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CROSS OVERS IN TECHNOLOGY-RELATED JOBS

21st century skills of a social media architect

Sjoer, Ellen¹

The Hague University of Applied Sciences
The Hague, The Netherlands

Beelen-Slijper, Jeany van

Inholland
The Hague, The Netherlands

Biemans, Petra

Inholland
The Hague, The Netherlands

Jacobs, Frans

The Hague University of Applied Sciences
The Hague, The Netherlands

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ABSTRACT

A social media architect is an appealing new profession that entails crossovers between communication and IT & Design. There are no study programmes for this job. Important questions are how to interest secondary school pupils for such a new job, and how to prepare them for these jobs or jobs that do not even exist today? This research aims to set an example by presenting a realistic job profile of a social media architect by linking the '21st century skills' to the context in which he/she operates. In-depth interviews with social media architects that can take six different roles: strategist, designer, videographer, copywriter, content manager, and team head, revealed that 'creativity' and 'collaboration' are the most important skills clusters. By diving deeper into the subcategories, it became clear that they mean something different for each role. As a consequence, each role should be appealing for students with different profiles. Furthermore, we also look into what drives and motivates professionals to work as a social media architect. We should take a more holistic view if we want to attract and educate pupils about (new) professions. This research project serves as an example on how companies and secondary and

¹ Corresponding Author: Dr. E. Sjoer, e.sjoer@hhs.nl

higher education establishments can combine their efforts to innovate job profiles for the changing labour market.

1 INTRODUCTION

1.1 New Professions

Work is changing rapidly. Problems can no longer be solved from a single discipline because they are so multifaceted and complex that cross-overs between disciplines are needed. As a result, jobs are disappearing, or changing considerably, and new professions are created [1]. Job titles such as social media architect, neuro marketer, ethical hacker and drone pilot show that employers are looking for distinctive competences. These jobs often require technical expertise (which is constantly evolving), in addition to a greater need for so-called '21st century skills'.

Secondary and higher education establishments face difficulty in responding to these developments. In secondary education, it is important to be able to provide an up-to-date overview of study programmes and professions since pupils have to make a choice about their further education. Moreover, both secondary schools and higher education establishments would like to know how they should prepare their students for new professions or jobs that do not even exist today. For companies that want to hire these new employees, it is also important to gain insight into the profiles and the corresponding 21st century skills. Our education system has no suppliers for new professions, which makes it difficult for them to find the right staff.

To set an example, we decided to study one appealing new profession: a social media architect (SMA). An SMA helps companies to develop and execute a (media) strategy. It is a cross-over between communication and technology. We conducted three interviews with teachers of a secondary school. They indicated that they did not pay much attention to new professions during lessons in which they help pupils to select a study programme. Investigating an SMA as an example, seems a good choice to them, because it sounds good, but pupils have no idea what he or she does all day and what it takes to become one². Furthermore, more pupils might choose a technical career. According to Endedijk et al., a technical career is now often chosen by 'nerdies' and 'loners' [2]. These students find it difficult to be confronted with the 21st century skill's, such as collaboration skills. When we show the cross-overs in current jobs, students with different profiles might opt for a technical career.

1.2 Theoretical framework of the 21st century skills

To make clear that our future workforce requires different qualities than disciplinary knowledge and some soft skills, the term '21st century skills' was introduced. A large number of frameworks were created primarily at schools and universities to describe

² This finding is confirmed in a small questionnaire with open questions among 112 high school students.

which qualities will become important [3]. We share the criticism that also arises about these 'lists' of 21st century skills. We, too, believe that they will not help sufficiently to educate students or employees. Moreover, 'skills' is probably not the right term. Nevertheless, it is helpful to use a framework in this paper to give an idea of the capabilities of our future workforce. We chose to use the 'Framework for 21st Century Learning' (P21 model), among other things, because this model is well documented. The model has been jointly developed in the United States by education, business and government [4]. This framework describes the skills, knowledge, and expertise students must master, represented by a rainbow, to succeed in work and life (see figure 1). It is a blend of content knowledge, specific skills, expertise, and literacies. In this P21 model, the 21st century skills are divided in three clusters, and several components. (see table 1).

Table 1. Clusters of 21st century student outcomes (P21)

Life and Career Skills	Learning and Innovation Skills	Information, Media and Technology Skills
Flexibility and adaptability Initiative and self-direction Productivity and accountability Leadership and responsibility Social and cross cultural skills	Creativity Critical Thinking Collaboration Communication	Information literacy Media literacy ICT literacy

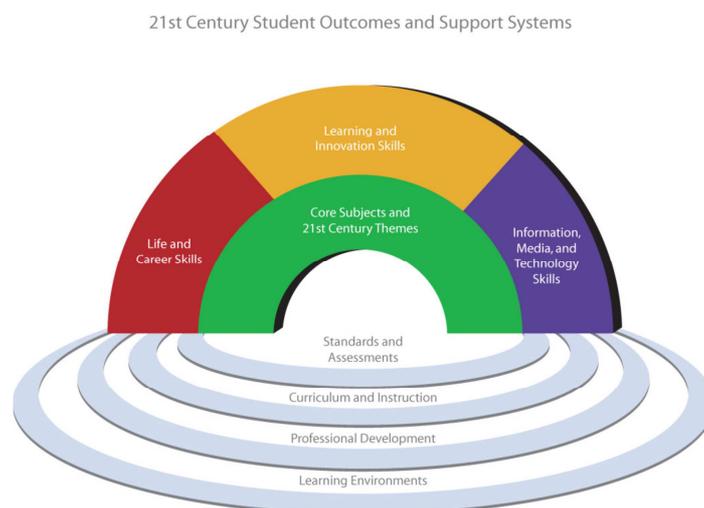


Fig. 1. P21 framework of 21st century student outcomes

1.3 Research question

The research question is: *Which '21st century skills' does a (team of) social media architect(s) need(s) for which professional activities and professional results?*

2 METHODOLOGY

We conducted a qualitative interview study to describe the professional activities and the associated 21st century skills of an SMA. According to the practitioners, this new profession consists of six roles, which taken together, form the professional profile of an SMA: strategist, designer, copywriter, content manager, videographer and a team head.³

2.1 Respondents and procedure

Five SMAs were interviewed for approximately 75 minutes each (see table 2). The semi-structured interviews were conducted using an interview template with six blocks of questions. Each interview started with general questions about their age, educational background, professional experience. The second block contained questions concerning the area of activity, such as stakeholders, sectors and emerging economic and social trends. This was followed by blocks of questions about the professional activities and the qualifications and competences to meet the objectives of an SMA. The interviewees did not get a list of 21st century skills, but they got questions such as: What is absolutely necessary to do the job well? What would you look for if you want to hire a colleague in your role? Finally, there were questions relating to the motivation for the job and career development. The interviews were recorded and transcribed. All transcripts were then analysed with a software programme, using the six blocks of questions. Finally, the results obtained were evaluated in a workshop with three SMAs, (including two interviewees), two teachers and three researchers.

Table 2. Background of the respondents

	Role	Background (study)	Professional experience
1	Strategist	Commercial communication management (higher vocational education)	7 years: communication officer/ manager (at a large tech company); 4 months at SMA agency
2	Designer	Associate degree in graphic design and art college (UAS)	3.5 years at SMA agency
3	Copywriter	Upper vocational secondary education in business and administration	Graphic designer in Screen printing shop; designer and copy writer ad agency; (Chief) editor publishing company; 6.5 year at SMA agency
4	Content manager	Communication and Media (Erasmus University); Master Corporate Communication	Full time in restaurant business; online marketer; 4 months at SMA agency

³ In the near future, the role of designer and videographer will be combined. This role will be defined by the word: 'creative'.

		(University of Amsterdam)	
5	Videograph/teamhead	Economics at university of applied sciences (minor at art college)	Video-head at large e-commerce company (3 years, in total 7.5 years at this company) + own company (in film/video, such as wedding videos); 3 months at SMA agency

The five interviewees are all working in the same company, which is a small, innovative company with 16 employees, located in a city in the Netherlands. The roles in Table 2 are assigned to the employees and they operate in this role in one of the three full service teams that exist within the company. Nearly all the interviewees are about the same age: 28-29, apart from one respondent, who is 52 years old.

3 RESULTS

3.1 Professional activities related to 21st century skills

In the aforementioned workshop three SMAs, two teachers and three researchers defined what is most important for an SMA. They conducted a so-called 'why' session with the following result:

'A social media architect is immersed in the needs of the customer and target group, and translates this in co-creation to (digital) content to ensure the conveyed message touches and moves the target group.'

For example, one assignment is about generating positive media attention during the period that an important tunnel is closed in the city. In order to create understanding among the public, who often used the tunnel, so-called 'fixed columns' have been created, generating a constant stream of media attention. When monitoring the impact, it shows that the interaction is good, thus 'engagement' continues to rise. Every now and then the team SMAs try their hand at 'newsjacking'. At Christmas time, the idea was to make a short movie, 'our building heroes' about the people who renovate the tunnel, to acquire an attention peak on social media and 'to surprise those algorithms again'. (After the strategist's story).

The '21st century skills' needed to achieve the aforesaid objective with a team of SMAs, are shown in Figure 2.

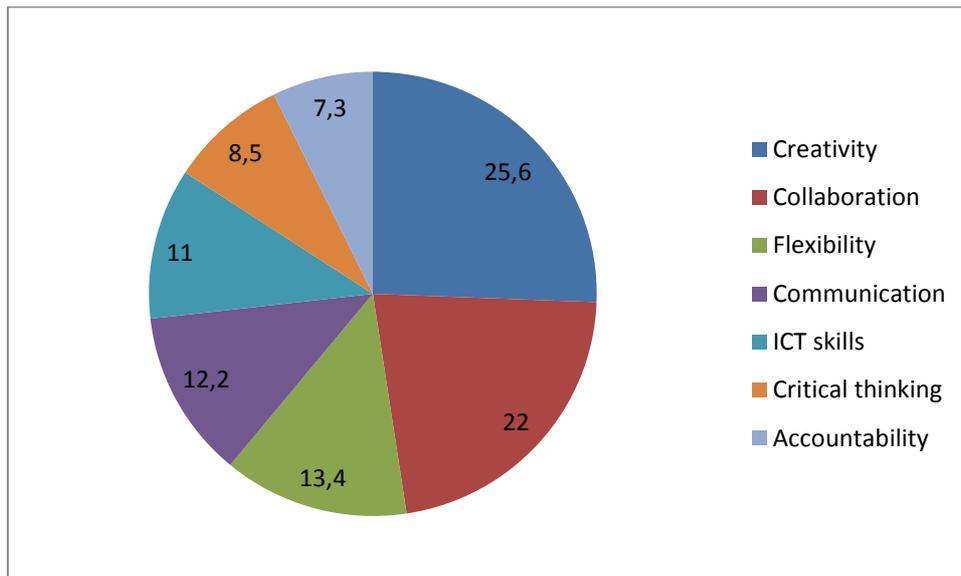


Fig. 2. Frequently mentioned 21st century kills of an SMA

The two most frequently mentioned skills are ‘creativity’ and ‘collaboration’. These are two big clusters of skills that seem to be important. The second largest groups are ‘flexibility’, ‘communication’, and ‘media and technology skills’ (in short: ICT skills). The third most important groups of skills are: ‘critical thinking’ and ‘accountability’.

The narrative of these important groups of skills can be defined as follows. In this company, SMAs work as a team. To achieve their common goal they have to be creative (together). They are communicating with each other frequently and thoroughly, as well as with the client. Furthermore, as a person, they have to be flexible, media literate and able to apply technology effectively. Finally, as an SMA, you have to manage time and projects successfully and take responsibility for the final results.

3.2 The meaning of 21st century skills per role

Roles and tasks of SMAs differ in the team and with it, the emphasis on particular skills. A strategist seeks for the question behind the clients question and converts it into a communication or media strategy for a specific target group. A designer designs the images and a copywriter writes short, well-chosen texts and scripts. A videographer makes appropriate, surprising videos and a content manager spreads the message that a client wants to communicate. He/she literally posts on Facebook. Finally, a team head (in this case also a videographer), ensures that the team functions well.

The results of the most frequently mentioned 21st century skills: creativity, collaboration, flexibility etc. are not enough to recruit new entrants to the profession, and/or to educate pupils or students for future jobs. Therefore, we dove deeper into the matter and we made a summary of the professional activities and results per

role, the essential knowledge, and the most important 21st century skills that come with it, according to the respondents. Furthermore, we looked at their value proposition, asking questions like: What makes this so cool and interesting for you?

When we take a closer look at what **creativity** entails, we discover what it means for different roles. For a strategist, it means to use idea generation techniques to gain new ideas (together) and to turn these ideas into a (media) strategy or approach that has an effect on people. Creative thinking and a useful contribution to the client (the result of creativity) are the most important elements. Whereas for the designer, creativity mostly means to be able to demonstrate originality and inventiveness in concrete work, e.g., a logo. A content manager can be confronted with negative reactions after posting a message, and s/he should be creative in re-thinking, which was described as: 'to analyse and evaluate own ideas and flip them to the positive side'.

To be able to work as an SMA at this company you should be a '**team player**'. All SMAs have to demonstrate their ability to work effectively within a team. Each play a part in a theatre piece, or a music band, so to speak. They value each other's contributions, have a willingness to be helpful and to make compromises to accomplish a common goal. 'We talk a lot with each other. It's a new industry, it's new work, so there are no paths we can take. [...] Within the team we always consider: are we doing this because we did this last time, or because it works best.' (content manager). They also work together with external parties: printers, website builders etc.

Yet, this collaboration requires something different from a copywriter than from a videographer. Although they are both part of a team, the latter can make a video all by him/herself from start to finish, whereas a copywriter's work is often fragmented. S/he should revise many texts of colleagues, or write small texts for different multimedia presentations. This requires **flexibility both in time and mindset**: 'If something needs to be online this afternoon and colleagues want to have it checked, I can say that I don't have time for that, but that won't help anyone.[...] But it also means switching from writing something for a cycle repair shop to writing for a lawyer'. A copywriter must be able to adapt to schedules and contexts and has to work in a climate of changing priorities. Adapting to changes also applies to the content manager in relation to the client: 'Imagine your content is ready for this week and then the customer calls: "something is happening now and that needs to be communicated quickly". [...] Then all content goes to next week, or to the trash and then you start creating something else.'

Especially creators of tangible products such as texts (copywriter) and images (designer) mentioned that being flexible also means incorporating feedback effectively. 'If a colleague thinks something is ugly, you must not relate that too much to yourself'. Also with the client, both gave examples of understanding, negotiating and balancing diverse views to reach workable solutions. 'If you get the answer [from the client] "that it doesn't feel right", they actually mean that it is not entirely how they

see it. But if that is what their target group is aiming for, if it does what you want to get done, it's best to think about it for a while. [...]. At first I do not agree. I want to talk with the client again.' (copywriter) Another example of understanding and balancing diverse views: 'As a designer, you must be able to work for someone else. Sometimes you have to be careful with your own style. We never make things that we don't like, but sometimes you have to make concessions.'

The core-business of an SMA is **communication**. Almost all SMAs emphasise the ability to listen and to read emotions. Customer empathy is important for the strategist to ask the right questions to get to the real problem; for the designer to get information about the context and intentions; for the copywriter to understand the target group better; and for the content manager to develop a relationship with the client: 'they should see you as a colleague'. All SMAs use communication for a range of purposes and utilise multimedia and technology. Their core knowledge is about how to judge their effectiveness a priori as well as assessing their impact. The reason that **information, media and technology skills** did not comprise the most important group of skills may be that they take their ability to access and evaluate information, to analyse media and to apply technology effectively for granted.

Regarding the **knowledge** component, disciplines such as marketing/sales, psychology, communication, and journalism are mentioned. Up-to-date information on legislation (AVG), software expertise (knowledge about packages and programmes, knowledge about the operation of websites, algorithms) and of course role-related knowledge are also mentioned; for example, for the videographer, knowledge of camera equipment and technical expertise about making videos: 'what makes a nice shot?'. Nearly all SMAs talk about awareness of new (technological) developments. 'What's new in social media?' Upon asking this question, current trends according to the respondents are: more images, ultrashort, personalisation, passion for data.

To have some understanding what **drives and motivates** SMAs, we asked: What are you most proud of? Four categories emerged from the data:

1. Happy customer: 'Who is really satisfied and his expectations have been exceeded'
2. Teamwork: 'A final result that everyone has contributed to'
3. Results: 'Seeing the result if you pass it or if it is on social media.' 'Starting with nothing and creating something very beautiful that tells a story.'
4. Effect on the target group: 'If it elicits responses that you had hoped for, yes, then I am proud.'

4 CONCLUSION

In this paper, we investigate which '21st century skills' a (team of) social media architect(s) need(s) for which professional activities and results. A social media architect (SMA) is a new profession. It combines several roles: strategist, designer,

copywriter, videographer, content manager, and team head. Teachers of secondary school and higher education do not know how to introduce pupils and students to new professions and how to prepare them for jobs that do not even exist today. At the same time, small enterprises of social media architects are growing rapidly and they are in need of more detailed information on the skills of new hires since they cannot fall back on appropriate study programs or work experience.

The job of an SMA and the approach we took to investigate this profession thoroughly serves as an example of many new professions, such as ethical hacker, digital detox therapist, urban farmer, smart-home expert, privacy consultant, and crowdfunding specialist.

If we compare the 21st century skills that emerged from our data with the P21 framework of 21st century skills (see chapter 1.2), we conclude that of the famous 4 Cs in the learning and innovation skills cluster: creativity and collaboration are the most important skills for an SMA. If we take a closer look by comparing all the creativity quotes for the roles an SMA can take, a strategist should be good at 'creative thinking' (together), a designer and copywriter should provide 'creative work' (with others) – meaning demonstrating originality and inventiveness in work – and a content manager should be good at 'implementing creative innovations'. Communication, especially customer empathy, and collaboration are of utmost importance since these SMAs work in a team that considerably depends on each other's individual contributions. Although stated less often, 'critical thinking' was mentioned in the sense of solving different kind of problems in innovative ways, and reading statistics: interpreting information and drawing up conclusions on the effect of media messages on the target group, as well as making an analysis upfront. Given the trend to work in a more data-driven manner, the importance of this skill may increase over time.

From the cluster of life and career skills 'flexibility and adaptability' and 'productivity and accountability' stand out. An SMA should be adaptive to change, and has to work effectively in a climate of ambiguity. As a team, they are very structured. They work with planning tools which makes it easy for people to assign tasks to each other. However, something unexpected often happens and the deadlines are tight, because SMAs often respond to current events and they want to have a consistent stream of content online. From our findings, we do not see any quotes concerning 'cross-cultural skills'.

Surprisingly, the information, media and technology skills cluster was mentioned less often, but was named in conjunction with the required knowledge of an SMA. Moreover, we think that SMAs take the ICT-related skills for granted. If the social media architect is known for anything, it is known for its cross-over between (social media) communication and (multimedia) technology. An interest in social media, customer empathy and creativity go well with creating media products and using digital technologies effectively. You can't have one without the other. We see the same development in our research on professions in transition [5]. An HR-advisor

should understand HR analytics, an accountant should become a data-analyst with financial knowledge – or the other way around?

In our approach, we do not advocate making job profiles for new jobs in a traditional way based on job demands. We recommend taking a holistic view when attracting and educating pupils and students about (new) professions. It should be clear in which kind of environment an SMA must show what kind of ‘skills’, in the broadest sense, thus including attitudes etc. Which combination of skills is necessary to be successful in which role within this team, and what drives every individual? What is he/she aiming for? What makes him/her proud? The motivation of professionals and the working context should be clear in every information clip for students or interview with applicants.

The strength of our approach is that we make complex material accessible to a wide audience because we bring new professions into focus by making them concrete and personal. We do this by:

- Focussing on professional activities and professional products;
- Combining knowledge and 21st century ‘skills’ (broadly defined);
- Showing the interaction between different roles and skills;
- Relating to what motivates people;
- Using information directly from employees themselves;
- Putting it into context;
- And supporting it by data (from interviews and observations): experiences and practical examples.
- And next (not in this paper), designing future-oriented professional images in co-creation, which are realised in a collaborative process that is already shifting the mindset.

Technology is at the core of many jobs, but engineering and technology-related jobs are context specific. Many times are over, professionals can do the same work everywhere. A programmer contributing to the energy transition should understand this domain thoroughly and its key players [6]. The same programmer cannot be easily transferred to another domain (anymore). Therefore, our main message to every (pre)professional is to know yourself, and to explore and choose for the context or domain you want to make a contribution to, and in which role, instead of relying to job titles and job descriptions.

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