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The Rhetoric of Digitalization in Italian Educational Policies: Situating Reception among Digitally Skilled Teachers

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The Rhetoric of Digitalization in Italian Educational Policies: Situating Reception among Digitally Skilled Teachers

Luca Salmieri*

Abstract: The author presents and discusses findings from qualitative research on the Italian reception of the *European Framework for the Digital Competence of Educators*, a document stressing the relevance of digital competences for teaching. Textual analysis is conducted on that and other relevant discourses on digitalization that are part of a general process of Europeanization of the educational space (Lawn & Lingard, 2002; Dale & Robertson, 2009; Grek, 2010; Lawn & Grek, 2012; Nordin, 2015). The research also observes practices and representations enacted by a selected group of digitally skilled teachers from Italian primary and lower secondary schools. The main findings are: 1) there is no clear definition of teachers' digital skills either provided by national educational authorities or unambiguously laid out in teachers' interpretations; 2) nevertheless, pro-active mobilization and attitudes toward teachers' individual upgrading of digital skills seems to be a cornerstone of the Italian rush to digitalization; 3) at the moment, the pressure to digitalize from European recommendations and supranational, reform-promoting bodies do not seem to succeed in grasping unseen factors such as teachers' situated negotiations and practices.

Keywords: digital competence, digital teaching and learning, teachers, italian policies in education, ICTs

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Introduction

Although there has been significant amount of research on the role of ICTs for classroom learning over the last few years (Greenhow et al., 2009; Beauchamp & Kennewell, 2010; Selwyn, 2010; Collis & Moonen, 2012; Argentin et al., 2013; Frechette & Williams, 2015; Livingstone & Sefton-Green, 2016), little empirical research has been conducted on the convergence or divergence among European recommendations, national experiments and teachers' practices. A range of bodies and agencies representing the European Union and OECD countries support programs to foster the knowledge society scenario and insert discourses of digital literacy, skills and learning into reform agendas (De Ruiter, 2010; Pandolfini, 2016). These efforts seek to drive education systems towards a dual goal: to contribute to the skilling of future generations, supporting abilities that improve competitiveness in the labour market, and to create the awareness required to ensure an active, mindful and conscious citizenship in the digital landscape in which students will live as adults (OECD, 2010; 2013; 2015; European Commission, 2011a; 2013a; 2016a; 2017; Paniagua & Istance, 2018).

The OECD (2010; 2015) and European Commission (2016b) continue to claim that digitalization has become a driving force in economic productivity. In light of this shift, they encourage member states to foster the development of new digitalized leaning environments and ICT infrastructure to ensure national education systems are up to date. There have been specific definitions of the European framework for digital competence developed and addressed to individual categories including educators, citizens, firms and organizations. Among the various techno-educational references that currently circulate widely, the *European Framework for the Digital Competence of Educators* (DigCompEdu) stands out as a document pushing teachers to assess their own personal competences and implement targeted learning activities to promote what has been emphatically prophesied as the knowledge base for the fourth industrial revolution (European Commission, 2016b; World Economic Forum, 2015; 2016).

The *DigCompEdu* reiterates the recommendations found in international large-scale assessments, national and sub-national training activities¹ and numerous key policy documents: that teachers should adopt ICTs and digital

¹ Several nationwide initiatives pushing for digitalization have been implemented in Italy in the last decade: "Piano LIM", which involves installing interactive whiteboards in primary and secondary schools; "Cl@ssi 2.0", aiming at modifying learning environments through the widespread use of ICTs to support daily teaching in upper secondary schools; "Scuol@ 2.0", designed to innovate the planning and organization of teaching activities; "Editoria digitale" aimed at producing digital content; and "PON Didatec", a training scheme supported by the European Social Fund and implemented in 4 Italian regions (Calabria, Campania, Puglia, Sicily) to familiarize teachers with ICT applications.

pedagogies in their classroom activities on a massive scale. The research presented in this article focuses precisely on these topics. I analyse the rhetoric of Italian digitalization policy as an appeal directed at a specific audience – “digitally involved teachers” and “ordinary teachers” – in order to persuade them of the need for a profound shift in the perception and use of ICT in education. The main objects of investigation are the *DigCompEdu* – licensed by the European Commission in April of 2017 (Redecker, 2017) – and the digitalization policies implemented in Italian schools. My aim is to understand whether and how teachers respond to these various forms of guidance about putting the digital agenda into practice.

Qualitative in method and statistically not representative in scope, this analysis is based on interviews with a small group of digitally skilled teachers together with the interpretation of policy documents. By reading between the lines of digitally experienced Italian teachers’ narratives, I explore their practices and attitudes towards the *DigCompEdu* and national recommendations regarding ICT use.

Three main questions drive the study: *i)* Do discourses and semantics aimed at mobilizing skilled teachers cause their pedagogical praxis to converge toward the digitalization of learning as policy demands? *ii)* Do skilled teachers acknowledge a clear and univocal definition of the digital competences they are being asked to master? And, *iii)* Are curricula and school learning environments being transformed to meet the goal of full digitalization?

Sources and methodology

The analysis focuses on the national implementation of the *European Framework for the Digital Competence* addressed to compulsory education teachers, previous programmes and activities launched by the Italian Minister of Education, University and Research (MIUR), specifically the initiatives associated with the “Piano Nazionale Scuola Digitale” PNSD – *National Plan Digital School* – launched by MIUR (2015a). The data comprises various kinds of policy documents: *DigCompEdu*, *DigComp*², the PNSD, the “Piano Nazionale per la Formazione dei docenti 2016-2019” PNFD – *Teachers National Training Plan* (MIUR, 2016) – and the national reform known as “Buona Scuola” (Law 107 of 2015, MIUR, 2015b). Some of these documents focus only on digital technologies; others treat digitalization as part of the wider infrastructural and pedagogical reform of the Italian education system.

² This document, the *Digital Competence Framework for Citizens*, details the various aspects of digital competence by listing 21 competences.

My content analysis of documents covering the national space of digital education in primary and lower secondary schools is enriched by the qualitative insights derived from interviews with 44 teachers (26 from primary and 18 from lower secondary schools). The interviewees belong to a group of digitally skilled teachers. While varying in terms of age, rung of the career ladder, teaching field and local context, they all share a consolidated interest in ICTs. They were asked to participate in this research because of their degree of mobilization: each one is an “animatore digitale”, a teacher who takes a leading role as facilitator for his or her colleagues involved in PNFD digital skill training activities.

The teachers I interviewed were recruited via snowballing sampling using a chain referral approach (Handcock & Gile, 2011). Once contacted and interviewed, an initial teacher from the Istituto Comprensivo “Via del Calice” in Rome was asked to help identify other teachers with similar traits (digital skilfulness and involvement in training schemes as an “animatore digitale”). Adopting an exponential discriminative criterium – identified teachers had to gradually saturate a proportionally symmetrical ratio of primary to secondary school teachers – I succeeded in involving 44 respondents from different schools in Lazio. It should be noted that, in some cases, the nominating and nominated teachers had never before met in person; they knew each other from online professional exchanges as informal members of a digital community of practice. Therefore, many were contacted via e-mail to be asked for interviews.

One-on-one in-depth interview techniques were used to elicit a vivid picture of the teacher’s perspective on a topic that is proximal to but distinct from the research topic: students’ digital skills. I choose to communicate a semi-fake topic for the interview in an effort to avoid any bias effect and prevent respondents from taking a straightforward stance on the actual research topic. The interview questions were semi-structured. I only brought questions about digitalization on stage when interviewees’ narratives about students’ digital skills went on too long. Otherwise, interruptions were limited to the strictly necessary. Question by question, the ideal narrative flow led gradually to the latent research topic: digitalization. Once we had reached that topic, I tried to engage with respondents by posing questions in a neutral manner, listening attentively to responses, and asking follow-up questions and probing based on their responses. My intention was to dwell as long as possible on the real topic yet without guiding teachers’ responses according to any preconceived notions or encouraging respondents to provide specific answers by expressing approval or disapproval of what they said. My questions did not imply straightforward judgments; rather, they stimulated descriptions, informal monologues and subjective representations. The interviews were held on school premises, after class, and then

edited; the duration ranged from a minimum of an hour and a half to a maximum of two hours and 50 minutes.

Given the limited number of interviews and their specific free-narrative form, the findings cannot be generalized and do not lend themselves to profiling the overall population of Italian teachers. Likewise, they do not represent a micro-statistical sample of digitally skilled teachers working in primary and lower secondary schools. Rather, these narratives provide insight into those Italian teachers who are in step with the digital transformation. The rationale is to analyse an initial cross-section of variegated ways of reading, reacting to and possibly translating policy concerns and guidelines into the concrete planning of teaching activities.

The rhetoric of the European framework for digital competence

Europe's recent theoretical investment in capacity building for the digital transformation of education and changing needs in terms of competences has focused on developing several digital frameworks³. These texts are usually accompanied by tools for (self-)assessment and linked to various key programs in the Europe 2020 strategy such as the *Agenda for New Skills and Jobs*, the *Youth on the Move* program, the *Digital Agenda* and the *Innovation Agenda*. These documents outline the aims and viewpoints of various pundits in a seemingly univocal fashion rather than as separate and distinct positions. They suggest that the idea that Europe needs to take a "digital leap" in education has already been forged into a widely shared political agenda and is now being driven through rhetorical strategies in national policy texts.

Two crucial issues on digitalization stand out from the flood of discourse by EU agencies and think tankers. First, in a move similar to agenda setting, official texts emphasize that the digital leap should push school systems to equip local facilities with comprehensive ICT infrastructure supporting the most up-to-date hardware and software. Secondly, official documents and guidelines stress the idea that there is a close but unstudied link between digitalization, new learning environments, hypertextual teaching on one side and new pedagogies, more effective teaching methods and better reception among students on the other side. The logic being underlined is that the thick correlation between digitalization and empowering pedago-

³ Developed by experts on behalf of the European Commission, one is aimed at citizens (*DigComp*) while others such as the *DigCompEdu* are designed for educators and teachers, *DigCompOrg* for educational organizations and *DigCompConsumers* for consumers. In 2016, a framework was published aimed at higher education (*OpenEdu*), as well as one dedicated to entrepreneurship (*EntreComp*). Updated versions of these frameworks were released in the following years.

gy relies on something which transcends the limits of space and time. This «new language of learning» (Biesta, 2015) is used in the rhetoric of digitalization, which in turn extols the idea of replacing conventional teaching with students' self-directed learning (Haugsbakk & Nordkvelle, 2007; Kirschner & van Merriënboer, 2013). In this model the teacher is merely a facilitator, curator or mediator who creates opportunities for young learners to make a more emotionally engaged connection with their learning materials. With this in mind, however, where does teachers' added value go? Counter arguments, including one from the OECD itself (2015), seriously question whether there is really a positive correlation between the massive use of digital technologies and improved learning outcomes (Fried, 2008; Livingstone, 2012; Steffens, 2014; Ottestad & Gudmundsdottir, 2018).

In the opinion of the European Commission (2011b, 2013b, 2017), although considerable progress has been made in bringing computers and broadband access into schools, a very high percentage of students still have teachers who are not capable of making the most of digital technology. Teachers' attitudes and skills are targeted as the main obstacle to a more effective and widespread use of digital tools in the classroom. According to experts from the *Digital Agenda for Europe*, too many teachers are increasingly equipped with digital technologies but lack the motivation, skills and confidence to take full advantage of digital opportunities. OECD (2010, 2015) claims that digital education policies provide access to technology but do not guarantee the implementation of training programmes and initiatives to improve teachers' competences: teachers' lack of motivation and confidence in using digital methodologies can produce a «second type of digital divide», that is, a gap between those who possess the abilities to develop «digital and innovative didactics» and those who continue using traditionally oriented didactics (Schleicher, 2015). Therefore, the recent *European Framework for the Digital Competence of Educators* aims to support member states in «systematically developing educators' pedagogical digital competences» (European Commission, 2017, p. 8).

Guidelines from *DigCompEdu* support the belief that teachers are the weak link in that they are often sceptical about using ICTs in the classroom and/or unable to pick up on the hidden, potential functionality of new technologies. This conviction is emphasized strongly in national contexts such as Italy notwithstanding the well-known fact that the country has lagged behind in terms of wiring and installing digital equipment in school-based learning environments (Avvisati et al., 2013; Vivanet, 2013; Colombo, 2016; Pandolfini, 2016; Gui et al., 2018). Despite the evident shortage of digital tools and ICT infrastructure, or perhaps simply to counterbalance this lack, the rhetoric of national recommendations as clearly conveyed by the PNSD holds that education in the digital age should focus on technology but, above

all, should reinforce new models of educational interaction for using such technology. It later adds that:

it is necessary for teachers to be able to draw on a portfolio of applied learning tools that can easily be used in the classroom: the challenge of digital skills is to support the teacher's activity as a facilitator, lowering the entry threshold on topics considered, wrongly or right, unrelated to his or her background (MIUR, 2015a, p. 76).

Among the five "programmatic" points laid out in the PNSD, we find the idea that curricula must be restructured in order to plan and support «the teachers' work aimed at the complete and multi-faceted declination of digital skills» (MIUR, 2015a). Action 14 of the PNSD closely corresponds to the exhortations provided by *DigComp* while several successive sources from MIUR emphasize that *DigCompEdu* constitutes a key reference for effective teacher training activities dedicated to teachers.

«Professional engagement» is the first of six competence areas outlined by *DigCompEdu*. This area is a clear call to activate and continually mobilize the teachers who are invited to exploit digital resources. The second area, regarding digital resources and content, encourages teachers to give themselves tasks: to research, select and evaluate digital resources for teaching; to organize, share and publish open digital resources; and to create and manipulate digital content for teaching. Clearly, the policy guidelines take for granted the availability of time, space and talented abilities. Non-digital teachers are expected to spend a considerable amount of time upgrading their personal skills so that they will be able to prepare lessons and classrooms activities via digital educational content, which raises the corollary concern of a major and unacknowledged teaching load.

The third area concerns the use of digital technologies («digital pedagogy»): the ability to «orchestrate» technologies during teaching time is mandatory and the use of digital apps to interact with students («teacher-learner interaction») is identified as a pivotal task; the ability to stimulate and support collaborative activities among students («learner collaboration») and the use of technologies to support self-directed learning activities complete this set of expectations.

Unquestionably, this list would not be complete without the predisposition for self-assessment and indeed this is focus of the fourth competence area. «Digital assessment» includes a number of activities: the use of digital tools for formative and summative assessment («assessment formats»), the continuous effort to collect and analyse digital evidence of learners' activity, performance and progress in order to inform teaching and learning («analysing evidence»), and the use of digital technologies to provide targeted and timely feedback to learners («feedback and planning»). In this context, expectations rely on teachers' willingness to not only evaluate both their own

and students' digital competences, but also to embrace assessment more generally: teachers are asked to carry out all evaluation by means of digital technologies.

Finally, digital assessment is also seen as a way to drive «learners and parents to understand the evidence provided by digital technologies and use it for decision-making». Here as well, suggestions for engaging in digital teaching in the everyday are very time-intensive. The pressure in this case gives rise to a motivational device aimed at transforming teachers' roles into a continuous cycle of “digital research – digital experimentation – digital (self-)evaluation” of the pedagogical mission.

The recursive and closed-cycle character of these activities associated with the individual, isolated role of the digital teacher entails a privatization of digital experiences that is in line with a broader trend involving increasing dependence on the “digital mediasphere”. It is no coincidence that the fifth *DigCompEdu* area of competence describes the process of «digital empowerment» as «personalization and individualization, with a view to enhancing self-efficacy». No specific competence is explained or listed. «Accessibility» and «inclusion» are broken down in terms of efforts to obtain the greatest possible usability from digital resources. The differentiation, personalization and individualisation of the learning process are considered decisive to ensure the involvement of students in teaching the various disciplines («actively engaging learners»).

Finally, the last set of competences is focused on students' digital skills: digital teachers are tasked with «facilitating learners' digital competence». It is important to note that, in this case as well, competences are described more as overall goals that teachers must achieve through their own proactive engagement rather than as the specific sets of knowledge and skills that would be required to reach those goals. It is this extensive declaration of tasks outlined in *DigCompEdu* that suggests a transformation of teaching activities. Indeed, classroom teachers are called on to prepare, operate and manage instruments that constitute a medium between them and students. They must operate these instruments while simultaneously arranging interaction among students involving digital instruments and also facilitating collaborative relationships. The transformation goes deeper than the meta-task of adding the use of digital media to the traditional classroom setting; rather, this reconfiguration of the teaching role touches on the fundamental cornerstone of learning. The traditional approach to knowledge – linear, argumentative and organized ahead of time – comes into conflict with the new logic of hypertextuality, reticularity and modularity introduced by digitalization. The relatively fast pace of digital flows and learning via visuality rather than linear reading unleashes a new epistemological dilemma in

terms of the teacher's function: should she/he act as a source of knowledge or as a mediator?

The PNSD continues to represent the policy framework within which Italy pursues its version of the *DigCompEdu*. In fact, to date (nearly the end of 2018), Italian policymakers have been working from a literal translation of the European framework and have produced no other official document expanding on the European guidelines. The drafters of the PNSD designated teacher training as a key element in pursuing digitalization goals. The Plan itself includes a mix of highly heterogeneous initiatives. These include some specific actions aimed specifically at bringing about a series of shifts in the professional practice of teachers yet without explaining the nature of such shifts, as if change in and of itself would constitute improvement (MIUR, 2015a). The PNSD represents an example of "mobilization without templates": it invokes numerous and varied international semantics as it outlines ongoing processes that should be taking place in parallel. But it fails to establish either the concrete digital competences that teachers should possess/develop or the minimum ICT equipment that teachers should have available in school and extra-school environments. The document nonchalantly reports that «we need to clarify what content is and will be central to our students, strengthening their close link with the new learning environments and paradigms facilitated by ICTs» (MIUR, 2015a). Paradoxically, however, no follow-up clarification of any kind is provided⁴. Digital competences are taken for granted, with only a brief sentence offering a vague hint:

currently in the final profile of competences (referring to 14 year-old students) in the National Guidelines for the first cycle of education, the student has good digital skills, he/she uses ICTs with awareness to search for and analyse data and information, to distinguish reliable information from that which is deficient and further investigating, checking, verifying and interacting with different subjects in the world (MIUR, 2015a, p.74).

The text of the PNSD stresses why digital competences are useful, but it does not provide any detailed indications as to what they might consist of. Training for teachers is conceived as «a laboratory to develop digital competences both in autonomy, according to personal goals and pacing, and within a support network, interacting with more experienced colleagues, in light of a supportive model inspired by peer-to-peer mentoring or with the support of professionals (trainers, pedagogues, researchers, technologists, psychol-

⁴ MIUR did not establish a specific "digital curriculum" subject area but rather chose to introduce the use of ICTs in the teaching practices of multiple disciplines. Some basic disciplines are identified (Sciences and English language and other foreign languages), as well as specific disciplines (Computer science and Information technology) where available in schools' curricula.

ogists) capable of acting as formative coaches» (MIUR, 2016, p. 44). As the General Directorate for MIUR school staff claimed, this is also an «orientation to increase responsibility for schools, enhance didactic supervision, promote the leadership of newly hired teachers and build up real and virtual professional communities on the web»⁵. The progressive overlap between real and virtual learning communities implies that digital skilled teachers are called on to play a key role in mediation (Pandolfini, 2010).

Teacher-managers and staff for training activities have been organized in many schools. Like for example the role of the so-called “animatore digitale” – like I am – is now spreading a little bit in every school. It is a trend that many teachers try to rely on because it can help in better understanding local training needs, customized to each school. But this thing clashes with the forced standardization of the training modules in place [during teacher trainings] (F. Z., teacher of Science-Maths, lower secondary school, Rome).

Reactions from digital teachers

Generally speaking, most of the principals, teachers and educators in Europe and Italy are supportive of ICT use and perceive the positive impact of these technologies: a few years ago, quite a significant number of teachers already agreed that digital devices are essential to prepare students to live and work in the twenty-first century (Gui, 2010; European Commission, 2013a) and the overall picture might even have improved in recent years. A specific survey conducted in 48 southern Italian schools found that teachers who routinely use ICTs during class (around 20% of the total) hold a very positive view of ICT use (Giusti et al., 2015). Assumptions such as the idea that ICTs have positive effects on students’ motivation to learn, make it possible to personalize teaching and foster the inclusion of disadvantaged pupils are widely accepted. Likewise, educators also share the concern that children and young people who use ICTs in everyday life need to be educated in school in their proper, critical use.

The digitally skilled teachers I interviewed do not diverge from this general trend reported in both Italy and other EU countries of abstract acceptance of digitalization. They are all quite well inclined towards having ICTs in their schools, albeit with some cautionary limits. Nonetheless, their understanding of the rhetoric of digitalization seems to follow the pattern of «negotiated decoding» (Hall, 1980): a mixture of elements of acceptance and rejection. They recognize the dominant languages and messages but are not

⁵ See MIUR, *Sviluppo professionale e qualità della formazione in servizio*, http://www.miur.gov.it/documents/20182/0/Dossier_formazione.pdf/9f909567-034c-417c-a030-d764779203b4?version=1.0

willing to engage in unconditional, enthusiastic optimism. To a certain extent, they share the codes expressed in the texts, and they generally accept their most immediate meanings. They are passionate about ICT, but they nonetheless seem to resist the way it is being offered. Indeed, many of them asserted that the policy requirements need to be modified, according to perspectives that reflect their situated experiences, interests and constraints.

The question of teaching in digital environments... I find it acceptable only on the condition that it doesn't get a mandatory scope to do all the teaching or most of it with digital devices. Not only would it be materially impossible [...] because we have not enough interactive whiteboards. But then, even if they were available, I would find it rather ineffective: there are topics, competences, knowledge that fit with the use of interactive whiteboards and others that do not. What is the usefulness of an experiment on salinification mediated by virtual images when students can see and touch it with their hands in a real environment? (N.F. teacher of Science-Maths, primary school, Bracciano, Rome).

In principle, I agree with the basic discourse, namely that schools cannot be left out of the epochal changes having to do with the digital, but I am against the idea that teachers must continually chase guidelines, indicators, declarations of competences, key words, and exceptions. All this documentation only creates anxiety, a sense of inadequacy, a fear of being tied to the stake. I find it inconceivable that we are expected to use digital teaching so much that it comes to be across-the-board in the educational subjects. They should have the courage to establish a dedicated ICT teaching which then functions as a potential support for other subjects (M.G., teacher of Italian-History, lower secondary school Rome).

Interpreting policy texts through a negotiated reading involves a combination of adaptive and opposing elements: on the one hand, teachers recognize the legitimacy of the hegemonic definitions applied to the most intangible meanings; on the other, venturing into thick meanings and situating practical effects, teachers establish their own basic rules or operate via exceptions to the rule. Sentences such as «there is an ideal and utopian idea, but then when it comes down to school reality, things are very different» or «the intentions seem right on, but the guidelines are a bit imposed from above» are very common among the interviewees and these stances point to a variety of practices that accommodate ideal guidelines to local realities.

As far as the definition of teachers' competences is concerned, my position is that declarations make sense for those who want to engage in improvement courses and can be useful if teacher training is able to give rise to concrete activities. But I do not believe that you have

to take that approach at face value. Instead, the PNSD seems to me a good plan, generally. The problem is that it disperses resources rather than concentrating them on two or three main, crucial initiatives such as school building, the complete wiring of classrooms, the recruitment of young teachers and the training of the older ones (V.S., teacher of Maths, lower secondary school, Pomezia, Rome).

School makes the real difference ... I mean, school conceived as a community of intentions. And as in any given respected school, in ours you also find different positions, different sensibilities, individual teaching experiences. These must necessarily converge in a synthesis. But synthesis should not override the autonomy of teaching. For example, I am opposed to this trend of massive computational skills. I find it to be a forceful pressure because it involves magnifying the idea that whatever logic must be computational logic. On the contrary, there are many ways of using a logic that already exists and that we already practice as computational, without going through robotics, programming, coding ... Things that may fit well with students even in lower or upper secondary schools, but certainly not fifth grade kids» (V.D, teacher of Maths, lower secondary school, Latina).

The use of technological devices is perceived as depending on teachers' dispositions, disciplinary cultures and professional trajectories, as research at the local level shows (De Feo & Pitzalis, 2014). The mantra of digitalization thus encounters a process of adaptive mediation according to which interviewees seek to underline and reinforce their autonomy of judgment between what is useful and what is not, between what they find satisfying in terms of teaching and what they do not. It is as if they see policies as setting the general message while teachers are left alone on the battlefield.

I believe that, in the situation of Italian schools, there is a wider structural problem affecting just that issue of minimum literacy in the use of computers and digital tools. This wide gap afflicts many teachers [...] who would be pleased to learn the basic use of computers and elementary skills for a finalized use of the internet and online research. In short, you cannot think of such a radical revolution [...] To imagine that all the subjects and all the transversal skills have to go through ICTs without first bringing about gradual changes in pedagogical terms [...] That's crazy. It makes no sense, it does not really make any sense to think that massive digitalization must pass through the fact that, whatever you teach or whatever our students learn, they would do it better with ICTs. The possible path that I see is ... is enrichment with these tools and apps. The only circumstance that I guess ...well, the scheme in which the cognitive, relational and even metacognitive dimensions are fulfilled in the digital environment is crazy, as well as harmful. Because outside of school we are already immersed in a digital reality of this type and to bring them into school means aug-

mentation without cognitive outcomes (A.D. teacher of Science-Math, lower secondary school, Rome).

Just as in the past there were operational or relational competences that were not necessarily based on the use of paper and stencil, or textbooks, so today those same competences do not necessarily require digital or computer-mediated learning. I am an enthusiastically maniacal user of PCs and interactive whiteboards, especially where they allow students working in groups to interact quickly. But this must not lead us to channel all our creativity and abilities towards ICTs. We have to be careful and try to make our creativity flourish through a very wide range of tools and methods, not just digital teaching (GF, teacher of Science-Maths, lower secondary school, Latina).

Training teachers in ICT use is perhaps the most divisive issue. Guidelines from the PNSD and 2016-2019 PNFD expect teachers to use their digital skills in a way that is fully integrated into daily practice. There is a risk of exacerbating the perception of disconnect between the anticipated professional innovation that official training schemes claim to promote and the activities that are actually carried out every day in the classroom. In fact, as interviewees told me, it is not uncommon for their colleagues who enrolled in training courses to become sceptical of or even bewildered by such experiences because they find themselves far from implementing their professional portfolio of digital didactics.

Honestly, I find it exaggerated that the PNFD injects an investment of 1.1 billion euros into the “Carta del Docente”⁶ and only 300 million is to be spent for teacher training. Let us not forget that the so-called permanent in-service training is supposed to involve 750,000 teachers. There are so many of them... I hope it does not turn into a virtual bubble where digitality becomes the only remedy for countless and diverse training needs (P.P., teacher of Science-Technology, lower secondary school, Rome).

The truth is that, as always happens with promises of change in the Italian education system, there is a thin and superficial approach at play while underneath you end up dealing with the complexity of things. Given that training should rightly be universalistic, you quietly gloss over specific needs. They believe that training can take place through the same digital technology, which then means the same didactic products for all and the smartest teachers’ abilities to the benefit of all the others, without even analysing what everyone else really needs (F. Z., teacher of Math-Science, primary school, Rome).

⁶ The “Carta del Docente” (*Teacher card*) was introduced by Law 107 of 2015 to «support the training, updating and cultural and professional growth of the teaching staff». The Card also offers discounts on educational products such as books.

Practices

A few years ago, it was found that Italy's education system was suffering from a lack of effective teaching based on the integration of digital technologies and teachers were having trouble blending technological knowledge into disciplinary and pedagogical knowledge (Gui, 2010). In a regional study⁷, only one third of the student sample reported that teachers recommended useful websites for studying, were in the habit of discussing research carried out on the web together with students or gave lessons at least once a month by showing internet websites on the interactive whiteboards. It is important to keep in mind that the population of Italian primary and secondary school teachers is one of the oldest in Europe (Argentin, 2018)⁸: older teachers are able to rely more on experience, which reinforces their authoritativeness in relation to students and parents (OECD, 2014); conversely, however, older teachers tend to be less flexible and willing to refashion their professional roles, which makes them more reluctant to use ICTs (Gui, 2010).

Furthermore, Italian teachers apparently use new media especially in the "backstage" (when writing texts to be presented to students, printing documents to be used afterward in the classroom, consulting CD-ROMs and searching the internet in view of a lesson) and their ICT use in the classroom is not very interactive (Gui, 2010). Scanty production of multimedia and interactive teaching materials and digital texts is the norm. Quite often, interactive whiteboards are located in multimedia laboratories or computer rooms outside of classrooms (De Feo & Pitzalis, 2014). All of this has repercussions in terms of teachers' poor involvement in digital competences; these skills are only practiced in an operative dimension, while cognitive and critical dimensions are more likely to be neglected (Argentin et al., 2013).

How do I use digital technologies in the classroom? Simple, I choose to do it only when I think that the use of the interactive whiteboard keeps attention high. Otherwise, method matters; input matters, cooperative learning matters; curiosity matters, desire for discovery matters too. All things that may be even better without digital devices. Of course, I use more and more digital resources to prepare lessons and activities and to find out new stuff myself. It's true that access to the internet provides instant answers for the curious. This is the search-and-learn environment kids are involved in today. Now, when they want to know "Why do leaves change colour", they are only a

⁷ The research was conducted among schools of Trentino-Alto Adige, a region in which the training and digital practices of teachers is certainly more advanced than the national average. See Gui (2009).

⁸ 60% of primary and 59% of lower secondary school teachers are over 50 years old. The under-40 segment makes up only 10% of teachers across the different grades as compared to other countries where the percentage is least three times as high.

search away from an answer. This also gives students the ability to get an answer to a question they may feel uncomfortable asking in class. If we teachers use a term they don't understand, they can find the answer discretely, and without interrupting the class... But simply because you have everything available on the web. And keep in mind that all this curiosity has to be governed. You cannot rely on the web and leave them alone with their cell phones, 'cause as long as there is a classroom involved, teaching and learning is a collective deal. All this buzz that digital is innovative!!! And since innovation is the basis of new pedagogy... as if ... anything that is new is better, I do not believe that is automatically true. I mean, the thing is, I don't share the idea that new things are always better than existing ones. Instead, I believe that if digital devices were to turn into the mainstream pedagogy in every teaching subject then means would turn into ends». (C. N., Teacher of Science-Maths, primary school, Rignano Flaminio, Rome).

Notwithstanding the Italian gap in both digital equipment and teacher involvement in digital classroom activities, national rhetoric pushes a work-in-progress definition in which teachers' digital competences are indicated not as specialized content but as «work gear to enrich the quality of the learning environment». The authors of the PNSD declare that, in order to use digital tools, it is not enough to become a «digitally competent teacher» (as if all Italian teachers were already digitally competent); educators must also possess a «theoretical-practical knowledge closely integrated into the subjects (content) and methodologies (pedagogy) of teaching». This construct is termed the «technological and pedagogical knowledge of content».

I do not use digital didactics too much. Especially since the content we have is often games. There are lots of examples of how technology is being used to create more engaging and emotional connections with learning materials... a great example of which is gaming in education. I believe that gaming focuses on emotion and that is generally good. But you can have fun games, scary games, adrenalin-inducing games, and I believe that we run a serious risk if we rely too much on emotions when we teach and make pupils learn. (A. G., teacher of Science-Maths, lower secondary school, Anzio, Rome).

Truly, the relationship between an overarching concept such as “new technology” and the educational context as a learning environment seems to have changed. According to interviewees, it no longer refers to uneven multifaceted constructs from assorted technologies but univocally has to do with the need to entice students and help them learn, mainly in a digitalized environment.

I'm still not a traditionalist...But in my teaching experience, over the past few years, I have been learning to talk and organize things with the teacher who does a lot of things on 'Citizenship and the Consti-

tution'. My idea is that, on digital issues, the necessary learning is the learning related to the way students use devices and what the final objectives are... I mean, especially outside of school... all the things about an awareness of what is being done and how with the internet, smartphones, gaming... Even when they are not in their teens yet, pupils are already in touch with a lot of complex issues. I do not find it useful to pass all the burdens of pedagogical complications onto digital teaching... As if it were ok just to put them in front of computers, interactive whiteboards, digital simulations and then learning difficulties would magically disappear... At the end of the day, they have to learn to plan and reason, to find answers, to develop ideas, to acquire autonomy and abilities. Between the frontal lesson and the digital activities there is a serious gap, that's true...I would definitely prefer the latter...but you also have a lot of other didactic experiences that are neither frontal lessons nor digital activities. It is the world made up of experiences of mutual enrichment between teacher and pupils that stands out as the real pedagogical improvement. In short, it's okay, very well [to say], why don't we use digital devices too? Yes, we certainly have to, and I certainly do a lot... but we must not do it by fuelling this enthusiasm for innovation (P. G. teacher of Science-Maths, lower secondary school, Rome).

Total digital learning redoubles the medium: there is the teacher as a medium («a facilitator») and then the digital tool as a second medium. The latter usually entails a more rigid set of usability constraints since educators and students are hetero-driven by the rhythm involved in the digital flow but lack the ability to determine this rhythm themselves. Digital content and hypertexts presume a complex degree of correctability that assumes greater engagement on the part of both teachers and students. Another chief feature of digital learning is that it sets up a restricted space of intervention by the teacher in which he or she might cross-reference among different content. Teachers might want to introduce additional elements to enrich moments of relating and collaboration, but it is hard to bring such elements into the lesson by integrating them into or imposing them on the streams of information typically originating from hyper-visual fluxes. Lastly, iconography is also a key element that structures digital content and, in relating to this element, teachers must either retreat to the role of mere facilitators or make their own interventions more forceful to compete with the pathos or emotional involvement triggered by digital media (Luke, 2003).

The main problem in digital learning environments is that you have to cope with open systems that you don't govern... Or, rather, digital devices and their applications are very open as far as outcomes are concerned, but when you bump into governing it, you get into troubles: you have to possess a lot of technical skills and stay wired and upgraded all the time. It is simply that you cannot control them like

you usually do with paper, pens, pencils, erasers, books, etc. Imagine asking students to write something with the word processor and then adding a little targeted search on Wikipedia... It's the end of the world! With the temptation of social media and texting in their hands, students might focus solely on their social life instead of the lesson plan. I mean, it's okay when you do that one time, because you can't keep the world out of the classroom there, but it can't become daily pedagogical practice (P.P., teacher of Science-technology, lower secondary school, Rome).

Teaching practices attest that teachers' adaptation to ICTs is very context-based. Obviously, we cannot expect to identify any direct or causal relationship between the rhetoric of national policies or *DigCompEdu* and the practices that characterise teachers' activities. We can, however, observe whether teachers justify and legitimate their practices ex-post or act counter to such rhetoric. The latter case would suggest that teachers understand the dominant position but formulate their own separate rules to adapt the dominant position to their own situated realities.

With so much amazing content available, the role of the teacher is changing to act more like just... like a digital cop. This absurd idea that we should become learning facilitators as if it were enough to prepare a digital classroom, working group and then everything works by magic...I think it's mistaken. It's a short-sighted and mechanical way of thinking. We exploit ICTs and not the other way around! Our job is not to be a traffic cop who directs traffic while everyone is driving on their own. Our job is to teach them how to drive (C. N., teacher of Science-Maths, lower secondary school, Rignano Flaminio, Rome).

The prevailing policy reference to the digital as a «conveyor belt» of change and change as a source of improvement in learning seems to trigger entrepreneurial, subjective and self-centred reactions. On one hand, the pervasiveness of this discourse naturalizing digitalization would seem to assert that individual teachers could not possibly independently manage their own professional transformation; on the other hand, however, trainings, experiments, mobilizations and attempts to adapt to the logic underlying digitalization take place on a personal level.

Since the start of the PNSD it has been a continuous process of submitting school projects in search of funding: it is a very stressful duty, especially because what you think your school really deserves ... you will or will not have it according to calls for tender, and you have to compete with other schools for it. And so, it's all about describing yourself as "cool, smart, witty and cutting edge". I understand very well the logic of limited resources. But at this point it would make sense for the Ministry, in agreement with the Uffici Scolastici [local government bodies], to establish what goes to this school and what

goes to the other. Yet, I adapt to their logic: I draw up Report after Report [such as] “rationales, actions, responsibility, goal-assessments and the like”. School is becoming a permanent submission of projects (B. A., teacher of Italian- History, primary school, Rome).

If we look at school communities, the rhetoric promoting the digital revolution ends up taking the watered-down form of «competitive planning» driven by the requirements of the funding mechanisms put in place to implement the PNSD. At the same time, however, MIUR initiatives fail to explain how to develop the critical and reflective abilities of teachers (and consequently of students) towards the use of digital tools.

Conclusions

Content analyses of official Italian documents on digitalization reveal just how complex the digital leap may be. The translation and operationalization of cultural perspectives, languages and keywords from supranational organizations and agencies into national institutions and local practices produce homogenization and standardisation in terms of idioms (Lawn & Grek, 2012; Lawn & Lingard, 2002), but may not provide an equally clear pathway for achieving transformation. Rather, they contribute to producing a variegated landscape of fuzzy responses and uneven reactions on the part of teachers (and students) in the face of these imperatives to fill digital gaps.

Qualitative research on leading digital teachers working in primary and lower secondary schools has uncovered some key aspects of critical and reflective thinking on the part of digitally involved teachers when engaging with ICT in the school setting. As these interviews suggest, teachers do not simply “do technology” as completely free and rational agents. Rather, any sense of individual agency and action on their part is set against the social, cultural and technological constraints of educational institutions (Selwyn, 2010).

In keeping with other studies that have found digitally competent Italian teachers largely well-disposed towards integrating new media into daily school activities (European Commission, 2013a; Giusti et al., 2015), this analysis likewise found that digitally competent educators share a rather confident and receptive attitude towards digitalization. As respondents engaged in the front lines of digitalization through their work of guiding and supporting colleagues in expanding their digital skills and making effective use of ICTs, in fact, interviewees agreed with the idea that schools, teachers and students must make wider and deeper use of digital tools in learning environments. Nonetheless, besides confirming (if such confirmation were needed) that national reforms, structural changes and radical innovations tend to take on variegated connotations and contextually situated forms

through the experiential centrality of schools' and teachers' roles, these respondents raised a series of detailed critiques of the digitalization rhetoric expressed by centralized Italian policies. Indeed, they resist considering digitalization the harbinger of a tout-court transformation of the entire range of curricular subjects; they consciously distinguish situations and didactic settings that are suited to digital tools from those that are not; they defend the idea that teaching with non-digital tools is not necessarily out of date or ineffective; and, finally, they pose a series of critiques of national policies for wiring schools and installing infrastructure and equipment while also questioning the mechanisms of educational resource allocation and methods used to identify teachers' needs in digital training.

There is an ongoing tension between the objectives and initiatives being planned, designed, created and strategized and the play of unintended consequences, heterogeneous networks, ill-fitting financial and technological strategies and disorganised responses. According to respondents, there is a discrepancy between the near-total agreement that new media makes a positive contribution to teaching, on one hand, and the disparities that emerge in the concrete application of these principles, on the other hand. Digital innovation is something that teachers themselves take on and they tend to send it in heterogeneous directions depending on the different and differentiating contexts in which they act (Pitzalis et al., 2016). This is further evidence of the point prominent sociologists of education already made a decade ago: «Even the most of tightly planned interventions, is always fluid, contested, disrupted, subverted and appropriated – in short diverted – to a greater or lesser extent» (Goodson et al., 2002, p.7).

To conclude, the integration of digital tools in Italian schools and move to comply with dominant discourses on the digital leap should not be allowed to stagnate in a schematic opposition between enthusiastic and pessimistic teachers. The pros and cons are highly dependent on local interactions and informed by broader social conditions (Selwyn, 2010). In this sense, the use of digital technology can be seen as the site of interactions between and within groups of teachers and learners, interactions which revolve around issues of negotiation, meaning-making and identity formation. These issues might take on more substance and clarity if we first consider the role of teachers in making sense of digital technology.

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