USING BLOG AND OTHER ON LINE TOOLS FOR IMPROVING EDUCATORS' DIGITAL COMPETENCES AND PROFESSIONAL DEVELOPMENT[1]

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SOMMARIO

A partire dall'anno accademico 2014-15, presso il Dipartimento di Scienze dell'Educazione dell'Università di Bologna, e più precisamente per il corso in «Educatore Sociale e Culturale» e «Educatore nei servizi per l'infanzia», un nuovo programma per il laboratorio di informatica per l'educazione è stato proposto agli studenti e alle studentesse. Il contributo vuole descrivere quest'esperienza, spiegandone i concetti pedagogici e le connessioni fra le consegne richieste e il framework europeo di competenze digitali DIGCOMP 2.0. In secondo luogo, attraverso un sondaggio online di autovalutazione, gli autori hanno indagato come gli studenti hanno percepito lo sviluppo di tali competenze in relazione ai compiti richiesti dal programma.

PAROLE CHIAVE

TIC, sviluppo professionale, competenze, DIGCOMP, educatori

[1] Introduction, paragraphs 1.2 and chapter 2 are written by Alessandro Soriani; paragraphs 1.1, chapter 3 are written by Giada Trisolini; Conclusions and future developments are written by both authors.

ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

ABSTRACT

Since 2014-15, in the Department of Education of the University of Bologna, more precisely within the framework of the bachelor degree curriculum named «Expert in Social and Cultural Education» and «Educator in Childhood Social Services», a new programme for the short course called «Information and technology for Education» started to be proposed to the students. This paper explains the rationale behind the programme and its connections with the European Digital Competences Framework DIGCOMP 2.0. Secondly, through an online self-evaluation survey, the authors investigated how students perceived the development of these competences by implementing the steps of the course.

KEYWORDS

ICT, professional development, competences, DIGCOMP, educators

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ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

1 Introduction

This contribution aims to describe and give insights on the pedagogical framework of a particular learning situation, still ongoing, started in academic year 2014-2015 in the Department of Education Studies «Giovanni Maria Bertin» of the University of Bologna, more precisely within the framework of the bachelor degree curriculum named «Expert in Social and Cultural Education» and «Educator in Childhood Social Services».

The experience described is a 3 CFU short-course (Italian academic credit system) called «Information and technology for Education»: this particular module is specifically designed for non-attending students and it's delivered in blended-learning mode. The course is designed to be accomplished in an amount of work comparable to 75 hours.

After the introduction, this paper will present the perks of using online 2.0 tools (namely blog systems, online presentation tools, online video repository and online survey) as educational resources in didactic process. The Blog, the online presentation tools proposed, the online video and the online survey are presented as key elements to develop digital competences and to express one's own creativity. In the second section it is presented the context, the motivations underlying the pedagogical approaches of the course, and the program of the blended learning course with its learning objectives. This section describes also how the different parts of the program develop competences from the DIGCOMP 2.0 framework.

The third part of the article describes how the authors put in place a self-evaluation process to help students reflect actively on the DIGCOMP 2.0 competences they had before the course and after the whole process. This evaluation tool allowed the authors to get interesting data about the pedagogical value of the program which will be presented and discussed in this last part of the contribution.

2 Blog and Digital Competences

2.1 *Blog as an educational resource*

The development of the so called «information society» and the spreading of ICT tools hasn't promoted only the creation of new opportunities for learning, but also new challenges to the traditional teaching methods. A learning tool is any software or online tool or service that can be used for you own personal learning or for teaching training (Hart, 2016). In the last ten years, the use of blog has been increase probably for its features: it is a powerful source of information and communication, it is easy to use and is not required to have any technical computer skills, such as HTML, as it is enough to have the content (Banzato, 2006).

ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

On the Top 200 Tools for Learning 2016 website, compiled by Jane Hart of the Centre for Learning & Performance Technologies, from the votes of learning professionals worldwide, it is possible to see that particularly that a blog tool (Wordpress) is in the top 10. Blog is a valuable tool for a number of reasons, it is used by individuals and organizations for blogging, but also to create fully-functioning websites.

Lately, blogs are used for educational purposes. Already, in 2000 Peter Ford, an English teacher from the British Academy of Amsterdam, created the first educational blog called «Mr. Ford's Class Weblog» with his class (Key - Stage 6): the blog was created by the teacher as a tool to support learning process with scaffolding and modeling functions to support students (Tonin, 2007).

Patrick Aaron Campbell categorized blogs into three different types:

– the tutor blog: held by the teacher for students, as support tool for self-learning;
– the learner blog: held by a single student or a small group of students, as a tool for practice and discussion between students;
– the class blog: held by the whole class, as a tool for collaborative learning (Campbell, 2003).

Since then, sustained by the incoming of the new web 2.0 tools and all the Content Management System (CMS) free services, blogging became a wide-spread and easy-to-use tool used more and more even in educational contexts.

This phenomenon was also fostered by the big advantages (Banzato, 2006) that Blogs offer on the technical and practical side, namely:

– easiness of use. Blog doesn't require user to know how to code in HTML, so making new posts it's easier than before;
– free. Most of weblog services are completely free to charges;
– speed. Making posts is an instant process, what users need to do is just write the content from any access point without concerning of FTP protocols;
– RSS technology. With the meta-data and the XML properties, the distribution and the share of contents, is easier and faster;
– interaction. Possibility to collaborate in the production of the contents and to reply and comment posts;
– customization. The creation of a personalized environment, aimed as a space for self or communities'expression.

The blog can be considered a key element in building an open learning environment: in education and training it can represent a «place where people can work together and support each other, to achieve learning objectives and problem solving, using a variety of tools and information resources» (Wilson, 1996, p. 5).

The weblog can also be considered as a «Building Knowledge Environment» (Scardamalia & Bereiter, 2003), seen as a place that can bring out and develop new ideas. In this environment, knowledge is created by the learning community itself, encouraged and fostered by the social interaction.

ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

Since their appear on the web, blogs and others 2.0 tools such as online document-editing tools, presentation tools, video repository, etc. pushed teachers, students and youth workers to acquire and improve their ICT skills through direct and situated-meaning experiences.

There are many online tools which help users creating content and producing educational resources in a simple and immediate way: this vast amount of applications allows users to contribute to the construction, the development, the evaluation and the dissemination of knowledge. The rise of user-created content, has become a central pillar of the participative web and nowadays includes different media.

The main purpose of the short course's program is to put the students at the centre of the process of production and distribution of content and knowledge. For many years, this position was occupied only by teachers, seen as the only one with the right to create or use tools and resources to teach.

What comes out from this framework is a social-constructivist «many to many» pedagogical model: the trend is to bring greater democratization of culture and education, guaranteed by the low cost and one-click away knowledge (Davoli, 2013).

Trying to summarize, the choice of the course's designers to put blog at the centre of the program, can be listed in four macro reasons, each linkable not only to the characteristics of the tool itself but also to the needs and the purposes that are addressed:

– knowledge production: The blog is a useful tool for knowledge production. The contents created using web resources and tool can be reused in different contexts, such as formal and non-formal educational environment, or professional training. The knowledge production is fostered by the interactiveness of the environment which goes in the direction of the combination between individual and collaborative learning;
– expression of the self: The blog can be considered as a custom repository for posting multimedia elements: texts, pictures, videos, links, comments, etc. Thanks to these amounts of opportunities, users can express themselves creatively, record their personal experiences, share and discuss their own content;
– professional development: Blog is a convenient and practical tool to be used in different contexts: professional, political, social and educational. The new web 2.0 services allow an effective customization able to pursuit different purposes;
– content aggregator: Due to the possibility to write posts and copy links, blogs can be seen as an aggregator of various contents referred same or different topics. The blog is an interoperable platform that can support different content type, such as hyperlinks, feed RSS, tags, plug-ins.

The short-course program includes, in addition to the creation of the blog, the use of others on-line tools useful in education. It is important to underline that the choice of the authors to include these learning on-line tools in the program is

ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

given not only by the technical features of these tools, but also for their ability to respond to the program's learning objectives. We might classify these learning tools into three main categories:

1. on-line editing tools for presentations, useful to represent and manage contents and concepts in a powerful way in order to express one's own creativity and thinking through multimedia elements. During the course students have to use some sharable presentation, such as Google Presentation, Prezi or Padlet in order to explain their motivations and represents their point of view in relation to the topic they have chosen. These presentation tools allow the students to create content in a collaborative way and store their works and make possible easily reuse of these content by all the co-authors (Patassini, 2015);
2. on-line video tools due to its easy consultation and reuse features. Video resources play in didactic field a privileged role in the learning process, for its universal language. In the short-course program students are asked to use on line video tools for browsing and creating purposes. The use of video is a powerful communication mean that can be considered as an access point to discovering new worlds (Fabbri, 2005). In addition, video can become an important way for increase students' motivation, make contents more accessible and give the lectures more meaning and interactiveness (Bonaiuti, 2010);
3. on-line surveys systems, valuable tool for creating quiz or questionnaires with automatic evaluation and for a better data analysis (i.e. Google Form). This is an important tool of formative assessment that allows the teachers to improve their teaching methods (Gehringer, 2010). Moreover, it provides the students a self-assessment tool that can be a mean for a meta-reflective way of learning.

2.2 *Digital Competences*

«It's important that future educators and future youth workers will be persons well prepared on every side: they should be trained not only to be competent on the technical level but also and especially to know the potential of the new web 2.0 tools in order to educate people able to use critically, properly and creatively these new tools» (Buckingham, 2009, pp. 13-24).

It does not only about educate future citizens to use technically the social media, the Internet and all the new devices: it's about foster and educate them to use this great asset to be completely part of the society of tomorrow. A society where the environments are – and will – be connoted by an interpenetration and a reciprocal influence of real and virtual spaces.

This concept of digital citizenship it's been explored widely in the policy, industry, and academic discourse.

For UNESCO, future citizens will be those who'll be literated in media and information process (Wilson et al., 2011): they will use media and ICTs also as a way for express themselves. UNESCO remarked also the importance of

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ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701
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engage positively in digital worlds with the concept of Media and Information Literacy (MIL), «a new literacy construct that helps empower people, communities and nations to participate in and contribute to global knowledge societies» (UNESCO, 2013, p. 17).

The Joint Research Center of the European Commission, in its *DigComp 2.0: The Digital Competence Framework for Citizens* refers to the need that is present in the formal education system, but also in other contexts such as non-formal education systems and labor market, of having citizens which are «digitally savvy in an increasingly globalized and digital world» (Vuorikari et al., 2016, p. 4).

If future citizens have to be prepared for these tasks, the education professionals at any levels, also the ones coming from the non-formal education systems, have to be prepared to deal with these issues and to educate for digital literacy. This «involves critical media literacy skills of analysis, evaluation, and comprehension and creation, but also those of design, participation, remix, cultural appropriation, engagement in diversity, listening, and cross cultural exploration» (Mihailidis, 2016, p. 240).

For all these reasons the revised program strive to foster the students' skills to explore some of the most useful tools for youth workers, educators or teachers, and to use these tools in an expressive and reflective way.

3 The Blended Learning program

3.1 *The Blended Learning program*

ICT tools, in the educational activities of the Bachelor's degree «Expert Social and Cultural Education», are used to support and promote the process of student learning: many of the courses have their own online learning environments (Moodle engine) to share materials, resources, insights and to deliver online test.

For some courses (basic courses, mandatory courses, optional or supplementary) the use of ICTs becomes more important, e.g. the courses named «Media Education» or «Technologies of Knowledge», where the programs provide for the activation of some practical experimentations in order to understand the possible applications of Media and ICT: for example, the critical comment to some hyperlinks, videos, videogame or the creation of online digital storytelling.

One can find also several «Information and technology for Education» workshop-courses, small 3 CFU courses for attendees, with different specific programs to acquire digital competences for the education work, such as coding and computational thinking (using the MIT platform Scratch), Stop motion video animation, online bibliographic resources, online collaboration tools (such as google drive, Dropbox and Prezi), and also testing new e-learning platforms for planning and implement learning objects (C@vir pedagogical planner and exelearning).

ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

Since it was not possible to serve all the students with only the full-presence courses, the authors of this contribution implemented a Blended-Learning program. A course in ICT for education was active since 2007 with a different program that was not anymore suitable to the new types of digital media and tools: this old program concerned the use of the Microsoft Office tools (mainly Powerpoint and Word) and its main aim was focused more on the technical competences of the students rather than the potential of the tools in terms of help for planning and running educational activities.

3.2 *The Blended-learning approach*

The Blended-learning program is conceived for those students who cannot afford to attend to the courses for attendees. The choice to create a brand-new program came from the fact that since the others programs are conceived with 24 hours of presence where students are engaged into workgroups, workshops and collective sharing of works, it was not possible to replicate one of them into a blended learning model.

Students are asked to work individually at the planning and implementation of a blog that should address a topic connected to the world of education. The objective of this program is to foster students to explore some online resources useful in their future professional lives as educators, particularly: know how to look up sense-making online resources, being able to create a blog and to manage a video-blog, being able to use online tools for creating presentations and online surveys. The aim is putting students in an «authentic learning experience» (Laur, 2013). A learning process needs to have four elements in order to be an authentic learning experience:

– it must be referred to an outside audience;
– it must have a connection with the context or the career of the subjects;
– it must have a justification that helps to understand the motivation of the experience;
– it must be a challenging inquiry.

These four elements can be found also in the steps of the blended learning program: in order to keep high the motivation of the students, they are not asked to do too much easy nor too difficult tasks. They are guided by a series of steps that, with the help of video tutorials and step-by-step walkthroughs, help them to accomplish every task, in a «challenging inquiry», not too easy nor frustrating, process that is strongly connected to their career-contexts. The blog, the video and all the materials produced are designed for an audience (educators like them) and must be produced with the aim to explain someone else the key concepts of the topic they chose and their comments. The motivation underlying the design of the program that will be described is basically twofold: ensuring equal access to the course also to those who have not the ability to carry out the program as attendees and set up a series of educational goals towards something that goes

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ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
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beyond the simple use of Microsoft tools. This means primarily operate to develop a level of expertise that promotes a less «techno-centric» use of digital technologies, more oriented to consider web tools as channels of expression and as a resource for their future work as youth workers.

3.3 The DIGCOM Framework

The pedagogical objectives listed few lines above, were designed by following the main areas identified in the European Union's report *DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: the Conceptual Reference Model* (Vuorikari et al., 2016).

The areas identified in the document are five, divided in different categories:

1. Information and data literacy: Browsing, searching and filtering data, information and digital content; Evaluating data, information and digital content; Managing data, information and digital content.
2. Communication and collaboration: Interacting through digital technologies; Sharing through digital technologies; Engaging in citizenship through digital technologies; Collaborating through digital technologies; Netiquette; Managing digital identity.
3. Digital Content Creation: Developing digital content; Integrating and re-elaborating digital content; Copyright and licences; Programming.
4. Safety: Protecting devices; Protecting personal data and privacy; Protecting health and well-being; Protecting the environment.
5. Problem solving: Solving technical problems; Identifying needs and technological responses; Creatively using digital technologies.

To achieve the objectives listed above, the students have to work on 6 practical steps, all described in detail, that are strongly connected to the five DIGCOMP competences' areas.

Before starting the analysis it's necessary to remark the fact that the whole program is designed to empower students in achieve and complete all the objectives by themselves, working in terms of overcoming and «solve» possible problems, use «creatively» the tools at their hands and «update» their own competences. All these achievements could easily be connected to the DIGCOMP area 5 (Problem Solving).

3.4 Program's design for learning

The whole process is divided in 7 step that will be presented here with their own learning objectives.

Step 1: Create a personal online blog

Students need to create a blog with Wordpress, and by doing this they will reach the following objectives:

– know how to create a new Blog;
– look for an online video resource in the field of education.

This first step's goal, strongly connected to the DIGCOMP area 3, *Digital Content-creation*, and more in detail to the *Developing digital content* competence, is about creating a blog. It's been decided to ask the students to use one specific platform, Wordpress, because, if compared with the other online tools for creating blogs, it offers many advantages. Where other services like Google Blogger or Wix offer quite effective and easy-to-configure tools, Wordpress allows a much higher degree of personalisation and configurations. Wordpress has the distinction between posts and pages, it offers many settings for the categorisation of the posts and the possibility to access a more complex and complete administrator's page. This approach is very important because it fosters students to really deepen their perception of a complete blog's structure.

Step 2: Look for an online video resource in the field of education

Step 2, will engage students in choosing and looking for online video resource inherent to the field of education; students need to choose one video resource from a reliable resource and post it to their own blog. Objectives:

– know the main and most reliable sites for scientific dissemination;
– know how to link video resources on a personal blog.

This second step, whose goal is foster students in getting competences in the DIGCOMP area 1, *Information and data literacy*, particularly *Browsing, searching and filtering data, information and digital content,* is about looking for online educational resources. Attenders are asked to look on the web and choose one video that is particularly interesting for them (TED Talk's official website is one of the examples listed into the program's page, but students are encouraged to look also for others reliable resources like Rai Edu, for instance).

Step 3: Description and comment of the resource

Step 3, is about descripting and commenting the resource; students are asked to produce a written comment complete with images and links. Objectives:

– know how to write a post in a blog;
– know how to integrate multimedia elements in a post;
– identify the most interesting parts into educational resources.

Once students selected the video, they need to link it into their own blog and comment their choice through a blog post of about fifteen lines. The simple action of copying the link, or the embedded code, and comment it, is already a test for their Area 1 and 2 from DIGCOMP competences, particularly *Evaluating data, information and digital content*, from area 1 *Information and data literacy,* and *Sharing through digital technologies* from area 2, *Communication and collaboration*. It's a complex act composed by the moment of choosing a content, thinking on the reasons of the choice, and sharing it with someone else.

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ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
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Step 4: Video blog comment

Step 4, is about producing a video comment; Students are asked to record and edit a video comment, upload it online and link it to their blog. Objectives:

– create a video and being able to upload it online;
– know how to manage privacy settings.

Creating a blog, knowing where to look for «quality contents» and sharing it with the rest of the internet community is only the first part of the program. Step 4's task is about fostering students in the active, creatively and reflective use of social media in terms of being producers and creators of new contents.

This task is connected to *Developing digital content* competence of Area 3 *Digital content-creation*: students are asked to create a video log with the technique they prefer (they can film themselves and talk, use written signs, film their hands while they write and explain by voice, etc.) and to upload it on a video repository service (YouTube or Vimeo). This action is also connected to *Protecting personal data and privacy* competence from Area 4 *Safety*, because students need to set the privacy settings properly in order to have videos only visible by persons allowed: they can set the videos as «not listed» (On YouTube) or «password protected» (on Vimeo).

In this vlog, students are asked to comment by voice their choice and make reflection of what they've learned or found inspiring in the original video they chose.

Step 5: Produce a resume/schematization

Step 5, will engage students in produce a resume/schematization using an online tool at choice between Prezi, Google Presentation and Padlet and link it to their blog. Objectives:

– being able to schematize concepts;
– know how to realize a presentation with online presentation tools.

The fifth step of the program is linked to the DIGCOMP area 3, *Digital content creation* and area 5 *problem solving*, particularly *Integrating and re-elaborating digital content* and *Creatively using digital technologies*. Students are asked to choose an online tool (on the program's page are proposed web services like Padlet, Google Presentation and Prezi) and produce an online scheme that retrace in a scheme of ten-fifteen elements (pages, slides, nodes) the whole work of the student.

Using one of the tools proposed, but also another online tool they find similar and inherent, the students need to give a recap of what they've done: a short retrace of the video they chose, the reasons of their choice, their comments and other contents (that they can link into the presentation) they found interesting or worth to add.

Step 6: Online evaluation tool

Step 6, is about creating an online evaluation tool with Google Modules, and link it to their blog. Objectives:

– know how to create online surveys;
– know how to create an online evaluation test;
– know how to gather and read answers.

In this part of the program students are asked to create, thanks to the support of Google Modules, a short online evaluation tool. Google Modules is an online tool for creating online surveys: it gives the possibilities to structure closed and open questions and to collect answers dynamically into a Google spreadsheet built automatically. Students are asked to think at a possible evaluation test, with closed and open questions, implement it with google modules, give two answers and share both the test and the spreadsheet into the blog.

Throughout all this process students work in developing the following competences: *Managing data, information and digital content* from area 1 *information and data literacy* because they are asked to organize, store and retrieve data, in this case the answers from the students; *Sharing through digital technologies* from area 2 *communication and digital collaboration* because they need to share on their blogs both the survey and the answers; and eventually, *Creatively using digital technologies* from area 5 *Problem solving*.

After accomplished all these 6 steps just described, the programme foreseen one final step: an oral discussion of all the work in a face-to-face situation with a teacher or a faculty member. This phase represents an important moment not only in terms of getting feedbacks from the students and to actually understand if they've mastered all the competences they were supposed to work on, but also because students can reflect on the use of the tools for their professional and personal future.

After this detailed analysis of all the actions asked to be accomplished, one can easily state that the role of the personal blog, in this non-attenders program, is central: without it all the other actions would be singles technical tests disconnected one to the other.

The fact of focusing on a platform to collect and give a coherence to all the steps, served the double purpose of:

– helping the program's teaching staff to keep trace in a smoother and clearer way;
– allowing students to use their personal online spaces as an opportunity to stand for a topic they felt important.

4 Investigating learning outcomes

In order to make more usable and to assure the quality of the blended course called «Information and technology for Education», it has been required to the student to fill a final survey with the aim to collect useful feedback for the improvement of the program.

4.1 *Sampling and methodology*

The survey was proposed so far to 66 students from the Department of Bologna and 29 from the Department of Education in Rimini (a detachment of the Bolo-

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ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701
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gna's faculty).[2] The questionnaire has been realized by the authors with Google Form[3] and has been sent by email to all students who have taken the course. The answers collected are related to 38 students from the bachelor degree's curriculum named «Expert in Social and Cultural Education» and «Educator in Childhood Social Services», particularly: 42% is from Bologna Campus, 32% is from Rimini Campus and 26% is referred to «Educator in Childhood Social Services».

The survey is composed by six sections that reflect the six steps of the program described in the previous paragraph. The first concerns general students information and their attitude with blog, the second is about video resource searching, the third section refers to on line tools use, the fourth is about audio visual production, the fifth concerns Google Form and in the last section there are some questions about the skills acquired during the course and two open questions that allow students to express strengths and weaknesses of the program.

The authors consider this survey as an important tool of formative assessment that allows to the authors how to improve the whole blended program and to the student a self-assessment in order to recognize their own achieved skills.

4.2 Data analysis

In the analysis of the two open questions of the survey «Suggest, if there are, some strengths in the program» and «Suggest, if there are, some weaknesses in the program», it is noticeable that the course has been appreciated by the students for different reasons. Firstly, to achieve information and communication skills useful in professional development and immediately applicable in the job context. Secondly, to achieve more consciousness and familiarity in the use of technology in education context.

The weaknesses of the course, provided by half of the students, instead, concern mainly technical aspects such as content creation and blog managing with different applications (Wordpress, Prezi).

It seems important to underline that 76% of the students hadn't done a blog before and this helping us to understand the insecurity of the students in the early step of the program and in the use of new applications.

In relation to the skills achieved, has been asked to the student to answer two questions: «Self-assess your skills at the start of the course» and «Self-assess your skills at the end of the course».

In the comparison of input skills with the outgoing skills, we can underline these important considerations, as the graphs below show.

In these first comparison related to the first Framework DIGCOMP 2.0 area «In-

[2] The authors have decided to not ask students general information about gender and age, because they considered this data as not relevant for the purposes of the research that would rather focuses on investigating digital competences development.

[3] To view the online self-evaluation tool consult this link: https://goo.gl/forms/XbQTKZzqyk3YKYDp1

ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701

formation and data literacy» it is possible to observe that the students believe they are more skilled in finding, managing and evaluation of the online information. Particularly, at the end of the course, 14 students have acquired excellent skills in this field and 18 students consider them good. These results confirm that Steps 2, 3 and 6 of the program are useful to achieve digital competences that concern browsing, searching, filtering and evaluating data, information and digital content (Figure 1).

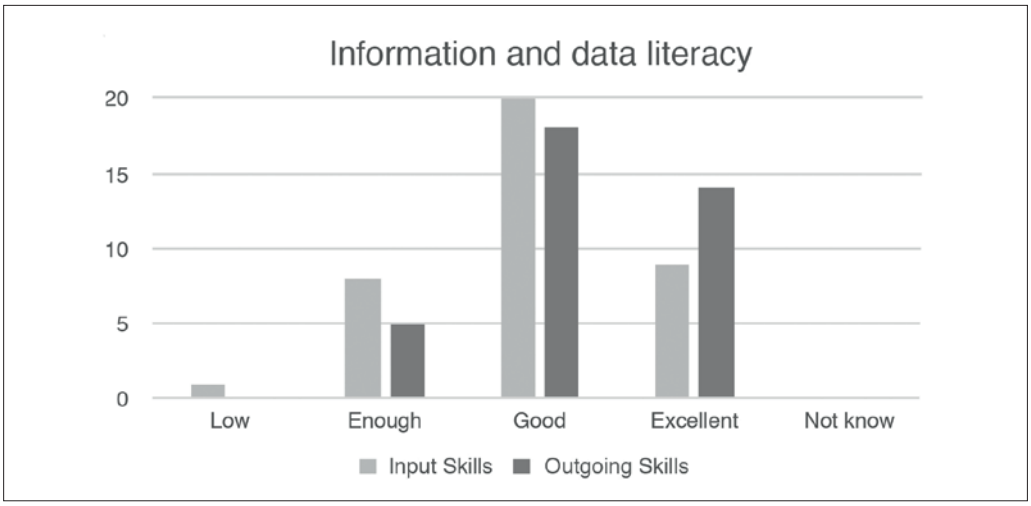

Fig. 1 Information and data literacy

The data comparison shows an increase in students' skills at the end of the course, in particular more than half of the students believe to have acquired good communication skills and sharing through technology (Area 2 DIGCOMP «Communication and collaboration»). Also 12 students considered excellent skills acquired during the course (Figure 2). This increment is probably due by the complexity of Step 3 of the program that expect to think the reasons of the choice of a particularly topic and sharing it with someone else.

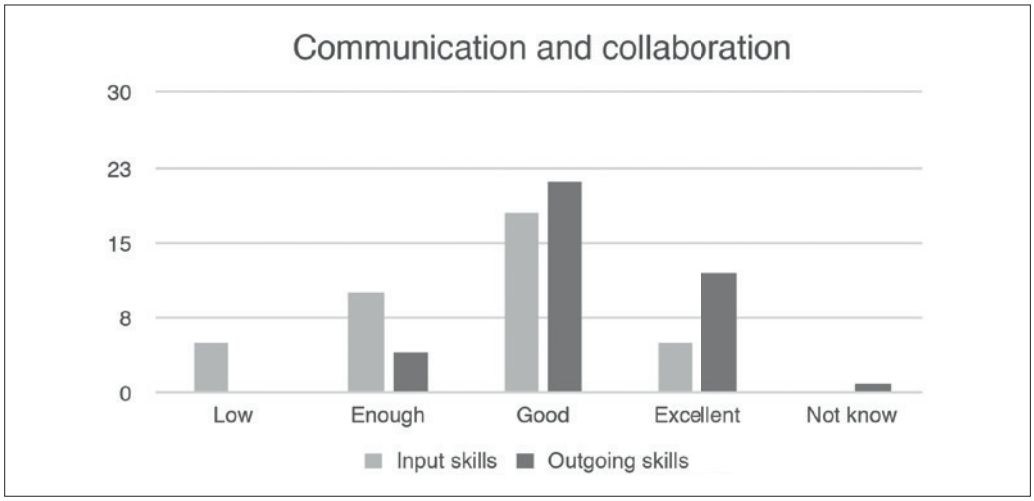

Fig. 2 Communication and collaboration

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ISSN 2038-3002 – Vol. 8, n. 1, anno 2017, pp. 1-18
doi: 10.14605/MED811701
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The comparison of the data relating to the third DIGCOMP area 2.0 «Digital Content Creation», highlights an increase in skills in the creation of digital content: 16 students consider that they gained good skills, while 9 consider them very good (Figure 3). This is probably the better DIGCOMP area that allows students to express their creative thinking and realize their own media products as Steps 1, 4 and 5 of the program require.

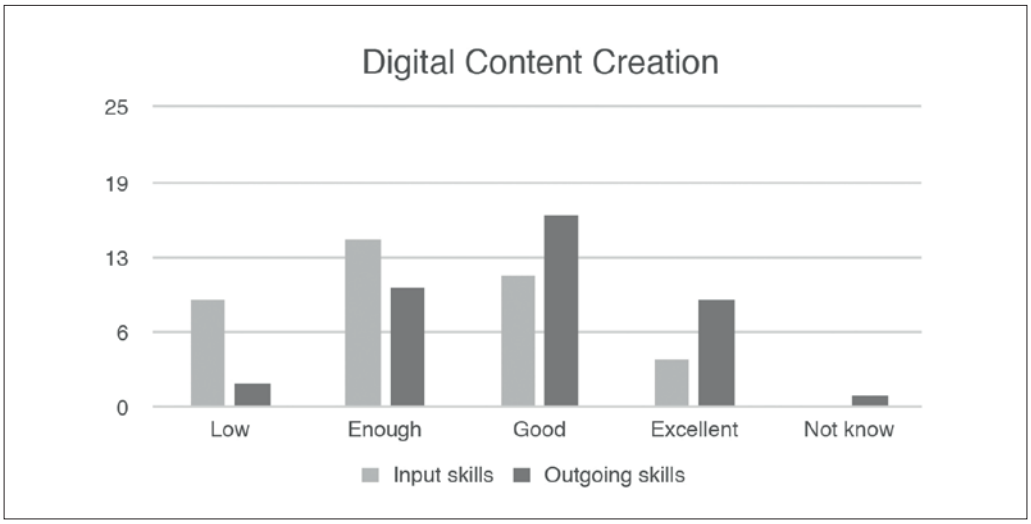

Fig. 3 Digital Content Creation

In the comparison of the data for the fourth DIGCOMP area «Safety», students feel more aware of the use of privacy settings in online environment. In particular, 10 students consider excellent and 18 consider good the skills acquired in security and privacy field (Figure 4). The step of the program that allow students to achieved these kind of skills is the number four «Video blog comment«, especially for the part that concerns how to manage privacy settings.

Fig. 4 Safety

In this last comparison on the fifth DIGCOMP Area «Problem Solving» students feel more skilled at the end of the course. In particular, 16 students consider good the acquired skills, while 7 consider them excellent. These results are probably due by the last two steps of the program «Produce a schematization» and «On line evaluation tool» that allow to the student to produce creatively using digital technologies and identify needs and technological responses (Figure 5).

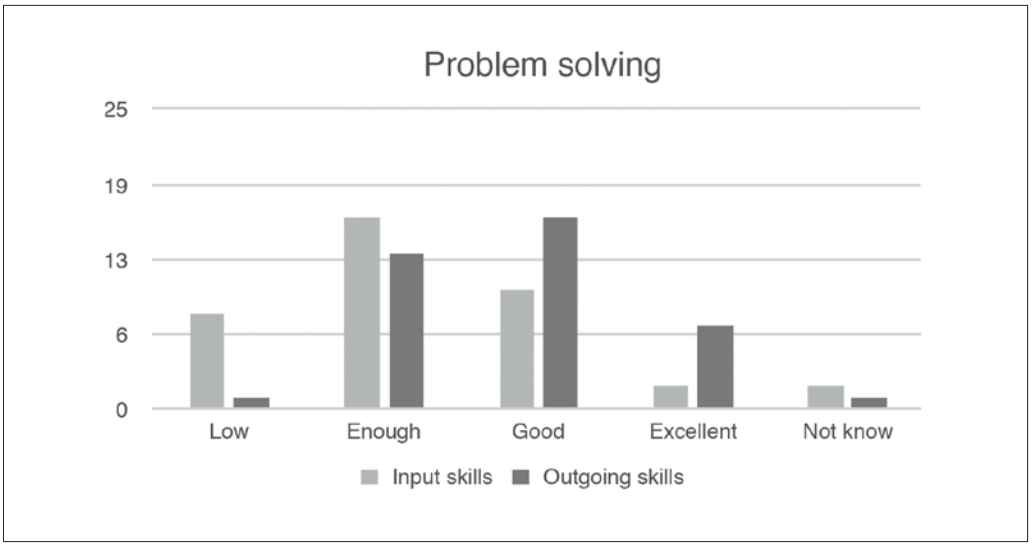

Fig. 5 Problem solving

5 Conclusions and Future developments

By the end of the course, students feel much more confident in the use of applications and more aware of online environments. The blended learning course program is efficient in the acquisition of important and useful computer skills that applied in the education field are immediately expendable in the employment context. Blog and other on line tools can be considered an aggregation tool that allow the development of authentic learning and preparing professional educators. This kind of digital savvy professional educators will be able to train future digital citizens who will be able to decide about their own life and to exercise their rights and duties.

As emerged from the data analysis, the program proposed to the students fostered them to engage a situated meaning and an authentic learning experience (Lave & Wenger, 1990). Particularly, the fact of using a blog as a platform that gathers other small-projects realized with online editing tools (such as Google Presentation, Prezi, Padlet, Google Form and online videos), allowed students a self-reflective process that gave them more awareness about the digital competences acquired. In addiction, participants stated that the fact of creating by themselves online content helped not only in acquiring digital competence but also in their own professional development.

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In terms of possible future improvements of the program, authors can consider to include other 2.0 experiences: asking, for example, the students to create infographics, online podcasts, photomontages, or posters and proposing them a set of different online web tools could represent a good solution to ignite useful knowhow that will be re-usable also in their future professional lives. It's important to remark the fact that all these 2.0 experiences will be centred on the purposes, on the needs, rather than the tools and the technical aspects.

Another aspect that certainly will need more reflection on it is the Privacy. Managing properly the privacy settings for the created contents was actually one of the biggest difficulties among the students: many of the videos were uploaded on the relative platforms without the permissions for the teachers to actually watch them, the same for some Google presentations or Prezis. This is certainly a point to keep under control for future improvements to the program.

According to the students' feedbacks gathered in the survey, the act of working on the production of a blog and on other 2.0 tools, actually represented a significant learning experience for them: the creation of the blog allowed them to create their own virtual space, through which they could share ideas, contents and experiences, but they would have appreciated more technical support during the whole process.

In order to meet this need, one possible future development of the program could be the production of ad-hoc tutorials specifically designed and developed by the authors of the course. Another possible future improvement could be the design of a MOOC out of the course in order to assure the access to the content to a wider public.

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