COMPETENCES AND SKILLS FOR 21ST CENTURY DIGITAL MEDIA PROFESSIONALS

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Summary

In today's businesses and organisations, the work of the digital media professional has become indispensable: our life revolves around expressions of media and arts, today created largely in digital form, designed by digital experts, executed by digital artists or workers, and distributed by digital campaigners and publishers. This highly diverse group of professionals consists of designers, creators, writers that are working across all media: radio, TV, press, web, multimedia, film, theatre, print, games etc. and not only in the artistic realm but in all segments of the society: information, news and press, advertisement and public relations, industry, commerce and education. Just imagine for example the world of education today without the input from the digital artist, the IT person or the media professional: the designers and creators of traditional learning and teaching materials as well as the network engineers, the information architects, the web designers, the usability experts, the photographers and video makers. A world of experts in its own right, a group of professionals of whom little is known.

The 2014 iProfessional survey with over 1100 participants from eight EU countries collected data about the skills and competences of professionals working in digital media and arts. The rich and complex data that are the result of the survey are sufficient to come to meaningful conclusions, especially with regard to the impact of education and training on this worker in his professional environment. The survey has allowed us to make a quantitative and limited qualitative analysis of the profiles of media workers with regard to the competences, skills and attitudes they possess, such as artistic skills, technical skills, business processes knowledge, communication skills, project management, structuring of content, teamwork, problem solving, time management, etc.

The survey resulted in a comprehensive list of transversal skills and competences that are required by the professional digital media and arts worker set off against those acquired in formal education as well as on the job. It is in this context remarkable to note that even though a wide range of high quality study programs exists in this area, there is hardly any tendency noticeable for certification-based protection of many of the jobs in this professional sphere: game designers, camera operators, photographers, web designers, graphics artists, audio engineers, etc. Meanwhile, employers of the digital media and arts professionals indicate that it is very difficult to recruit professionals straight from education as there seems

to be a gap between what is taught in school and what is required on the job, and this gap is not only a time lapse (businesses are often working with tools and technologies that are more advanced than those taught in schools) but also a competence and skills gap.

Introduction

The aim of 2014 iProfessional survey was to detect possible skills and competence gaps in the domain of digital arts and media professionals: the workers that are playing increasingly important roles in our information and communication driven society. To achieve this aim the European Commission supported the iPro project team to set up a pilot collaboration between HEIs and partners in 8 European countries to investigate the potential for closer collaboration between the world of professional digital media and arts and the higher and further education institutions for digital media and arts. This project tries ultimately to put in place a pilot mechanism to address mismatches it detects between expectations from the professional sector and the offerings from the HE sector, by designing and piloting a curriculum design framework for use in this specific sector. Partners in the project are on the one hand HEIs in Media and Arts Education, who have a stake in the demand and expectations from the industry they send their alumni to, and NGOs and SMEs that are involved in the design of learning and capacity building programmes in this same area. For more information on the iPro project, see http://ipro-project.eu.

The iPro project used a skill and competences needs analysis covering all relevant stakeholder groups, carried out by means of a large-scale survey. The target of the large-scale survey was companies, large and small, and any other organisation that employs (digital) media and arts professionals. The survey was designed based on existing surveys and on input from all partners as well as other reference sources in this domain. This work was based partially on research from UK iProfessionals, carried out in 2003 by Elaine England (ASTF), on the eSkills study UK, and their continuation by the Interfaculty in Maastricht with over 200 students from FAcH, HSZuyd and KHLim and more than 100 businesses in Belgium, Germany and the Netherlands in 2005, 2007 and 2009. This survey and project are in line with the European e-Competence Framework (ECF) (CEN, 2014) and potentially complementing this framework, as the iPro survey focuses much more on the creative and entrepreneurial sectors, while ECF covers ICT Professionals in all industrial sectors. These sectors are only partially overlapping.

The survey consisted of questions addressing the following main categories:

1. Personal details;
2. Company/employment details;
3. Formal education details (pre professional career);
4. On the job training details (during professional career);
5. Present competency and skill gap self-assessment;
6. Lifelong learning aspects;
7. Job appreciation.

These categories were elaborated in order to come to a list of questions that allowed us to create a survey instrument to make a quantitative and limited qualitative analysis of the profiles of media workers related to the competences, skills and attitudes they are required to possess for different media businesses. These skills included for example: artistic skills, technical skills, knowledge about client's business processes, skill in communicating with clients, project management skills, the ability to structure content, the ability to work and communicate in teams, problem solving capacity, team working/team skills and time management. The survey results in a comprehensive list of skills and competences required by the iProfessional set off against those acquired (in formal education as well as on-the-job). This gives the education community (higher education as well as VET and CPD) the possibility of relating the results to their own learning, training and capacity building trajectory or curriculum.

Survey results

The survey was held from 28 February until 24 April 2014. During that period, 1139 participants from eight countries completed the comprehensive survey with over 600 data points, which took the participant on average 21 minutes and 6 seconds to complete. The distribution of completion by country is as follows:
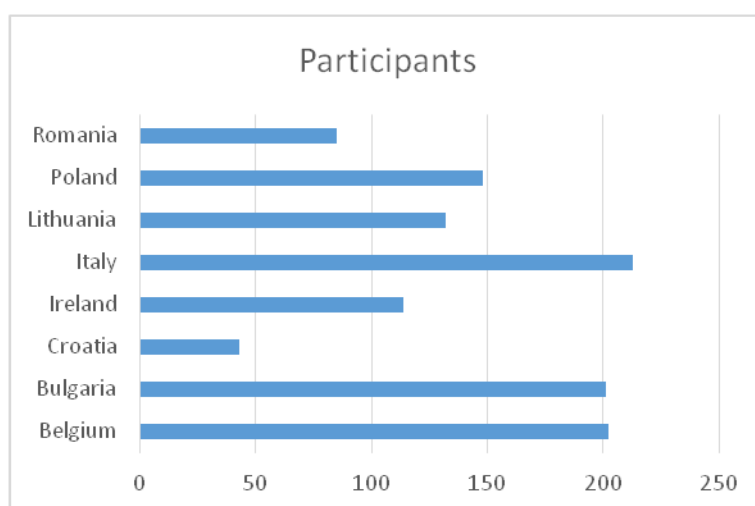

Figure 1. Distribution of participation of iPro survey

This is the first survey within this professional domain that surveys on this scale the professional skills and competences status of its target sector. If we assume that the sample was sufficiently randomly selected in all countries, and we use a margin of error (or confidence interval) of $1/\sqrt{N}$, where N is the sample size then we reach a margin of error of less than 3% overall, which is good. At the end of April 2014, the survey was closed and the results of the survey were collected, data was checked for integrity, and the free text answers in the survey (which was a significant part of the survey) were translated after which the data processing started. The resulting analysis is although comprehensive, significant, and representative for the sector, not the ultimate analysis that can be gathered from the rich and complex data that was obtained and therefore we continue to further analyse this data in

search of more relevant correlations that will support the design of education and training for digital media and arts professionals in Europe.

Professional profile

The largest proportion of survey participants comes from small and medium sized companies and organisations (Power, 2011), with an important proportion of these being micro-organisations, which is considered typical for this professional area (Montgomery, 2008). Many companies are young start-ups or work with large numbers of free-lance collaborators (Perrons, 2003).

Our survey also tried to profile the surveyed participants in terms of professional experience. For reasons of confidentiality, it was decided by the consortium that we would not ask the age of those surveyed; we considered it more relevant to determine their professional maturity by asking for their time in the profession (number of years of experience on the job).
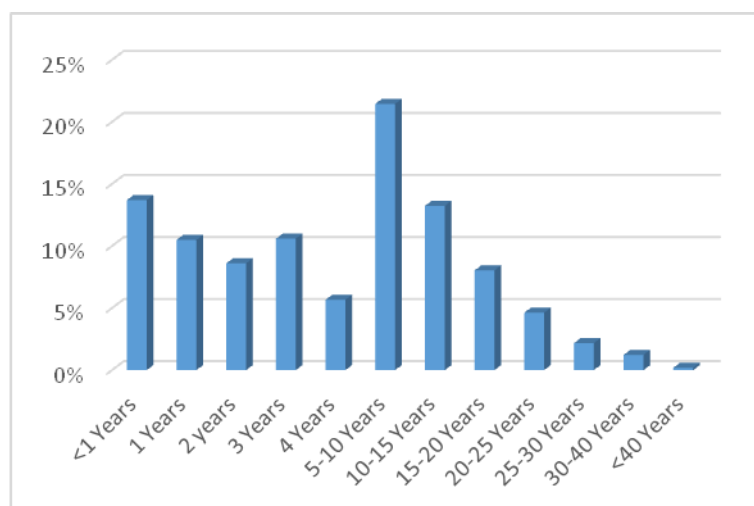

Figure 2. Years of professional experience: How long are you working in the digital media and digital arts sector?

The result is somewhat slanted to the left (towards a shorter work experience) which can be explained by a somewhat disproportionate number of students working in the sector (in some of the partner countries) but the impact of this effect is difficult to assess, also because in this professional domain there are a lot of young people streaming in to the profession. About 3 out of 4 surveyed professionals are less than 10 years actively working in this area.

The next question that gave us an idea as to the profile of the digital media and arts professional was a question related to his/her career profile (in relation to the present job situation). The question that was asked was whether this job was the survey participant's first job, and if it was not, whether they started their professional career in the digital media and arts sector or not.

It is worth noting that on average, one out of three professionals is entering the digital arts and media profession from a career path that lies outside this professional domain. It is almost more important to note that the distribution between "Not my first job, but I always worked in this (Digital media and digital arts) sector" and "Not my first job, started work in another professional sector" is almost equal. This points towards the observation that there seem to be many professionals that are coming from a professional background that is different from the media and arts sector.

Education profile

When observing the education and training path in the sector we see again that in general only one out of three professionals seems to have acquired his or her professional qualification by formal (higher) education. A similar proportion of those surveyed indicated that they had acquired their competences and skills in an informal (not-organised) manner (by self-learning or experience). When looking at the secondary level education profiles of those surveyed, we see that in general (except for Italy), there is only a limited exposure to digital media and arts skills and competences in secondary education for the professionals, who were participants in this survey.

Workplace learning

The survey also asked about practice and work based learning experiences. In a first question, we asked whether participants had experience with internships. Overall, less than half of all professionals (except for the Belgian participants) have done an internship. This is surprisingly low, certainly in a professional sector that is practice oriented. In a follow up question, we asked how long the internship had been. Except for Italy and Ireland, there is a small tendency toward short (max 4 months) of internships. Polish and Lithuanian participants and to a smaller extent Romanians too seem to have some opportunities and interest for longer internships of longer than 1 year.

On the job training

Formal on the job training

In this part of the survey, we asked our participants to comment on their competence, skills and knowledge acquisition while on the job. This is highly relevant for a number of reasons: first, there are many different tasks, task descriptions and job requirements in this sector where the technological environment is highly dynamic. Furthermore, as we have seen earlier, an important part of our target group comes into the profession without an education that is directly related to the job specifications (even if that were possible), or are coming from a sector which is not related at all to the digital media and arts business.

It would be expected that formal on the job training and capacity building in that case bridges the capacity gap for the media and arts worker in his/her (new) job environment. It would also be expected that the employer would be offering such opportunities to these workers. In the following part of the survey we try to detect how far digital media and arts workers are being offered or required to follow training on the job, both formally (organised by the

employer and following a programmatic approach) or informally (voluntary, on the worker's own initiative and without aspects of assessment, certification, programme of study etc.)

In general, with an exception for Lithuania, 2 out of 5 workers in the digital media and arts profession received a formal on the job training. This compares quite well to the number of workers that are joining the profession coming from another professional area or to the number of digital media and arts workers that are coming to this area from Higher Education studies that are not related in any way to the digital media and arts sector. This is a striking result but it is not yet clear whether this correlates significantly to call this effect systematic.

Skills and competence gaps

In the last part, which is probably the most important part of the whole survey, we try to understand what the professionals in the digital media and arts sector consider their most important skills and competence gaps, based on their working experience.

This part of the survey deliberately does not survey gaps in very specific technical competences, as they are as diversified as there are job descriptions and responsibilities. The following survey results will therefore not mention skills and competences such as PHP programming, drone design and operation, colorimetry, principles of portrait photography, e-commerce development, etc. where they are essentially the key skill or competence of the worker. The survey participants were asked to indicate in how far they felt they possessed a skills or competence gap for each of the above and also how large the gap was in their view: from no gap at all to large gap.

Need for specialised training and capacity building

When we compare the findings of the questions in this last part, we get a view as to where the deficits are in training and capacity building for the digital media and arts professionals in the eight countries of this consortium.

The results are pictured in the following table, in order of priority.

Figure 3. Skills gap minus skills obtained while on the job; competences and skills deficit

The greatest need for training is clearly for regulatory and legal issues, followed by a number of general competences for self-deployment such as knowledge building, global awareness and self-assessment. A number of very concrete practical competences and skills such as accountancy, business administration, programming and languages follow next.

This list gives an indication as to what professionals in the digital media and arts sector see as their biggest shortfall with regard to transversal competences and skills. It is important to note again that it was not the intention to survey the very specific technical skills or competences that are typical for each individual job description or responsibility.

Conclusions

This is the first survey of this size and with this detail in Europe within this professional category. It succeeded in collecting a good data set about the skills and competences of professionals working in digital media and arts in eight European countries. The rich and complex data that are the result of the survey are sufficient to come to a first set of meaningful conclusions, especially with regard to the impact of education on the worker in his professional environment including the effect of internship.

A number of conclusions can be drawn from this first analysis. The survey has allowed us to make a quantitative and limited qualitative analysis of the profiles of media workers with regard to the competences, skills and attitudes they possess related to media businesses, such as artistic skills, general technical skills, business processes knowledge, communication,

project management, structuring of content, team work, problem solving, time management, etc. The survey resulted in a comprehensive list of transversal skills and competences that are required by the professional digital media and arts worker set off against those acquired in formal education as well as on the job.

- The very high degree of variance of results demonstrates one of the assumptions that was at the origin of the survey: the fact that a significant number of employees are streaming in to the job without sufficient qualification in the specific professional field and/or with no relevant education or professional experience.
- A higher educational degree seems to have a positive influence on the "skills and competences gap": a higher education results in a smaller gap.
- Male respondents show a lower average gap than female respondents.
- Company size does not show any correlation with the average skill gap.
- The average skill gap is lower with those respondents that are not in their first job, and even lower again where their previous job was also in the digital arts and media domain.
- Internships have a very positive effect on the skills gap if they last at least one year. This effect is amplified when the internship is supervised.
- There is also a relationship between the skill gap and the secondary school degree: those secondary education degrees that contain certain digital arts and media competences and skills have a positive effect on the skills gap later on in the professional career.
- To reduce successfully the skills gap the educational system should already focus on secondary level and on early specialisation in digital media in higher education. General higher degrees do not reduce the skills gap in the section of digital arts and media.
- Besides the very specific, directly job-related and highly specialised subjects, the professional worker in this domain is expected to build his/her competences in the following areas:
  - legal issues, regulation and IPR; accountancy;
  - business competences (writing for business, marketing, understanding business processes, etc.);
  - programming;
  - managerial competences (change and people management, HRM, international collaboration and project management, etc.).

Next steps

The iPro project consortium organises information sharing activities with the HE and the CPD community in this professional area and aims at co-designing with this community a curriculum framework that should enable HEIs and professional training agencies to closely monitor the gap that exist in their own education programmes, and to facilitate the creation

and exchange of study programmes, courses or modules that can complement the existing curricula, where such is relevant.

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