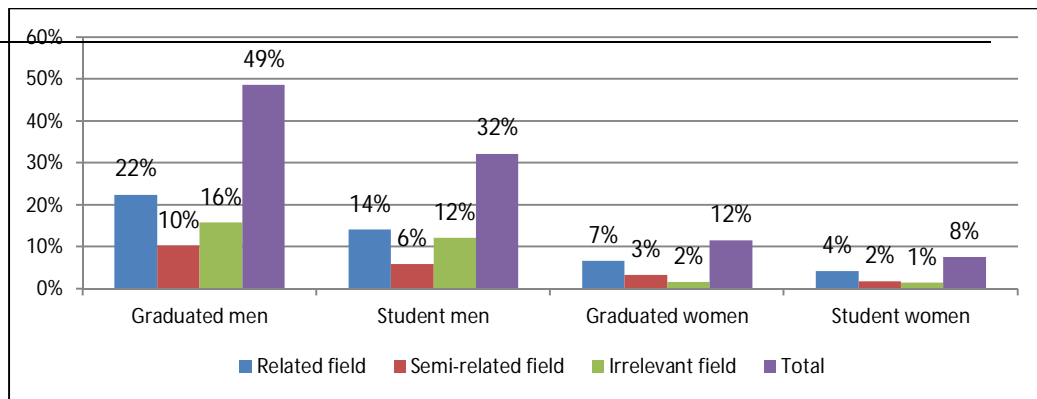


Figure 2. Gender - Education Field - Education Status Distributions

- The proportion of the graduated and student male participants who had been trained in an irrelevant field are close to each other.
 - The number of female participants who had been trained in a related field and graduated is higher than the number of ones who are still students.
 - For the female participants come from a semi-related educational field, the graduated-student ratio is almost equal.
 - For the female participants come from an irrelevant educational field, the graduated-student ratio is again almost equal.
7. 67% of the participants of Software Expertise training given by the private educational institution are unemployed. In addition, if we need to examine the employment status according to the gender (Fig.3),
- 24% of the participants are employed graduates and 36% of the rest are unemployed graduates,
 - Students who have a job are 9% and who have not 31%.

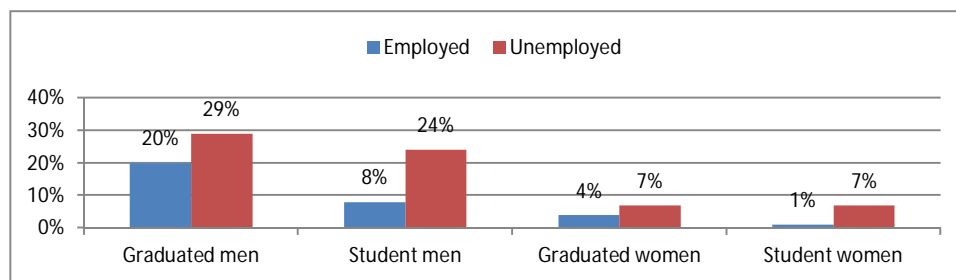


Figure3. Employment status according to gender and education

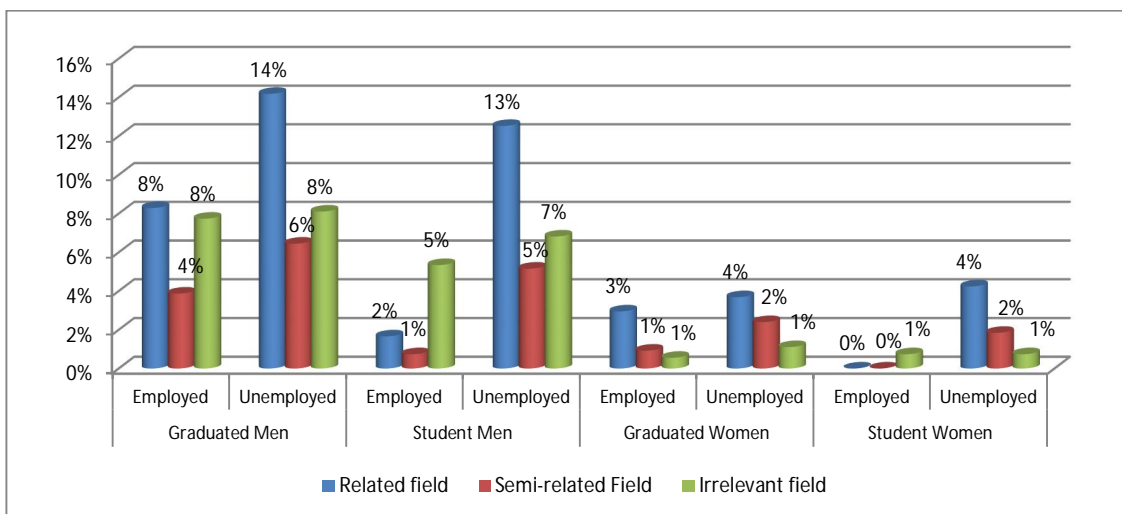


Figure4. Gender- Education Status- Education Field- Working Status Graph

- According to Figure 4, distribution of 36% respondents have diploma(s) but without jobs is close to 18% who graduated from relevant departments and 9% from semi-related departments.
 - The ratio of the unemployed male participants who have a degree from a related department is nearly twice of the ones with a job. When evaluating for female participants, ratios may be considered as equal.
 - 27% of the system expertise training participants are unemployed despite having a related or unrelated education degree.
8. 33% of the participants are employed (see Figure 3). Education field –Work Field relationship of this group is shown in Table 3 and Figure 5.

Table 3 . Education field – Work Field Relationship of the Participants

Work Field	Where he graduated in the field of education			Students in the educational field			Total
	Related	Semi-related	Irrelevant	Related	S-related	Irrelevant	
Related	33	4	14	6	0	15	72
Semi-related	6	6	4	1	2	5	24
Irrelevant	22	16	27	2	2	13	82
Total	61	26	45	9	4	33	178

- According to Figure 5, 14% of the participants are working in a job related to the Software Expertise training. If we take a look at the distribution of this 14%;
 - 6% of those with a degree from a related field,
 - 1% of those with a degree from a semi-related field,
 - 3% of those have a degree from a completely unrelated field,
 - 1% of those are students in an area related to the training,
 - 3% of those are students in an area that is completely unrelated.
- %4 of the respondents are working at a job that is semi-related to the field of the Software Expertise training they are receiving. If we look at the distribution of this %4;
 - 1% of those have a degree from a related field,
 - 1% of those have a degree from a semi-related field,
 - 1% of those have a degree from a completely unrelated field of education,

- And 1% of those are students in an area that is completely irrelevant.
- 15% of the participants are working in a completely different field from the Software Expertise training which they are still continuing. When we detail the distribution of this rate ;
 - 4% of those have a degree from a related field,
 - 3% of those have a degree from a semi-related field,
 - 5% of those have a degree from a completely unrelated field of education,
 - 2% of those are students in a completely irrelevant field from the System Expertise training.

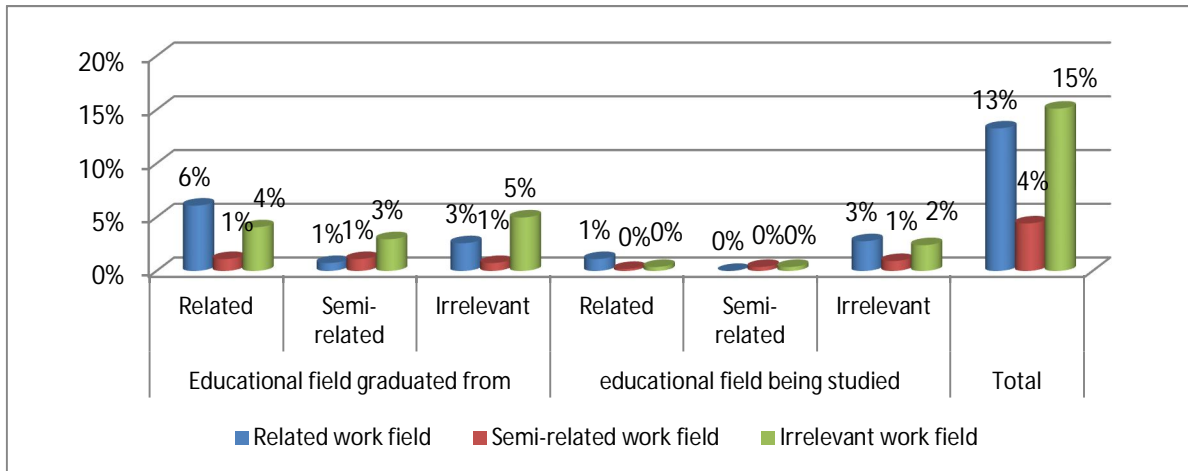


Figure5. Participants' Educational field – Work Field Relationship

9. Table 4 shows detailed situation of the participants working in a job with a diploma from any area, according to the educational levels. Figure 6 gives the distribution of the participants who are employed with a degree.
 - For those working in a field related to the Software Expertise training,
 - 3% have a pre-graduate degree from a related field.
 - 3% have graduated from a related field.
 - 3% have graduated from an irrelevant field.

Table4. Educational Field - Work Field Distribution (According to the educational levels).

Work Field	Related Educational Field			Semi-Related Educational Field			Irrelevant Educational Field		
	Pre-graduate	Under-graduate	Post-graduate	Pre-graduate	Under-graduate	Post-graduate	Pre-graduate	Under-graduate	Post-graduate
Related	16	15	1	1	2	-	2	14	0
Semi-related	2	4	-	3	3	-	0	4	0
Irrelevant	12	10	-	0	16	-	8	18	1
Total	30	29	1	4	21	0	10	34	1

- For those working in a field semi-related to the Software Expertise training,
 - 1% have graduated from a related field,
 - 1% have graduated from a semi-related field,

- 1% have graduated from an irrelevant field,
- For those working in an irrelevant working field,
 - 2% have a pre-graduate degree from a related field,
 - 1% have a pre-graduate degree from an irrelevant field,
 - 2% have graduated from a related field,
 - 3% have graduated from a semi-related field,
 - 3% have graduated from an irrelevant field.
- The number of the participants who have a master's degree and employed is negligible.

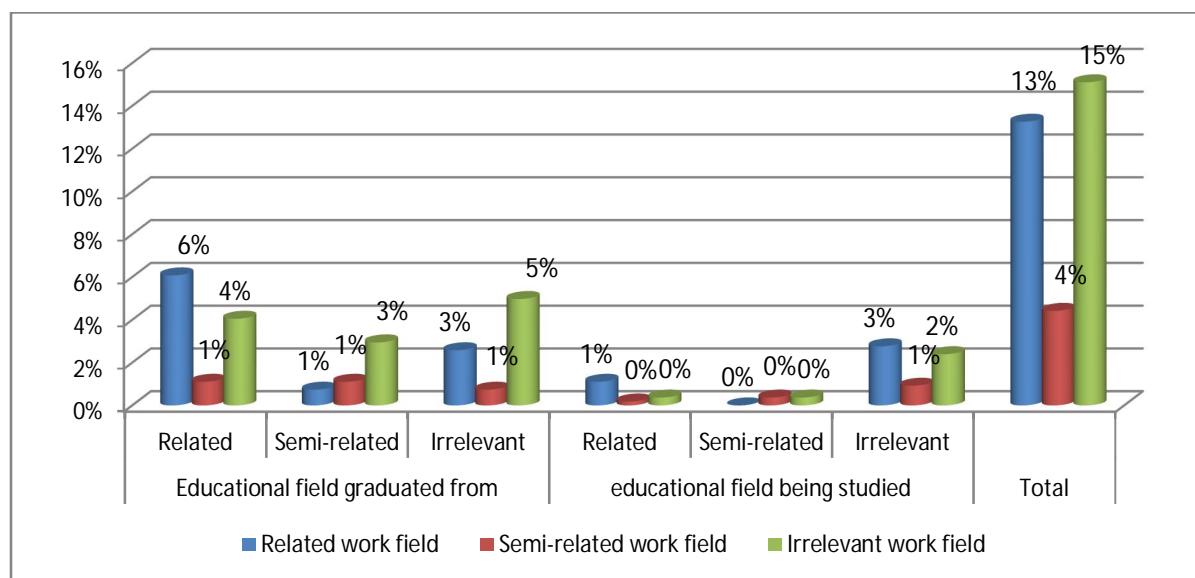


Figure6. Distribution of Educational Field - Work Field according to the educational levels

10. Finally, education level of the participants who have a degree but unemployed was examined. The results obtained are shown on Table 5 and Figure 7. 10% of the unemployed participants have an irrelevant degree, 9% have a semi-related degree and 16% have a related degree.

Table5. Education Level of the unemployed graduates

Education field	Pre-graduate Level	Undergraduate Level	Post-graduate Level
Irrelevant	11	36	3
Semi-related	3	45	0
Related	36	50	2
Total	50	131	5

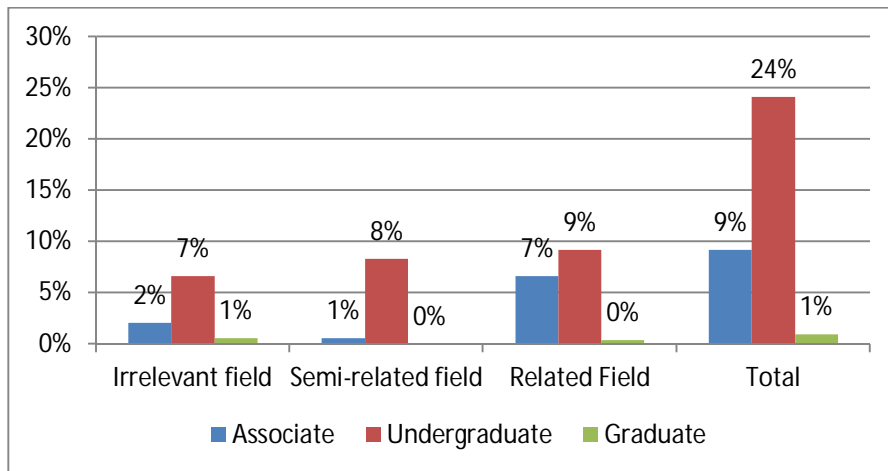


Figure7. Education Level of the unemployed graduates

5. RESULTS

In this study, the findings of survey applied to 543 participants of Software Expertise training given by a private educational institution are indicated by the help of tables and graphs. The results are given below.

Accordingly, 40% of the participants are students (8% female and 32% female), and 60% are graduated (12% female and nearly 49% male). Based on this, Software Expertise training given by private sector is demanded by students at a ratio of 40%. But the remarkable point about this training is the fact that it is demanded by the majority of 60% who already have a degree. This means that, **60% of the graduates who have a diploma from different university levels are unable to find a job, or not pleased with his/her job.**

When we look at the participants from related and semi-related education fields, it is seen that they are the 69% of the total. **So, a rate of almost 70% has receiving the same or the semi-related training again.** The proportion (31%) of participants from completely unrelated fields, can be interpreted as: **"This training is attractive to people and gives the prospect of new, better jobs"**.

The ratio of unemployed graduates is distributed in the following way:

- 9% having a pre-graduate degree,
- 24% having an undergraduate degree,
- 1% having a post-graduate degree.

If we look at the unemployed participants (67%), it is clear that nearly 37% of the participants are unemployed graduates and 30% are unemployed students. The ratio of unemployed graduates shows us, **each 37 graduates from 100 are unable to find jobs.** Also the number of unemployed graduates is 12% more than the number of employed graduates. Additionally, if unemployed participants who have bachelors' degree are examined in details according to the level of education:

- Related graduated from an undergraduate program, 9 out of every 100 people are unemployed,
- Semi-related graduated from an undergraduate program, 8 out of every 100 people are unemployed,
- Irrelevant graduated from an undergraduate program, 7 out of every 100 people are unemployed,

- In total, 24 of every 100 people with bachelor's degree seems to be unemployed.

On the other hand, if we have a look at the employed participants' situation, participants in a job related to the training constitutes a 14% slice. It is seen that, half of this rate had an education from an unrelated field. Likewise, half of the participants who work in a semi-related field (4%) had an unrelated education before attending this training. Moreover, only 6 (3 pre-graduate level, 3 undergraduate level) of every 100 people find jobs in the field of education that they graduated before attending System Expertise training given by the private sector institution.

Moreover, a cut of 4% have a diploma in a related field, although in a completely different work field. The reason of continuing the software expertise training for those people, can be explained as they are demanding jobs similar to their own study fields.

The number of employed participants who have a master degree from any field and attending this training is negligible.

A large portion of the Software Expertise training participants can be said to have participated in this training to find new business areas. On the other hand, a large amount of participants are likely to have participated in this training due to two reasons: They might be thinking that the college education they have taken is not enough and/or they want to update their knowledge about this area.

Another striking point; despite of the fact that at least half of the participants have an education in the related field have attended to the System Expertise training. Hence two questions could be asked. (1) Is the educational content of the System Engineering and the related departments of the universities adequate? (2) Is it overlapping with the demands of the industry? For this purpose, curriculum of the relevant sections of our universities' has been studied by Balci Demirci and Orman (2012).

Unemployment problem is an undeniable fact in our country. Thanks to the findings of this study, it's seen that the problem is also exists for most people who trained in a specific field.

As a result of the findings obtained in this study, a large portion of System Expertise training participants to find new business areas are said to have participated in this training. In addition to that, a group of participants with pre-graduate degree want to move to their education to the next level and willing to create job opportunities.

On the other hand, a large portion of the participants are likely to receive this training for completing and updating their education they had in universities. The findings of this study also support the study of Orman (2013) and give more detail.

If we realize 60% of the participants have a diploma, it is a serious problem that half of this ratio are unemployed, even 70% of those unemployed are unable to find a job despite they have a diploma.

If we consider that 60% of the software expertise training participants have a diploma, it is a highly serious problem that more than half of them are unemployed and also 70% of this group are unable to find a job even though they have a license degree.

Based on this, it is believed that arranging the educational content to coincide the contents demanded by industry will help to solve problems about the studies.

RESOURCES

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