

# **An Interdisciplinary Approach to the Development of Professional Identity through Digital Storytelling in Health and Social Care and Teacher Education**

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## ABSTRACT

The present article presents a study based on an interdisciplinary approach to research into reflection on identity construction. This multiple case study explores the narrative of professional identities in digital artefacts. It is aimed at exploring in what way digital storytelling can be used as a suitable pedagogical strategy for the construction of professional identity. The students involved in the innovative learning activity comprise two groups of Health and Social Care students in the UK, two groups of Primary Education student teachers and one group of Secondary Education student teachers in Spain. Thematic analysis is used to identify the topics addressed by students in exploring their professional identities, including values and the process of learning itself. Finally, the lessons learned from this interdisciplinary approach to reflection on identity and the implications these have not only for teaching and learning design but also for future collaborative research projects, are set out in the discussion and conclusions.

**KEYWORDS:** interdisciplinary approach, digital artefact, professional identity, reflection, storytelling

## INTRODUCTION

The interdisciplinary research approach is defined as study carried out by scholars from two or more distinct scientific disciplines, based on a conceptual model integrating theoretical frameworks from those fields, and using study design and methodology that is not specific to a single discipline (Aboelela et al., 2007, p. 341). In the current study, the interdisciplinary approach focuses on the topic of professional identity in the Health and Social Care (HSC) and Teacher Education (TE) disciplines through a comprehensive study design related to digital

storytelling and methodology based on comparative case studies. Interprofessional research most often takes place between health professionals - see for example, recent work by Hasnain et al (2017), Kolb et al. (2017), Johnson and Howell (2017). Our approach is innovative in that it involves collaboration between two completely different professional fields.

This work on professional identity is a development of previous work in which reflection for learning was at the core: firstly, the construction of teachers' identity was analysed in the narrative presented in digital storytelling artefacts built by student teachers (Tur, Challinor & Marín, 2016); secondly, the evolution of identity revealed in two digital storytelling reflective artefacts was supported by systematic scaffolding in both the TE and HSC programmes (Challinor, Marín & Tur, 2017). In addition the affordances of digital platforms have been explored and conclusions drawn suggest that virtual tools can enhance both reflectiveness and creativity (Challinor, Marín & Tur, 2017). Based on these lines of research, the current study explores themes emerging from the digital stories created by students of diverse courses of HSC at a Nottingham Trent University (UK) and TE at the University of the Balearic Islands (Spain) from an interprofessional perspective, focusing on professional identities. The discussion and conclusion explore the innovative learning approach in which reflection on professional identity is enhanced through the construction of digital artefacts by students.

## PROFESSIONAL IDENTITY

### *The construction of professional identity*

Identity has been defined as the “kind of person” someone is considered as “being” (Gee, 2000, p. 99). This is not only understood as “internal states” but also as “performance in society”, both

of which change according to different contexts and thus can be said to be “ambiguous or unstable”. The construction of professional identity has been conceptualised as a complex process, consisting of the “internalization of the group’s values and norms in the person’s own behaviour and self concept” (Shlomo, Levy & Itzhaky, 2012, p.241). Moreover, it is about “the attitudes, values, knowledge, beliefs and skills that are shared with others within that profession” (Beddoe, 2013, p. 27). Likewise, professional identity involves the way professionals create a “distinctive space” by comparing and differentiating themselves from others (Beddoe, 2013, p. 26; Adams, Hean, Sturgis & Clark, 2006).

The construction of professional identity has been observed as a basic aim in both health and social work training (Miehls & Moffatt, 2000; Shlomo, Levy & Itzhaky, 2012; Wiles, 2013) and in teacher education (Beijaard , Meijer & Verloop, 2004). Reflection has been understood as a critical skill in both health and social care worker and teachers’ education to address identity from professional perspectives (Cheng et al., 2009; Miehls & Moffatt, 2000; Ng, Nicholas & Williams, 2010; Shapiro, 2010). Moreover, reflection can be enhanced through the construction of narratives, which enable understanding of experiences and feelings (Miehls & Moffatt, 2000).

### *Health and social care professionals’ identity*

Recent research in the Irish context makes a claim for the inclusion within educational programmes of work on professional HSC identity, based on the following influencers: previous life experience, workplace influences such as the role models provided by colleagues, a motivation to improve status and training itself (Finnerty, 2012). Wiles (2013) argues that students need to understand that identity is always evolving and argues that initial education should prepare students for further reflection during their prospective careers based on teamwork

or continuous professional development.

The assumption of values is another problematic aspect of the identity construction of health and social professionals which is explored from different perspectives. Some studies explore the difficulties for health and social care professionals in the contexts of cuts and other pressures arising in both public and private health sectors (Baines, Charlesworth, Turner & O'Neill, 2014; Carpenter & Platt, 1997) suggesting that there is a need to help students integrate professional and personal values. Beddoe's research (2013) concluded that students showed a commitment to social justice and sought to bring a critical, sociological perspective as distinct from the prevailing medical model used in health systems - to their support vulnerable people, in an effort to avoid perpetuating current social control systems. In the work by McMichael (2000) the status and self-image constructed by HSC workers was observed to be related to professional development. Likewise, research by Shlomo, Levy and Itzhaky (2012) concludes that there is a great need for the construction of professional identity of health and social work students through supervision: especially to foster the assumption of social values, which cannot be learned without guidance; and to buffer outcome-based approaches that can undermine their identity as caring professionals (Baines, Charlesworth, Turner & O'Neill, 2014).

Furthermore, it is important for students to learn how to face ideological and ethical dilemmas and to become an "ethical social worker", going beyond traditional approaches based on utilitarianism or deontology (Weinberg, 2014). A rationalist approach is seen as necessary in this case in order to analyse and assume one's ethical self.

It is also essential to highlight the professional identity developed in multiprofessional teams as exemplified in research on palliative care social workers, as an identity that emerges from

interaction with others based on negotiating knowledge that leads to specialized roles (Payne, 2006).

### *Teachers' identity*

Students enter university TE programmes with a “strong set of beliefs, attitudes and preconceptions” of what it is to be a teacher, which is also a resilient and powerful set of ideas for the construction of teacher identity (Chang-Kredl & Kingsley, 2014, p. 29). Therefore, there is a need for challenging teacher education programmes to change this pre-existing image of what teaching is and the teacher that one wants to become (Harlow & Cobb, 2014). As has been reported, teacher identity presents a wide range of concepts and meanings such as the expressions of caring towards children, political values and emotions as well as epistemological beliefs and the role of ICT in the teaching and learning process (Tur, Challinor & Marín, 2016). Secondly, in research by Chang-Kredl and Kingsley (2014, pp. 34-35) four perspectives have been observed in the construction of teacher identity, in line with emotions and caring. Thirdly, positive and negative emotions have been situated at the core of teaching (Shapiro, 2010). Care, affection, passion and love towards both students and knowledge as well as feelings of satisfaction and joy for successful learning experiences have been observed among other positive emotions. Among the negative feelings, solitude and anger towards lack of institutional support or disruptive behaviour have also been observed. Shapiro (2010) suggests a need for emotional work in teacher education such as reflective writing, sharing among colleagues, literacy and a critical approach. Thus, professional decisions are driven not only by cognitive aspects but also by emotions (Shapiro, 2010), which in turn have been claimed as crucial for self-knowledge and transformation (Zembylas, 2003).

Beliefs about epistemology and the role of ICT have also been considered in the construction of teacher identity in previous research (Tur, Challinor & Marín, 2016). Studies about epistemological beliefs have considered a continuum of four dimensions from naïve to sophisticated beliefs, which align with a teaching concept from traditional to constructivist methodologies (Chan & Elliot, 2002; Chan & Elliot, 2004; Cheng, Chan, Tang & Cheng, 2009; Aypay, 2010). Therefore, recommendations for scaffolding critical thinking to guide the evolution from naïve and traditional beliefs to sophisticated and constructivist ones have also been argued. In the case of ICT, beliefs are considered as one of the most important barriers for its usage at schools (Ertmer, 1999; 2005; Ertmer & Ottenbreit-Leftwich, 2013) and numerous efforts are being developed to offer student teachers learning experiences to influence their beliefs from the very start of their education as future teachers (Matrosova Khalil, 2012; Tur & Marín, 2015).

### **The role of technology in Health and Social Care and Teacher Education**

As with practically any other job in present day society, the role of technology is also of vital importance in HSC and TE. People in both professions require ICT skills in order to be digitally competent and, simultaneously apply these skills to support other people's needs (Ala-Mutka, Punie & Redecker, 2008; Bardach, Real & Bardach, 2017; Skills for care, 2014). Currently, in Spain, ICT has a minor presence in Teacher Education, both in undergraduate courses to become Primary Education teachers and in MA programmes to become Secondary Education teachers. Therefore, the need for a cross-curricular inclusion throughout the programmes has been claimed (Cózar & Roblizo, 2014). In the case of Health and Social care workforce in the UK, it is

claimed that it is essential that developing digital literacy “is not seen as a one-off initiative, but rather an ongoing process and should be integrated into everyday life and working. Nonetheless, digital capabilities and competencies need to be acknowledged and embedded within the curricula of healthcare professionals to ensure they enter the workforce with both the necessary skills and attitudes/behaviours” (Health Education England, 2016, p.6).

Digital skills are related to the ability to access digital media and ICT, communicate and share in different contexts, and understand and critically evaluate digital media content (Ala-Mutka, Punie & Redecker, 2008). In this sense, digital storytelling has been considered as a technological tool increasingly used in higher education, and oriented towards building media literacy, narrative development and self-presentation skills, and engaging students (McWilliam, 2009, p.152).

According to the Center for Digital Storytelling (n.d.), the term “Digital Storytelling” would be defined as a narrative form in which any individual can document and share a meaningful life experience, his/her ideas or feelings, by creating a short story using digital means. Digital stories have distinguishing characteristics; those of being subjective, concrete, short, emotional, reflective and digital (Londoño-Monroy, 2012). In addition, and related to the connection between digital storytelling and reflection, McDrury & Alterio (2003, p.111) highlight that “it does seem that sharing stories encourages a reflective process, especially when storytelling is accompanied by dialogue and occurs in formalised settings”. Some studies, e.g. Sandars and Murray (2015), had also explored the use of digital storytelling in undergraduate education for reflection, with successful outcomes.

In Health Sciences, digital storytelling has been argued to be a tool not only for professionals but

also for patients and their families. There exist many health-focused project where patients build their storytelling artefacts as a reflective activity and as a way to help others to cope with illnesses; and, where professionals build their own stories for team building and further development (Robin, 2016). In TE, it has been argued that because digital storytelling involves the use of technology, it helps in developing student teachers' skills, which include creativity and critical thinking (Kocaya, Kotluk & Karakoyun, 2106); abilities for multimodal new literacies (Alcantud, 2016); and, for collaborative work (Del Moral, Villalustre & Neira, 2016). Furthermore, it has been argued that storytelling facilitates reflection on action (Kearney, 2011), which is the concept by Schön (1983) that describes the skill for reflection on everyday activity. Tendero (2006) has also argued the potential of digital storytelling for the construction of professional identity.

Different studies referred to by Robin and McNeil (2012) have reported the educational benefits of digital storytelling for student motivation and engagement, and improvement in different skills related to digital and non-digital literacy. From Lambert's (2009) classification of digital stories, here we focus on stories about people's activities and, specifically, those related to students' professional activities and social commitments involved in the construction of their professional identities. As for the use of tools in the creation of the digital story, there is now available a wide range of Web 2.0 tools and applications offering vast opportunities in the field of education while requiring minimal or no additional expertise in their use (Asing-Cashman, Gurung, Limbo & Rutledge, 2014; Challinor, Marín & Tur, 2017).

## THE STUDY

### *The context*

Five case studies are explored in this work: two cases are from an undergraduate Health and Social Care degree in the UK and the other three are from educational studies in Spain. Each group carried out the same storytelling activity, building digital artefacts to reflect on their professional identities. The contexts of each case are presented briefly in the following table:

**TABLE 1. Context of the five case studies**

	Case analysis
Case 1	<p>Cohort: 129 (Artefact 1 n=33; Artefact 2 n=103)</p> <p>Level of study: Undergraduate first year, Health and Social Care (UK).</p> <p>Subject: Research and study skills</p>
Case 2	<p>Cohort: 93 (Artefact 1 n=34; Artefact 2 n= 86)</p> <p>Level of study: undergraduate third year, Health and Social Care (UK)</p> <p>Subject: Leadership and Teamwork in Health and Social Care</p>
Case 3	<p>Cohort: 20 (Artefact 1 n=5; Artefact 2 n=5)</p> <p>Level of study: undergraduate first year, Primary Education Teacher programme (Spain)</p> <p>Subject: Teaching Bases and Curricular Design</p>
Case 4	<p>Cohort: 15 (Artefact 1 n=2; Artefact 2 n=5)</p> <p>Level of study: postgraduate (Masters), Secondary Education Teacher programme (Spain)</p>

	Subject: Educational processes and contexts
Case 5	<p>Cohort: 73 (Artefact 1 n= 23; Artefact 2 n= 24)</p> <p>Level of study: undergraduate third year, Primary Education Teacher programme (Spain)</p> <p>Subject: Technological Means and Resources in the Teaching-Learning Process in Primary Education</p>

The learning activity was aimed at two main objectives: the usage of digital tools for learning and the promotion of reflection on professional roles in their disciplines. The reason for repeating the same task at the beginning and at the end of the course was to develop reflective skills since some difficulties with this aspect had been observed in previous stages (Tur, Challinor & Marín, 2016). In all the cases, the learning activity was carried out in group work and follows the following steps:

- Artefact 1<sup>2</sup>. Students were asked to design and build storytelling artefacts about the professional roles they wanted to achieve. Instructions about tools were different in all courses: cases 1 and 2 used Photopeach, cases 3 and 4 mainly used video and photograph based services, and in case 5 students could choose from a wide range of tools. Instructions about the ethical usages of pictures and music were given. The activity was assessed in terms of collaborative group work and ethical issues but no content assessment was done. Students were required to reflect on the professionals (teacher or

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<sup>2</sup> For example, see the following artefacts: Group 1 ( <https://photopeach.com/album/6ymj0p>) Group 2, (<https://photopeach.com/album/d59yl3>) , Group 3 (<https://www.youtube.com/watch?v=2nLcV8sTTGU> ), Group 4 ( <https://photopeach.com/album/4llef9> ), Group 5 (<https://drive.google.com/file/d/0BzdT08VU00U0ajdDVW4zVEE1R1U/view>)

social care worker) they wanted to become. Apart from the technical requirements and general instructions for the artefact, total freedom was given as to content. Artefacts were visualised in class and feedback was provided which fostered students' peer to peer exchanges and promoted reflection on their preconceptions of professional roles.

- Artefact 2<sup>3</sup>. Students were asked to revise the ideas in their previous artefacts and design and build a new storytelling artefact based on the learning carried out during the term. Instructions were similar as the ones given for artefact 1. The assessment criteria used related to the quality of reflection on professional roles. Students were asked to reflect on the new vision they had about the professionals they wanted to become, and following the first assignment, to reflect on changes in their perspectives. Feedback was provided for each group on digital content and reflective skills.

Intellectual property becomes an issue that needs careful attention and guidance in the creation of digital stories (Kearney, 2011). Therefore, a number of ethical issues were highlighted to students before the artefacts were created:

- All artefacts had to be not only digital but also open and online as a way of enriching the learning activity suggested. Open resources were encouraged in order to enhance students' abilities for collaboration and sharing.
- Students were introduced to open licenses, and how to use, reuse, mix and share resources under Creative Commons.

At the presentation of the task in class, students were told that the resulting posted artefacts

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<sup>3</sup> For example, see the following artefacts: Group 1 (<http://view.knowledgevision.com/presentation/8d77df2daf744fad911b08eb59522973> ), Group 2 ([https://www.youtube.com/watch?v=\\_z43GT2wNCE&feature=youtu.be](https://www.youtube.com/watch?v=_z43GT2wNCE&feature=youtu.be)), Group 3 (<https://www.youtube.com/watch?v=x-yt-cl=84503534&x-yt-ts=1421914688&v=AK2EyhSHTBo> ) Group 4 (<https://photopeach.com/album/10yb3c6?ref=est>) , Group 5 (<https://photopeach.com/album/b8qdh?ref=est>)

would be analysed for research aims and that they were free to delete the artefacts when the assessment was concluded and for this reason 3 artefacts in TE were missing. The possibilities of digital artefacts for storytelling have been analysed in previous work (Challinor, Marín & Tur, 2017; Tur, Challinor & Marín, 2016): It has been observed that students improved their digital skills by exploring the possibilities of OER (Open Educational Resources), developing multimedia communicative skills and empowering creativity.

### *Research question*

The current research is aimed at answering the following question:

- In what way can digital storytelling be used as a suitable pedagogical strategy for the construction of professional identity?

### *Methodology*

The main approach for the study is the interdisciplinary research perspective (Aboelela et al., 2007, p. 341), which enables us to propose a comprehensive study design and methodology suitable for both HSC and Education disciplines.

Within this approach and due to the characteristics of the study design, a multiple case study method was used. This method allows us to generalize to theoretical propositions from the cases and are relevant to help us to understand a concrete topic better (Arribas, 2008; Yin, 2003).

As in our previous study (Tur, Challinor & Marín, 2016), thematic analysis of the digital artefacts - video or multimedia presentation - created by the students of both disciplines was the main technique used to address the research question. Following Braun and Clark (2006), and adding to previous work, the analysis was done in four steps:

1) Identification of main themes based on the literature review, (briefly described in the section

about professional identities above).

2) Identification of the relevant themes from the whole data. The different sets of data (text within the digital artefacts) were transcribed and categorised according to the themes previously identified

3) Assignment of various themes. Since an artefact could address more than one theme all the themes addressed in each artefact were highlighted using a simple colour coding system and then assigned to the table previously mentioned.

4) Classification of relevant information. In this step the themes were revised in the light of the data and renamed with the final themes that are described below.

The collection of data was mainly based on an analysis of the text presented in each artefact. The researchers carried out their own analysis of the artefacts produced for each of their courses.

Previously, during phase 1 and 2 of the project, the researchers had agreed on the main themes to be used in classifying the artefacts (Tur, Challinor & Marín, 2016). The three researchers were each familiar with the languages -Spanish, Catalan, English- in which the artefacts were variously constructed, enabling them to carry out a sampling of artefacts from each others' courses.

In this study, we explore the construction of a professional identity of future teachers and HSC professionals using a digital storytelling approach.

#### *Findings: the construction of professional identity*

Previous work on teacher identity and the literature review presented in this article enabled the construction of two tables for the collection of specific details about the concepts mentioned in the narrative of professional identity presented by students. Afterwards, all texts in students'

artefacts were analysed (263 in HSC and 64 in TE) and some categories were deleted from the initial instrument (for example, the role model of one’s own teachers for the instrument in TE). The final instruments are presented along with data collected in the following sections. Data collection was carried out by the three authors, initially within their own group of students and then reviewed in a second cycle by one of the two other authors.

**TABLE 2. Topics from the Health and Social Care cases (professionals’ identity) (Cases 1 & 2)**

Case (number of artefacts) <hr/> number of mentions by category	Case 1- First artefact (33)	Case 2-First artefact (34)	Case 1- Second artefact (103)	Case 2- second artefact (86)
Caring	8 (24%) “building rapport with service users”, “everybody needs to be loved”	13 (38%) “consider people’s feelings”; “concern for others in need”	22 (21%) “I see my knowledge developing so that I will be able to help those who need my help”	57 (66%) “On this course we have learned what it means to be empathetic and compassionate

				”
Person-centred values	20 (60%) “respecting the individual’s right to dignity”.	25 (73%) “personalisation – putting the service user at the centre”, “empowering others”	2 (2%) “During the course we have learned the importance of person centred values such as respect and empathy” “I am learning to keep an open mind and not judge people”	17 (20%) “dignity and respect [...] improves overall safety, experience and outcomes” “learning to respect others’ beliefs..”
Social Justice	9 (27%) “valuing diversity”; “ending isolation”; “relieving	15 (44%) “non-discriminatory – be fair and unbiased”;	0	0

	suffering”	“equality, tolerance”		
The role of ICT	0	0	16 (16%) “ I had not used much digital technology before coming into University” “I have become more confident in using IT”	21 (24%) When I found out I had to do a digital story I was terrified, but by doing this I have really improved my skills and confidence in using IT
Multidisciplinary team work	7 (21%) “working with different people to improve skills”	6 (17%) “working towards a common goal”	20 (19%) “collaborative working is an essential part of health and social care”	34 (40%) “I began to see the benefits of working together as a team”

In the initial artefact created by students in Case 1, many of the values expressed were about

building warm and trusting relationships with vulnerable service users, helping and supporting people Equality and tolerance were themes mentioned most often, followed by caring and compassion. Next in order of frequency were mentions of teamwork.

In their final digital story, only whilst only 3 students referred explicitly to the first artefact, many mentioned the development of digital skills during the module. Most also referred to health and social care (person centred) values including caring. There was some articulation of a sense of professional identity - for example ideas about a possible future profession or working as part of a team.

In Case 2, the themes in the first artefact mostly reflected a concern for social justice: caring and compassion were also high on the list of core values, but after these, the dimensions most often cited were service user choice, person-centred values, confidentiality, and tolerance. In their final digital stories, only 8 students referred explicitly to the first artefact, but 21 students mentioned the development of digital skills during the module. The majority of students referred in some way to the development of their professional identity during their university studies, including thinking about future roles, transferable skills and team working

As the second artefact was focused on personal learning, there were no explicit references to social justice, as opposed to the first artefact (see Table 2).

**TABLE 3.** Topics from the Teacher's training cases (teacher identity) (Cases 3, 4 & 5)

	1st artefact Cases 3 & 4- (n=7 artefacts)	1st artefact Case 5 (n=23)	2nd artefact Cases 3 & 4 (n=10)	2nd artefact Case 5 (n=24)
Student centred values	4 (57%) “having fun together”, “creating fraternal bonds with classmates”, “being a friend more than a teacher”, “the importance of laughter”	6 (26%) “supportive”, “empathic”, “communicat ive”, “respectful”	3 (33%) “emotional education”	6 (25%) “being on the teacher role and feeling good”
caring	5 (71%) like “helping children to	10 (43%) “I will help children any	3 (33%) “teacher’s role as	1 (4%) “as teachers,

	feel safe”, “making them feel confident in themselves”	time, especially the ones that need it most”	guiding students for life”	we will help the students”
Epistemological beliefs: naïve	1 “transmitting knowledge”	0	0	0
Epistemological beliefs: Sophisticated	7 (100%) “autonomous learning”, “curiosity”, “enhancing discussion and participation”, “not only books”	16 (70%) “active learning”, “cooperative work”	10 (100%) “group work”, “creativity”, “learning by playing”, “teacher as guide”, “experimenting”, “diversity	16 (66%) “interdisciplinary learning”, “meaningful learning”, active and dynamic methodologies”

			of learning spaces and times”, “new ways of assessment”	
Social Justice	7 (100%) “equality”, “freedom”, “living together”, “the right to same opportunities”.	10 (43%) “education for all without exception of any kind”, “the value of diversity”.	5 (50%) “inclusive education”	3 (12%) “big diversity of resources”
ICT	4 (57%) “ICT as help, not as a barrier”, “ICT to	11 (48%) “ICT make compulsory for us to be continuously	7 (70%) “ICT and not only textbooks”, “the proper	23 (96%) “more digital competent”, “ICT are

	improve learning”	in training”, “we will use the ICT”, “we live in a digitalised world, we must know how to use ICT”	use of ICT”	motivating”
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The comparison of topics in the two groups of artefacts reveals a level of evolution of these student teachers identity in cases 3 and 4. It is notable that in the first work, most objects presented the frequent expression of student centred values (in particular, emotions) whereas in the second object this theme occurs less often. Something similar occurs with the topic of the expression of caring towards childhood and political values. The expression of naïve epistemological beliefs infrequent in the first group of artefacts, and completely disappears by the second. Nonetheless, sophisticated epistemological beliefs achieve the highest level in both groups of artefacts which is coherent with the focus of the module in which the artefacts feature as an assignment. Along with these ideas, the second digital objects created by students present a greater frequency of ICT terms, which is consistent with themes present in the courses/modules where the artefacts were constructed.

In Case 5, the values mentioned by students are similar in both digital artefacts; however, the

first one was generally more about school education and the second one was more centred on learning through the course with a focus on digital skills. Topics included in the first artefact were especially oriented to emotions and the ideal qualities of a teacher, political values in relation to inclusive education, use of ICT at school and digital literacy and importance of in-service training; and there were fewer references to sophisticated beliefs. In their final digital story, only a few groups mentioned the first artefact to say that they still agreed with the same values but placed greater emphasis on ICT and their learning during the course. Only 4 groups mentioned teacher values as in the first artefact in addition to digital skills and specific learning during the course (the remaining 20 groups), with little articulation of a sense of professional identity. Topics included in the final artefact were especially focused on their learning experience as a student in this course; e.g. Twitter as a professional development tool, discovery of new resources and tools, a teacher's role, new ways of thinking on ICT.

What is most notable about case 5 when compared to cases 3 and 4 is the total lack of references to naïve epistemological beliefs. This is of especial importance since students in case 5 are in their third year of the Teacher Education programme at the University of the Balearic Islands, which would mean that at this level of their training students have developed a consistent identity in which sophisticated beliefs are common and coherent. Also, it can be argued that since their study subject is focused on ICT, it is especially paramount that they connect their new knowledge of ICT with their former sophisticated beliefs. Nonetheless, students in case 5, as with students in cases 3 and 4, in their second artefact, develop a narrative in which they refer less to the expression of caring and political values and evolve towards a more focused and professional identity, in their case, based on digital skills.

**TABLE 4.** Comparative analysis: common topics in HSC and TE programmes

	Case/ % mentions	Caring	Person/Student centred values	Social Justice	ICT	Epistemological beliefs	Multidisciplinary teamwork
Art 1	Case 1	24	60	27	0	n/a	21
	Case 2	38	73	44	6	n/a	17
	Cases 3/4	71	57	100	57	100	n/a
	Case 5	43	26	43	48	70	n/a
Art 2	Case 1	21	2	0	16	n/a	19
	Case 2	66	20	0	24	n/a	40
	Cases 3/4	33	33	50	70	100	n/a
	Case 5	4	25	12	96	66	n/a

In Case 2, (final year Health and Social Care) the second artefact was more explicitly linked to the development of a professional identity as students reflected on their own individual beliefs

and values. In these cases, it can be seen that they were much more concerned with, multi-disciplinary teamwork and the development of their skills in ICT than the first-year students. Multi-disciplinary teamwork has a central place in the curriculum for health and social care students, particularly in the module where this assessment took place. They also still talked about themselves as predominantly involved in caring for others. The exploration of person centred values was more prominent in the first artefacts, which were group based and specifically focused on the articulation of a value base for their chosen profession.

For the Health and Social Care students, each of these “identity” focused categories receive more mentions in Case 2 (final year students) than in year 1, where students in their end of year reflections were much more concerned about aspects such as making friends, settling in away from home and getting to grips with academic study.

In Cases 3, 4 & 5 –the issue of multi-disciplinary teamwork was not considered: this is unsurprising given that this is not really a feature of the teacher’s role although there is still a commitment to group work and collaborative skills. In the analysis of the cases involving trainee teachers, on the other hand, we highlighted the theme of epistemological beliefs as being uniquely of concern to these students. Although numbers were much smaller, it can be seen that the focus on the theme of epistemological beliefs remained fairly consistent throughout and the mention of ICT skills increased between artefact 1 and artefact 2 in all cases. This perhaps reflects the nature of the modules studied, which were very much centred around the development of ICT skills for teachers.

## DISCUSSION AND CONCLUSION

In previous research by the authors, student teachers in their first attempt at a digital artefact reflecting on their professional identity showed a tendency to focus on emotional themes (Tur, Challinor & Marín, 2016). Further research was therefore needed to allow for comparison between the first artefact and a second one constructed after a period of structured reflection. Given that identity can be considered “ambiguous or unstable” (Gee, 2000, p. 99), it was important to provide appropriate scaffolding for the development of reflective skills that would enable students to address the issue of identity from a professional point of view (see Cheng et al. (2009), Miehl and Moffatt (2000), Ng, Nicholas and Williams (2010) and Shapiro (2010).

In general, to answer the research question, we can say that the current stage of research has evidenced that storytelling is a suitable didactical strategy to enhance the construction of professional identity of HSC and TE students. Data collected reveals that this innovative learning activity has helped students to develop a more nuanced understanding of what it means to be a professional in their respective fields. The construction of the digital story in this study answered the need to address reflection as a learning activity and not only as an assessment task, (Wiles, 2013), through collaborative group work and active learning, both of which provide supportive conditions for critical thinking as argued by research (Shim & Walczak, 2012; Robin, 2016). Furthermore, the electronic characteristic of the storytelling activity supported the development of student teachers’ digital skills (Del Moral, Villalustre & Neira, 2016; Kocaya, Karakoyun & Kotluk, 2016) which otherwise would not have been possible. It also facilitated the enhancement of their competence in the new, multimodal literacies (Alcantud, 2016). In line with Tendero (2006), the use of digital storytelling promoted the construction of professional identity. The construction of identity is a reflective task, and the reflective nature of digital storytelling makes

it suitable to carry out tasks involving the reflection on the professional self. Going beyond this fact, it has also been possible to observe that by scaffolding identity and fostering reflection, students' identities evolve - from one that is largely emotionally-based to one that is more politically aware, values- driven and cognisant of the realities of the workplace. There are some lessons that can be learnt from this study and that warrant further iteration of the learning activity and associated research.

In general, it can be shown that HSC students reveal an identity committed to social justice as observed by Beddoe (2013). Caring values have also a relevant presence in student construction of identity though it seems that students have not been impacted by cuts in funding or other pressures that health services have experienced recently (Carpenter & Platt, 1997). Students also reflect on some of the factors that Finnerty (2012) observed as influencers such as previous life experiences and to a lesser degree, the role model of other professionals. The analysis of student teachers' narratives confirms previous research by Tur, Challinor and Marín (2016) which noted ideas about social values, emotions and caring as well as sophisticated epistemological beliefs. In both groups of students, the role of ICT is relevant, probably influenced by the use of digital technology in the innovative learning activity in which they have been involved.

The initial artefacts by current student teachers display similar levels of reflection and similar narratives about professional identity to those in previous research, whereas, in general, the final artefacts achieve higher levels of performance in both aspects. This is also true for HSC students as their artefacts reflect the development of their professional identities between the first and second artefacts. Further research of this line of work could explore the evolution of these

narratives by students throughout their programmes of study so as to observe their evolution over a longer period of time, including the influence of work experience or placements in professional settings.

The interdisciplinary research approach has contributed to some interesting observations with possible implications for future implementations of the learning activity and for the enhancement of identities through the analysis of two different professions, such as the role of teamwork, which has been considered a “priority” (Brandt & Schmitz, 2017). The focus on teamwork is coherent with research by Payne (2006) in the context of multi-professional teams, as performance as part of a team is often cited by HSC students whereas student teachers see this only as a learning methodology and not central to their future careers. This is especially meaningful in the tradition of teaching careers that are normally developed in the context of curricula and classrooms led by one teacher.

HSC students place a special focus on being learners whereas student teachers see their role only as future professionals without considering their current one. This is interesting since student teachers as educational professionals could have been more committed to the role of learning in both their current phase in life and prospective work. In TE there is a distinct evolution seen in the development of the student’s professional identity from a student centred/caring identity to one more focused on pedagogy. HSC students retain their primary focus on values and caring, perhaps reflecting the drive within the field to inculcate these values across professional education, recruitment practices and work-based training (Health Education England, n/d; Mid Staffordshire NHS Foundation Trust Public Inquiry, 2013).

Furthermore, the interdisciplinary approach has supported the promotion in future professionals of reflective skills for reflection on action (Kearney, 2011), which was considered by Schön (1983) as a critical ability for practitioner professionals - such as those in the education and health contexts.

The authors' exchange of pedagogical approaches from the perspective of different disciplines has had a significant impact not only on the design of the learning activity but importantly on our own professional development. Building on this collaborative approach, and the networks already established, a promising area for further research that the authors have identified is interdisciplinary learning. Creating opportunities for the exchange of ideas between cohorts from different disciplines or even for cross-institutional collaboration - including the perceptions of the students in a future iteration of the study - could uncover further differences and commonalities in the impact that digital storytelling has on the development of reflective practice. Therefore, further research could explore the possibilities of exchanges among students for example, taking advantage of the digital skills developed through their Personal Learning Environments (Tur, Marín, Moreno, Gallardo & Urbina, 2016). The authors are aware that such exchanges would need to take account of language barriers - however, whilst most students in the UK do not speak Spanish or Catalan, Spanish and Catalan students are often able to understand English. Video conferencing between classrooms could be introduced with teachers facilitating and the use of technological solutions such as Google Translate could enable students to exchange artefacts. Finally, it could also be interesting to explore the impact of gender or culture in the construction of both identities, studied as separate fields of research - see for example, the work by Goldblatt and Buchbinder (2003) and by Weiner (2000); or the work by Razack (2001) and by Gay (2013), and which could be enhanced further by the interdisciplinary

approach.

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