

Jancsák Csaba:

Towards pre-vocational training? (Labour market actors' feedback on the training programme of mobile application development at university)

Absztrakt

Kutatásunk legfontosabb célja az volt, hogy információkat szerezzünk a szakemberképzés és a munkáltatók elképzeléseinek, szorosabb kongruenciájának, összehangolásának elősegítéséhez. A kutatás kérdései azt vizsgálták, milyen erényeket és hiányosságokat látnak a foglalkoztatók a pályakezdő szakemberek felkészültségében és milyen igényeket és együttműködési elképzeléseket, terveket fogalmaznak meg a szakemberképzés irányában. A kutatás alatt személyes megkeresés során 552 munkaerőpiaci szereplővel (e fogalmat szűkített értelemben használjuk: cégek, vállalkozások képviselőit, tulajdonosait, vezető munkatársait értjük alatta) töltöttünk ki kérdőívet. Továbbá a szakmaspecifikus elvárások megismerése céljából 79 on-line interjút és 24 személyes interjút készítettünk (szakterületi munkatárssal, cégvezetővel, az adott cég HR-es, személy- és munkaügyi kapcsolatokért felelős szakemberével). Kutatásunk eredményeiként kirajzolódtak előttünk a munkaerőpiac általános és a szakterület szakmaspecifikus elvárásai, a felsőoktatással való együttműködéséről élő vélekedések. E terület munkaerő-

piaci szereplői egyfajta előszakképzést várnak a felsőoktatástól, a szakmai specializációt pedig jórészt saját hatáskörben tervezik megoldani. A képzésbeli együttműködés formájának elsősorban a gyakornoki programot, a felsőoktatási gyakorlati kurzusok vezetését, továbbá a szendvicsképzés lehetőségét tartják.

Kulcsszavak: *felsőoktatás, munkaerőpiac, munkavállalói kompetenciák, IT-szakemberképzés*

Abstract

“Towards pre-vocational training?": Labour market actors' feedback on the training programme of mobile application development at university

The main objective of our research was to gain information for promoting the more efficient harmonization of the ideas of employers and professional training actors. The research has focused on the opinion of the employers: what strengths and weaknesses do they see in the preparedness of young professionals and what are their needs concerning the training? The springboard for our study was that there is a need for congruence of the structures of the labour market and higher education. The deepest criticism towards the higher education formed by the Bologna process concerns exactly this dimension, namely, that the issue of transition to the labour market appears in a shallow way among the content elements of educational programmes. In the study, questionnaire research was conducted with 552 labour

market actors (employers) concerning their expectations (employee competencies) towards University of Szeged graduates, furthermore, with representatives of 79 companies concerning profession-specific competencies above general ones; and with a further 24 people (company heads, HR managers, personnel and work relations managers) specified interviews were conducted. In the case of the mobile application development module, in order that profession specificities are more thoroughly understood, a database of 20 companies was compiled from the contact questionnaire database (N=552) and a database resulting from our own Internet search; these companies were contacted directly.

As a result, we now have a view on the general and specific expectations of this field. Last, but not least, we have also examined the issue of the cooperation between tertiary education and the labour market. Concerning this professional specialization, employers expect the establishment of firm theoretical and professional knowledge and way of thinking, while specialization is considered to be their task in order to be able to tackle the everchanging challenges of the market. As a form of cooperation, they prefer apprenticeship programmes, running technical courses, presenting problems through practice and a future possibility of starting a mixed training module.

Keywords: *Human Capital, Higher Education, Congruence of Higher Education and Labour Market, IT-education, Teaching of Developing Mobile Phone Applications*

Introduction

Although not an exclusive, but maybe most important, condition of economic development or boom is that appropriately trained labour force should take part in production processes. (Hrubos 1995, Kozma 2004, Polónyi–Tímár 2001). The springboard for our study⁹ was that there is a need for congruence of the structures of the labour market and higher education (Clemens-Croome 2006, Csernovitz–Szegedi 2012, Jóna 2008, Kővári–Polónyi 2006, Polónyi 1996). This statement nowadays is regarded as obvious, however, the assumption that the ‘invisible hand of the labour market’ would deliver a solution proves to be mistaken (Polónyi 2012, Reichert–Tauch 2003). The deepest criticism towards the higher education formed by the Bologna process concerns exactly this dimension, namely, that the issue of transition to the labour market appears in a shallow way among the content elements of educational programmes (Jancsák 2011, Kozma–Rébay 2008).

According to the studies researching labour market processes, professionals freshly graduating from higher education or tertiary level vocational training programmes do not, in all cases, live up to the expectations of employers in terms of skills/ competencies. “Our higher education remains to be highly knowledge-centred and hardly skill-centred, and it does not lay enough emphasis on the

⁹ The study was realised with the support of TÁMOP-4.1.2.A/1-11/1 in the framework of Új Széchenyi Terv [New Széchenyi Plan] as part of the programme entitled “Output oriented training programme development at the service provider university of the South Great Plain Region” (Leader of research).

assessment and development of learning outcomes.” (Bazsa 2009:15) Some of the solutions to the problems concerning the whole of Europe seem to suggest that students should be more and more placed in part-time employment or offered internships (Clemens-Croome 2006, Kiss 2010, Nielsen 2010).

The complexity of the problem is also marked by the fact that, although, as a result of educational policy changes, more and more young people have the opportunity to obtain higher-level qualifications, it is how to compile the contents of programmes that proves to be the biggest challenge among the consequences of the changes in higher education. Universities, as higher education supermarkets in a market-like competition of institutions with entrepreneurial spirits – as testers of “new product types”, modularised teaching materials and distance education – find that the inner world and content of education have been significantly transforming, and while they are to develop new services (e.g. multiple-choice tests, power point presentations, experience-like universities or Internet-based trainings), all this results in “creating and serving the needs of the consumer culture of a lack of education” (Beck 2006: 70). We agree with the position of Kozma (2006) that as a result of the above described trends, during the transformation of contents at the 21st century European university, the training of professionals is partly removed from bachelor programmes; at the same time, bachelor programmes more and more resemble lower level schools, as a result of which “it is no longer its academic nature that defines the image of higher education” (Kozma 2006:112). European studies have established – and these findings are considered valid for

the Hungarian situation as well – that while higher qualification is a requirement in career advancement in the workplace, today a given level of qualification does not guarantee – unlike in the world of the previous generation – gains in terms of employment or earnings (Stalder 2003: 18).

Higher education syllabuses are more and more compiled in accordance with competencies, and this is how actors often consider it guaranteed that academic quality and labour market applicability become compatible objectives in higher education. The first two European-scale reports of 1999 and 2001 relying on the information providing services of the ministries of education and rectors' conferences have reinforced this (Haug–Kirstein 1999, Haug–Tauch 2001). However, according to later summative analyses, the greatest challenge in the course of curricular reform under the aegis of the Bologna process seems to be how we can make justice between the stakeholders regarding the labour market applicability of university graduates and the relevance of higher education, while not compromising certain long-term perspectives, which fit higher education institutions better (Haug–Kirstein 1999, Haug–Tauch 2001). Preserving (or even raising) the standard of academic quality and the issues of university graduates' transition to the labour market are the two most often mentioned drives of the Bologna process. (91% of institute heads regard the question of the labour market applicability of university graduates to be of key importance from the point of view of rethinking university curricula. Reichert–Tauch 2003)

The major consequence of these new challenges (which many regard as the universities' fight for survival in the

world of cutbacks in Europe) is that the classical academic leadership of the university is replaced with a managerial approach, and as a result, decisions are made in a central (tight, regarded to be specialised) power field, which is no longer the faculty councils or the university council/senate, and neither is it the vice-rectors (characterised by academic-like resources of knowledge and prestige capital), but the execution and administration bodies, mostly people of finance, management, strategy, development, application for funds, HR administration and any leading bodies formed from these groups (occasionally appointed by the funder and not elected by university citizens) (see also Estermann–Nokkala 2009; Estermann–Nokkala–Steinel 2011). Nowadays, it is apparent that besides the traditional value-creating function (see Newman 2001, Bär 2005, Némedi 2005:138-143; which Weber 1998:72 describes as „Intellectual honesty is the only specific merit which has to be formed by education” [at the university – JCs.]), there are new roles to be fulfilled. In this respect, it can be noted that there is a more and more conspicuous fraction line: between actors emphasising the classical educational ideal and value transmission processes (and base research) towards students from the universities’ point of view, and actors accentuating the innovative function of the entrepreneurial university and competence development (and applied research representing business value as well) towards students (see Buzás 2007). The presence of these two views at the same time becomes a kind of value co-existence, which refers to an expansion of university functions (and not to a zero-sum game-like restructuring). When, similarly to others, we call the attention to the fact that taking the most enduring and permanent institutions

of human civilisation, following the Roman Catholic Church, the British and the Iceland parliaments, the institute of the University is next in line, as “among the 85 institutes having existed since 1520, 70 are universities” (Kerr 1982:152, quoted by Berdahl 1993:163, and Hrubos 1999:9), we also mean that the “permanence” of universities is also caused by the co-existence of (preserving) traditions and (reacting to the challenges and changes in) modernity. In our view, the resolution of this dilemma lies in a knowledge-translational view: a developmental view that can blend base and exploratory research findings and innovative (even industrial) application into a unified concept.

From the perspective of the subject of this research, it is essential to see this, as – in our opinion – it poses new challenges to higher education institutions (higher education actors) to realise this congruence in those programmes of the university that approximate market expectations in such a way that development, i.e. compiling and developing teaching materials and modules, happens in collaboration with market actors.

The most important goal of the study discussed in this dissertation was to obtain information on the ideas of trainers and employers to promote their closer attuning (congruence). The research questions observed what merits and shortcomings employers see in freshly graduated professionals’ preparedness and what demands they express towards training professionals.

In the study, questionnaire research was conducted with 552 labour market actors¹⁰ (employers) concerning their

¹⁰ In the scope of this study, the term labour market actor is used in a narrower sense: representatives, owners and leaders of companies or businesses are meant by it.

expectations (employee competencies) towards University of Szeged graduates, furthermore, with representatives of 79 companies concerning profession-specific competencies above general ones; and with a further 24 people (company heads, HR managers, personnel and work relations managers) specified interviews were conducted. Besides the quantitative data, relevant applied details of the interviews are given in italics. In the case of the mobile application development module, in order that profession specificities are more thoroughly understood, a database of 20 companies was compiled from the contact questionnaire database (N=552) and a database resulting from our own Internet search; these companies were contacted directly. 18 people of the following 14 companies accepted to participate in our study (Table 1). In our analysis, where specified data were used instead of regarding the full sample, the summarised results of the subjects are given.

Table 1: Subjects of the specified study

Company name	Subject	position
Binga Kreatív Kommunikációs Ügynökség	Végyvári, Péter	director of operations
Binga Kreatív Kommunikációs Ügynökség	Gonda, Bence	managing director
CAS Software Kft.	Belák, Henriett	education and training executive
Dorsum Zrt.	Perák, József	middle manager
ENTRA-SYS Kft.	Koltai, Attila	managing director
HP Informatikai Kft.	Jóó, Bálint	HR manager
KÜRT Zrt.	Papp, Attila	vice-president

Lufthansa Systems Hungaria Kft.	Hargitai, Zsolt	middle manager
Magyar Telekom Zrt.	Kovács, Balázs	HR assistant manager
Magyar Telekom Zrt.	Vetési, Zsófia	HR manager
Magyar Telekom Zrt.	Újhelyi, Ákos	HR head
Magyar Telekom Zrt.	Gosztola, Ferenc	lead developer
Microsoft Magyarország Kft.	Tóth, Bálint	Academic Program Manager
Nokia Siemens Networks	Gyenes, Péter	R&D business relations head
Pillér Kft.	Bondár, Péter	middle manager
R&R Software Zrt.	Kovács, Tibor	HR head
Siemens	Mágoriné Valkó, Erika	HR manager
Strategon Zrt.	Wernsdörfer, László	software development leader

The mobile application development module is related to the following majors or programmes: Programmer, Software developer, General systems operator, Network informatician, Technical informatics assistant engineer, and Web programmer. The aim of the training programme: to supplement tertiary level informatics vocational training so that the graduates are capable of performing essential specialised tasks of the mobile phone related branches of informatics.

To reveal the opinions of the training institute on cooperation with the labour market, interviews with instructors were conducted, and it was found that they primarily see cooperation in establishing and deepening “*counselling on designing educational materials*” and “*sharing market experience*”, and they view *training programme development in the process and as a result of a kind of “discussion”*. The head also pointed out that, in the frame of vocational training, it is “*holding motivational talks*”, “*presenting business sample projects*” and “*sharing information on*

employer expectations towards modern mobile application developers” that they expect from labour market partners. The tightest form of cooperation, i.e. the idea of a sandwich training programme did not occur, however, internships advertised by companies are highly valued by colleagues at training institutions and they encourage cooperation in such projects.

Labour market expectations

General competencies

In the next part of our study, it was general employee competencies in the labour market that were examined. The aim was to reveal what expectations labour market actors express towards fresh graduates.

Requirements towards employees wishing to function efficiently in the labour market were summarised by researchers as follows (Clements–Croome 2006, Csernovitz–Szegedi 2012):

- ability to learn quickly
- ability to select information
- asking questions efficiently
- ability to assess situations
- adaptability

In our study, it was a goal to gain information that is deeper and can be regarded as more specific in training programmes that are related to the mobile application development module.

As in the past decade we have been witnessing work tasks becoming more and more complex, to provide a more

subtle analysis, we listed 34 general competencies, skills and abilities and asked our respondents to give scores to them according to their own company.

Based on the answers of 552 respondents, a rank was established. According to our data, the labour market mostly expects from the ideal employee the following:

Table 2: Labour market actors' general expectations
(the 20 most important items on the list)
(Full sample, N=552)

1. Striving for quality work
2. Appropriate professional background knowledge
3. Identifying with the job, work attitude
4. Ability to work independently
5. Precision
6. Appreciating one's profession
7. Taking responsibility
8. Ability to work hard (stamina, agility, coping with heavy workload, overwork, coping with stress)
9. Creativity, problem-solving skills
10. Knowing the profession-specific know-how related to the given position
11. Loyalty to workplace
12. Ability to apply professional knowledge
13 Openness towards new things
14. Ability to be retrained, ability to learn

15. Ability to see the essence
16. Computer literacy
17. Team work, ability to cooperate with colleagues
18. Practice-oriented view
19. Good communication skills
20. Decision-making ability

The data were also analysed in such a way that a subset of companies had been formed from those companies that had indicated in the questionnaire that, as for their business activities they are related to the training programme of web programmer. This set is viewed as the labour market expectations expressed towards employees having graduated as qualified web programmers (Table 3). Compared to the full sample, illuminating similarities and expressive differences can both be found.

The labour market in general and companies with business activities related to the given major in specific lay emphasis on work-related professional and quality expectations (professional background knowledge, striving for quality work, identifying with the job, work attitude, precision, ability to work independently, appreciating one's profession, taking responsibility). Each one of these expectations are related to the world of higher education, partly as they are constructed there (*professional background knowledge*), partly as they are founded there (*striving for quality work, ability to work independently, ability to apply professional knowledge*), and partly as those that are attitude-like are formed or deepened there

(*appreciating one's profession, precision, work attitude, taking responsibility*). It needs to be underlined, however, that knowing the *profession-specific know-how* related to the given position, and the ability to be retrained and learn also appear here as an expectation. (The following chapter of the study discusses, based on interviews conducted with labour market actors, how labour market actors view the relationship between this specific knowledge and higher education.)

The other part of expectations shows a slightly different pattern in the case of companies that are related to the training. It is only natural that *computer literacy* is ranked higher in this special order of preferences than in general – this is a profession-specific factor. *Openness towards new things* and the *ability to see the essence* also rank higher. Similarly, *creativity* and *problem-solving skills*, just like *practice-oriented view* rank higher. There is a new expectation towards graduates with a degree in web-programming listed among the most important general expectations: *adaptability, flexibility*.

Table 3: General expectations of companies with business activities related to the web-programming major towards graduates from the major
(N=141)

1. Striving for quality work
2. Appropriate professional background knowledge
3. Identifying with the job, work attitude
4. Precision

5. Ability to work independently
6. Taking responsibility
7. Openness to new things
8. Creativity, problem-solving skills
9. Ability to work hard (stamina, agility, coping with heavy workload, overwork, coping with stress)
10. Appreciating one's profession
11. Loyalty to workplace
12. Computer literacy
13. Ability to see the essence
14. Ability to apply professional knowledge
15. Ability to be retrained, ability to learn
16. Knowing the profession-specific know-how related to the given position
17. Practice-oriented view
18. Team work, ability to cooperate with colleagues
19. Adaptability, flexibility
20. Good communication skills

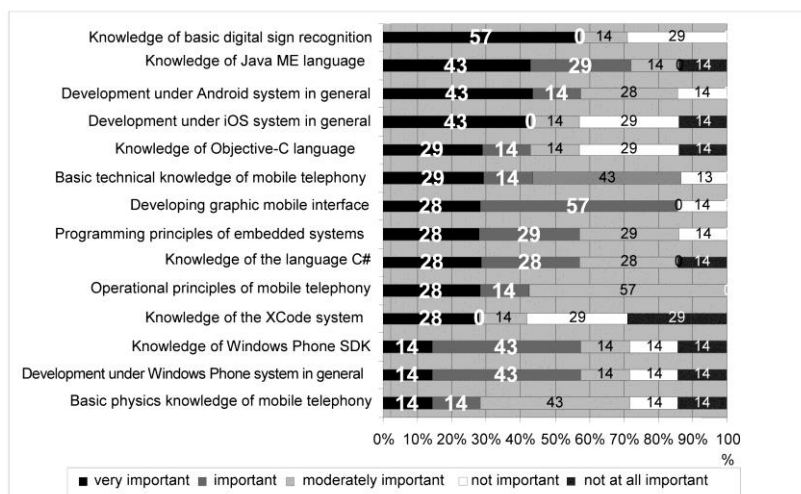
Profession-specific knowledge

In this phase of the study, the focus was on determining the profession-specific expectations of the labour market in the case of the mobile application development training programme. There were two methods applied: one was to run a short online questionnaire among companies (also) having a software developing profile, and the other was to conduct interviews with professionals from this field.

The instructors of the training programme contributed to the compilation of the questionnaire; they were asked to

name those specificities, with regard to the objectives of the training programme, that in their opinion the labour market could expect from professionals dealing with mobile application development. The distribution of their answers is given in Figure 1.

Figure 1: Specific expectations of companies with business activities related to mobile application development towards such professionals (N=14)



In this phase of the study, it was also ensured that the respondents were given the opportunity to name other, new expectations as well, so it was asked in the form of an open-ended question. The following expectations were given as a response to this question:

- web technologies, modelling methodologies
- basic knowledge of database handling

- knowledge of at least 1 object oriented programming language
- knowledge of at least 1 database handling engine at designing level

The interviews regarding this question serve with further information concerning the general and the task-specific background knowledge.

„The foundations are needed; at the same time, special knowledge is also indispensable. It is important that a young graduate wishing to work in this field should have thorough knowledge and be able to apply it at a high level.“

“In order to be able to write a HelloWorld application for an Apple Iphone, one has to be very experienced and widely informed.”

“Knowing the English language is indispensable, without foreign language knowledge, one cannot work in this field.”

“What I do is that I look at the person’s diploma paper, what they were interested in during their studies, and at what level they could realise their research topic. From the field of interest, many things can be seen; such as whether the applicant is suitable for the position that they have applied for. It is fortunate if students already pick a topic of interest during their studies, and if they are ambitious enough, the labour market the company where they are to work at will benefit from this as well.”

During the interviews, further information was accumulated about the actual position-specific expectations. Based on these, the specific expectations for three different positions were determined.

Table 4: Three particular examples for profession-specific competencies

Position	iOS developer	NET Expert	Web graphic designer
Task	Further development of MobiAccess 4.1 developer framework on iPhone platform	Participation in NET-based projects	Designing and refining user interfaces of applications, creating application skins
Expectations	Knowledge of Macintosh and iPhone platforms	Tertiary level education in informatics and/or economics	Secondary level vocational qualification
	Active knowledge of and practical experience in Objective C	Minimum 5 years of C# .NET developer experience	Thorough knowledge of Adobe (Illustrator, Indesign, Photoshop, Acrobat) and MS Office (Word, Excel, PowerPoint) (presenting reference works)
	Intermediate level English language knowledge, primarily in writing	Intermediate level English language knowledge	Keen interest in informatics
	Process and project view	Creativity	Desire to learn
	Creativity	Agility	Advanced level active English language knowledge
	Agility		Creativity
	Precision		Precision
	Seen as an advantage	Experience in either game or mobile application development	SQL knowledge
C/C++ knowledge		OLAP, MDX experience	HTML knowledge, experience in web programming
Advanced level English language knowledge			Mobile application design experience

Ideas about cooperation with higher education

In the next stage of the study, it was to be revealed how labour market experts see cooperation with higher education, and what actual ways or methods of cooperation they see efficient and feasible. The aim was to be able specify the picture, gained from our sample mapping the labour market in general, to see how cooperation in mobile application development training programmes can be realised, which also means that general findings were enriched with information gained through drilling deeper. It was assumed that this market segment (due to the special characteristics of its activities) views cooperation with higher education differently from market actors with other types of business activities. In the questionnaire, a separate set of questions was devoted to this issue, and respondents were asked to rank the listed ways of cooperation possibilities. Based on this, a rank order of the preferences of labour market actors could be determined. (Table 5)

Table 5: Cooperation with higher education – rank order of the preferences of labour market actors (Full sample, N=552)

1. Receiving interns
2. Offering practicum classes in higher education
3. Familiarising students with plant conditions
4. Field practice
5. Performing tasks in projects (by students)
6. Preparing designing tasks (by students)
7. Cooperation in realising academic projects
8. Involving students in solving practical problems
9. Encouraging colleagues to obtain tertiary level education
10. Designing and implementing joint sandwich programmes
11. Cooperation in application for funds
12. Workplaces' participation in teaching material development
13. Workplaces' participation in higher education quality assurance
14. Workplaces' participation in teaching employee competencies
15. Diploma work, thesis paper preparation at the employer
16. Joint events with the higher education training institute
17. Workplaces' participation in workplace safety and accident prevention trainings

The analysis was continued with establishing a similar rank order, surveying the companies with software developing

business activities in our database. (Table 6) In this online questionnaire, the cooperation forms indicated by university instructors were also listed (presenting problem solutions in practice, familiarising students with profession-specific routine tasks).

When comparing the two preference orders, it becomes apparent – matching with our assumption – that software development companies have different preferences. Software developing companies placed *receiving interns* (rank 1), *field practice* (rank 2) and *offering practicum classes in higher education* (rank 3) at the top of the list. Compared to the sample mapping the labour market in general, the respondents of the special sample of software developing companies esteem highly the forms of cooperation recommended by the training institution: presenting problem solutions in practice (ranked as 4 in the order of preferences) and familiarising students with profession-specific routine tasks (the 6th most important cooperation possibility). Preparing designing tasks by students (rank 8), cooperation in academic projects (rank 9) and involving colleagues in lifelong learning (rank 10) are among the most important forms of cooperation.

Table 6: Cooperation with higher education – order of preferences of companies with software developing business activities
(means on a 1 to 5 scale)

1. Receiving interns	4,50
2. Field practice	4,50
3. Offering practicum classes in higher education	4,42
4. Presenting problem solutions in practice	4,42
5. Involving students in solving practical problems	4,17
6. Familiarising students with profession-specific routine tasks	4,08
7. Workplaces' participation in teaching material development	4,00
8. Preparing designing tasks (by students)	4,00
9. Cooperation in realising academic projects	3,92
10. Encouraging colleagues to obtain tertiary level education	3,67
11. Performing tasks in projects (by students)	3,67
12. Familiarising students with plant conditions	3,67
13. Cooperation in application for funds	3,58
14. Diploma work, thesis paper preparation at the employer	3,50
15. Designing joint sandwich programmes	3,25
16. Workplaces' participation in higher education quality assurance	3,25
17. Workplaces' participation in teaching employee competencies	3,08
18. Joint events with the higher education training institute	3,00
19. Workplaces' participation in workplace safety and accident prevention trainings	2,58

It is those possibilities that can be found at the end of the list that market actors do not consider, or consider it less likely, to be possible fields of cooperation with higher education (workplace safety training, joint events). In the same band, we can find developing employee competencies, sandwich programmes and cooperation in preparing diploma papers. The examination of this latter group – which, in our opinion, may constitute a field of cooperation between higher education and the labour market – requires further analysis. Concerning these questions, the interview subjects drew a more informative picture.

A traditional element of cooperation between the world of work and higher education is the preparation of the diploma paper. In this respect, the subjects highlighted that due to the appearance of mass higher education, it is pointless and low-quality papers that seem to be prepared; they are disappointed in this and are sceptical about such cooperation:

“A student appeared at our company, asking us to sign a form to certify that he took part in field practice here; I don’t like this and don’t deal with such things, because I don’t want to spend any time on this! It also sends an unfavourable message about the university (I’m not telling which one), because we know what kind of degrees they issue.” In another subject’s opinion: “If a student comes to ask for help in a diploma work the topic of which is related to our company’s activities, then I’m happy to help if we can also use the output of the paper. This makes sense for everybody.”

The interview subjects named “*internships*” as the best (“*most efficient*”) form of cooperation.

“Field practice is a favourable solution for both the practice venue and the student. Students get to know their future colleagues, have an insight into the operations of the company, they can even get a project on their own if possible, so besides obtaining experience, they can also gain some academic self-esteem. At present, we have 3 interns. Practical experience is useful both during and after the training programme.”

In our respondents’ opinion, “it is best if the university does not attempt to teach specificities, as it is not capable of that, due to reacting to changes much slower than the labour market,” however, it does appear as an expectation that the university should prepare students to be open to specificities, and fresh graduates “will learn the specificities here are the company”.

One of the subjects describes the basis for cooperation with the world of education as follows:

“The university changes slowly, reacts to market demands slower, as it does not make a living on that. In order for the relationship to be alive, it needs to step out of the classroom or invite some company people who make a living on buyers, to get to know what the latest needs and trends are.”

One interview subject emphasised that during the training programme, roles should not be mixed: “I don’t believe that the labour market should have a say in the direct restructuring of a training programme or in specifying the teaching material, as in my opinion it is instructors that have the most appropriate knowledge for that. When organising the training programme, the instructor should pay attention to what current developments companies are

dealing with, and they should insert these issues into the training programme using their own pedagogical methods.” Another subject also referred to this flexibility: 6 months ago, OK, it’s a bit of an exaggeration, I had no clue what mobile application development meant; and today three people in my group are working on such jobs. But it very well may be that in two years, nobody will work on it.”

The interview subjects also consider it a good idea that, besides organisationally broader but in terms of content tighter cooperation (only pre-vocational training at the university and vocational training at the labour market), there should be internships in “sandwich training programmes during university studies” or “simultaneously with studies”. The latter one (simultaneous internship) was emphasised as an already existing practice and positive example by the interview subjects; in our experience, this is what companies in the market strive for as far as establishing relations with the university is concerned.

The optimal length of an internship is considered 6 months, which can even be extended. Companies have a primarily positive experience, because a young person’s “professional knowledge, employee competencies and personality can be tested during this”, and “who performs well during the internship and is interested in what they are doing, will be employed by the company”.

In their opinion, the university cannot change as quickly as the market demand, and because of this, it is only the mastering of general competencies that is expected (pre-vocational training), and vocational training is realised by the company. It is to be noted that this educational approach, i.e. reacting to the specialisation of the modern world, is a definite advantage (as it is to specialise students

for a given task and position) in the field of vocational training (both from the perspective of the employer and the employee); while its disadvantage is that it results in very specialised knowledge that is not applicable elsewhere (due to its specialised nature, it cannot be used at other companies or workplaces, so it is not convertible in the labour market), and, at the same time, in upgrading the value of the role of general competencies (and other attributes beyond that: personality traits, value system, general education) to be formed by the university.

Summary

In the first part of the study, the labour market situation of the training programme was examined. It was concluded that, based on its reputation and career opportunities for those graduating with this qualification, the mobile application development training programme can be considered appropriate in terms of responding to both market and society demands.

According to the research findings, labour market actors with training programme related business activities find the following to be the most important general expectations towards employees: striving for quality work, work attitude, ability to work independently, taking responsibility, precision, ability to work hard, creativity and problem solving skills.

In the study, profession-specific professional expectations were also examined besides general employee competencies. Based on the responses given to a separate question group in our questionnaire, the rank order of the

preferences of specific expectations of companies with mobile application development activities was compiled, which – as it had been assumed – showed a different pattern from that of those companies whose business activities were not related to the training programme. With the help of interview subjects, a more informative picture was revealed; furthermore, three particular examples for profession-specific expectations for certain positions were also given.

In the last part of the study, labour market opinions about cooperation with higher education were analysed. As a form of cooperation in the training programme, it was primarily internships, offering higher education practical courses, presenting practical professional problems and future sandwich training programmes, to be formed after and based on positive experience, that were considered possible.

Based on the interviews, it seems that labour market actors are ready to cooperate more tightly with higher education, what is more, it can also be established that we are in such an era that this tendency of theirs seems to be reinforcing.

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