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The Profession of Educating Amid Contexts, Digital Innovation and Professional Habitus

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The Profession of Educating Amid Contexts, Digital Innovation and Professional Habitus

Stefania Capogna

Abstract: This paper examines the ways through which teachers develop new professional practices and digital skills that slowly create their professional habitus. The hypothesis is that the creation of this habitus develops within the daily interaction with contexts, practices, inclusions to multiple communities, which transcend the classroom area and the discipline. The theoretical framework acting as a background for the consideration is rooted in that corpus of studies that considers 'school as an organization', as a community of practices where life and learning processes (individual and organizational) develop within a continuous socio-material process, constantly renewed by the interactions between subjects and composite objects that animate the space, contributing to giving a sense and meaning to their actions.

Keywords: school organization, habitus, community of practice, teacher professionalism, ICT

Introduction

The paper presented is extracted from a wider explorative study¹, of a descriptive-interpretative nature, that has attempted to investigate how teacher professionalism confronts the introduction of digital technologies in professional and teaching practices.

The starting point of the reflection is the willingness to study the immaterial dimensions of the context/educational relation to explore the building process of the professional habitus of the “digital teacher”. The aim is that of understanding if, and how, digital innovation is sedimented in didactical practices that take part in the construction of an “organizational texture” (Cooper & Fox, 1990; Gherardi, 2006), identifiable with the group of people, practices, objects, technologies, emotions, rituals, through which actors create, reveal and share knowledge daily, similarly learn, interpret and give meaning to their actions.

The objective of the work was that of intercepting those paths of tertiary socialization, aimed at building the new professional *habitus* of the “digital teacher” strongly influenced by ongoing transformations.

In the past, updating and training activities of ICT structures and staff have had typically “technologizing” and “incorporating” approaches, with the result that teachers often appreciate and use technology, but rarely use it in the classroom (OECD, 2013/a; 2013/b; 2015); in more recent years there has been a clearer rupture from traditional didactic schemes but with small-scale interventions. What emerges is that even in the face of virtuous germs of change there is significant difficulty in moving from the experimental and episodic level to a systematization and enhancement of practices and experiences that remain local and embedded.

The hypothesis is that the availability of the technological infrastructure is not per se sufficient enough to guarantee a correct use of learning and knowledge technologies *in* the classroom and *with* the class. The reason for which the essay has focused on is the immaterial organizational aspects in the background, assuming that teachers’ personal beliefs and motivations, with respect to the uses and usefulness of said tools, are decisive for the type of activated didactic practices, which pass through the socio-material aspect of processes (Orlilowski, 2007; Landri & Viteritti, 2010; Viteritti, 2012) and the continuous redefinition of the small things of everyday life (Norman, 1988). Here then the basic assumptions that act as

¹ The study is part of a wider research initiated by quantitative recognition from secondary data (Capogna, 2014) and continued by a multidimensional approach (Capogna, 2016). This working progress is part of a research project carried out by Link Campus University, Roma Tre University and ANP. In this study we present only a working progress of an explorative quantitative research (Capogna et. al., 2017).

a background for the research are the concepts of practice, artefacts beliefs, emotions that animate the daily action in the confrontation with the digital for educational purposes. A conceptual apparatus that aids us in seeing the complexity of said processes under an organizational point of view, referring to the more immaterial and fluid aspects that constitute the social reality of organization. A reality made of values, multiple objectives and belongings, within which actors share objects, values, visions, practices, emotions (Gherardi & Strati, 1997).

The paper is structured in the following way. After having defined the outlines of the digital challenge for school (§ 1) and the immaterial dimension of organization (§ 2), a brief extract of research data useful for configuring the opposing tensions that concur in the construction of the new professional habitus is provided (§ 3). A brief consideration on the profile that characterizes said habitus concludes the work.

The digital challenge

Eurydice's report (2011), *Key Data on Learning and Innovation through ICT at school in Europe*, recommends the promotion of innovative pedagogical approaches, to allow students to learn through adequate modalities based on personal experiences and interests. The report confirms that the ICT are widely promoted by central authorities as a tool for teaching and learning, but significant disparities with regard to their implementation persist. Member states of the European Union have recognized the importance of teacher training and have committed, with the 2007 European Council, to developing digital skills in the initial training of teachers, and to continue promoting them through support at the beginning of the career and continuous professional development. However, the report clarifies that, generally, their motivation to use ICT remains problematic. To cope with detected delays², Italy, like other EU member states, has arranged in the last years several initiatives and projects to spread digital innovation in schools. In particular, since 2008, the MIUR (Ministry of Education, University and Research) has implemented the "Digital School" plan, reinforced by the eGov Plan (2012) that identified in the school the first sectoral objective with the aim of increasing efficiency and accessibility of education systems, simplifying school-family relations and introducing cooperation and monitoring tools to optimize the curriculum and combat youth distress. In synergy with the Italian Digital Agenda 2014-2020, which represents the set of actions and norms for the development of

² A detailed reconstruction of the most significant changes and criticalities that characterize the Italian school system is available in Coccozza (2012).

technologies, innovation and digital economy within the framework of the European Strategy 2020 (EE.CC., 2014; 2017), the “Digital School National Plan” (2015), aimed at defining an overall system to promote innovation of the Italian school and ensure a new positioning of its educational system in the digital age, was introduced. The DSNP has placed much emphasis on ICT in schools with the introduction of many innovations¹.

An analysis of the experiences of applying *Web 2.0* tools to the educational context shows the increasing influence of participatory culture and informal learning². This confirms not only the potential but also the criticalities of a transition that questions both the traditional educational *setting* and the role of the teacher. Moreover, it also calls into question way of thinking, planning and implementing the overall educational offer, and the educational and professional environments in which the teacher’s professionalism, in its complexity, is expressed. It is clear that the methodological question remains the diriment factor for the educational success also (and, perhaps, especially) in the presence of new technologies that never act as the panacea for the resolution of every problem.

The attempt is that of reconstructing that deep techno-social change that crosses the school organization with respect to digital technologies, allowing new symbolic-interpretative perspectives, through which to read the push for change and research of innovation by a professional community, the teacher’s one, strongly interested in the changes just discussed, to emerge.

To comprehend how professionalism teachers have changed, we refer to the classical definition of professions (Freidson, 1994), which denotes specific domains: a common orientation towards the promotion of human wellbeing; highly specialized knowledge and skills, working in relationships of authority and trust. These aspects contribute to defining the profession (Abbott, 1988; Sarfatti & Larson, 1994), giving a justification for why they need to regulate themselves. A very interesting debate has developed over the last few years to understand the evolution of the teaching profession through the affirmation of liberal and democratic models (Biesta, 2016) that have contributed to eroding the spaces of autonomy of teachers, leaving the need for an emergence of new paths of recognition and legitimation (Stevenson & Gilliland, 2016).

¹ CERI defines educational innovation as ‘any dynamic change intended to add value to the educational processes and resulting in measurable outcomes, be that in terms of stakeholder satisfaction or educational performance’ OECD (2010, p. 14).

² By formal learning we intend training typically provided by an education or training institution and leading to certification. Formal learning is intentional from the learner’s perspective; non-formal learning takes place outside the formal system informal learning is the result of daily life activities related to work, family or leisure.

The immaterial dimension of the organization

The concept of practice represents a stronghold in organizational studies and it is possible to bring together different perspectives that concur in defining its complexity. This paper takes into consideration the interpretation provided by Bourdieu (2005), which considers practice like an adaptation to conjunctural pressures in which the subject moves. Practice represents a cornerstone of social living, and for this reason is a privileged vantage point for sociological research. Through practice one learns, reproduces, modifies and incessantly reconstructs the social world.

In this sense, practice represents the architrave and lifeblood of organizational culture. Through practices one can express the set of strategies, styles, behavior modalities, so deeply sedimented to be unknown to those who act them. Practice communicates the *habitus*³ through which every subjectivity manifests itself, within a specific *field* characterized by a reciprocal “conditioning”, in which the field structures the *habitus* through a relationship “of knowledge or cognitive construction”; while the *habitus*, in turn, conditions the *field*. Bourdieu distinguishes between a *primary habitus*, learnt during the socialization of childhood, which develops in the family nucleus, and a *secondary habitus*, which adds to it through the process of secondary socialization that, in modern societies, is guaranteed by the school. The *habitus* is defined as the set of durable interiorized dispositions that guide the subject in action, relying on experimented practices and, at the same time, capable of inspiring new practices. The totality of practices conveys the personal style that constitutes a perception and evaluation scheme through which systems of belonging can be understood. Practice is always a practice of knowledge and is the result of the use and ideation of new knowledge by social actors that interact in a given context. According to the Actor Network Theory, the concept of practice always refers to human and non-human actors (Callon, 1975; 1984; Latour, 1987; 1999) since every observable organizational field can be understood as the consequence of a mixture of objects and subjects that influence one another⁴. Practices are never detached from the context. They are situated (Suchman, 1987), *embedded*, and are always acted by a more or less extended set of practitioners who participate and recognize each other as belonging to a socially identified context. For this reason, every practice can be considered as a social practice.

³ Regarding the concept of professional habitus see, among others Beck and Young (2005); Bernstein (1971).

⁴ The refusal to distinguish between human subjects and non-human resources differentiates the cartography of controversies from the field theory of Pierre Bourdieu (which also resembles it in other respects such as the conflictual tension of the action and the strategic orientation of the actors). Local controversies are battles in which the same battle-field is one of the parties involved.

The combination that characterizes each practice in its being, through the meeting between people, objects and reference environment, constitutes the distributed knowledge that characterizes the organizational environment, in this case the school. Various schools of thought juxtapose the concept of practice to that of community (Lave & Wenger 1991; Wenger 2000), understood as a multitude of actors, or reticular actor, who act the practice. A juxtaposition that is well suited to represent the context in which the educational practice acts, within communities with indefinite boundaries, where actors participate and interact according to the mutually agreed relevance. Actors can participate in different communities within which develop trajectories of personal and professional growth that contribute to changing their role and positioning over time. In this sense, practices refer to more or less complex networks, with a variable configuration, within which subjects, participating in different practices, contexts and worlds, can transfer knowledge from one system to the other. Practical knowledge comes from daily experience, from empirical observation, from the exercise of one's own functions within specific contexts/situations through which subjects mature their capabilities, as well as from their action within dialectical relations that always keep a certain degree of unpredictability.

The second key concept is that of artefact that includes any work that derives from an intentional process of transformation by man. Digital technologies are technological artefacts that require the organization, especially the educational system, to redefine rules, culture, and strategic choices to keep up with an innovation that seems to be progressing faster than our capability of comprehension, appropriation and co-evolution. Technologies (neither digital ones) are never neutral, they mediate social actions, prescribe behaviors, define relationship and interaction systems, act as tools of power, boundary and control (Capogna, 2014; 2016/a). Interaction between technology, social actor and context determines a continuous and complex process of meanings' negotiation, through which technological innovation is metabolized, contextualized and progressively integrated in the system. Every technological innovation is, thus, subject to a slow process of appropriation by the subject (Jedlowski, 2007). During this process, the technological artefact becomes a tool that allows us to extend our own abilities to act in the material world (using tools) and in the immaterial one (using signs). In this way, a triad between the subject, the tool and the object within which tools act as mediators, or rather, as an interface between the subject and the object, is outlined. This mediation activity can acquire different characteristics in relation to the functions of use assigned to digital technologies. The first difference concerns the different types of orientations that may affect:

- the *object* of the activity, for which knowledge will be mediated;
- other *subjects*, for which interaction will be mediated;

- and *oneself*, through a thoughtful mediation, as in the case of selfies.

The second difference concerns the kind of attributions assigned to the technological artefact that are distinguished in:

- *epistemic mediation* when referring to the object or subject that acts the tool. In this case, the tool represents the means that allows the user to know the object or another subject;
- *pragmatic mediation* when referring to the object or subject that undergoes the tool. The tool establishes itself as the means that allows the user to act in the object or another subject⁵.

The technological artefact, therefore, embodies an internal sociality composed of multiple declinations and uses related to the frame of reference that defines the system of relationships of the actors involved⁶.

The introduction of a technological artefact in an organization (in the school too) is the result of complex interactions, and brings a whole set of values, beliefs and visions of the world which actors involved confront during their actions within a system of normed and situated social actions. The use of a technological device is not only due to its physical and technical peculiarities, but also, and above all, to the courses of actions that it is able to activate, compatibly with the set of social practices created by the actors involved through the construction of collective beliefs and the gathering of shared experiences. In this perspective, technology, including digital, reveals the complexity of mutual interdependencies between social actors, context of action, and cultural references, which are comprised of four elements that can be distinguished only for heuristic purposes (Peterson, 1979): norms, values, beliefs, and symbols, which represent the fundamental conceptual armament of culturalist (Bateson, 1976; Schon, 1978; Schein, 2000;) and cognitivist approaches (Weick, 1988; 1997). In other terms, the more or less conscient vision that we have of digital technologies adapts the type of approach, use and relation with which said technologies are incorporated in didactical and professional practices from single teachers and the school community.

The emotional dimension⁷ too plays a role solicited by the fact that digital technologies perform a triple role: as devices of use, they question our

⁵ For further information on this topic see Pinch e Bijker (2003, p. 221-232).

⁶ The Science Technologies Studies (STS) research has highlighted, since the end of the '70s, the complex interdependencies that exist among social, political and cultural values. These studies develop around two main directions of study: the relations between scientific innovations and technologies, starting from the assumption that both are socially built and that society itself can be considered a socio-technical aggregate; the exam of the effects produced by these innovations, of correlated risks and the consequent redefinition of the social parameters they produce. Among the most influential researchers of the subject, to mention a few, are Callon (1975; 1984); Latour (1987; 1999) e Latour e Woolgar (1979).

⁷ Regarding the role of emotions in the organizations see, among others, Hochschild (1983);

self-efficacy; as objects of interactional mediation, they open intersubjective relation; as objects of reflexive mediation, they fully enter in the processes of identity construction and in the resolution of frustration towards the unknown and failure. As a result, they determine the attitude towards learning and/or innovation in the professional practices with strong or constructive results (Illeris, 2003; Kort et. al., 2001).

Without the activation of intrinsic emotional resources, which allow the subject to cross the ford of the unknown, no learning process is possible either within the virtual class, or in the presence of it. These elements converge in the socio-material learning process (Orlikowski, 2007; Viteritti, 2012) that develops in educational and organization contexts (Fenwick & Edwards, 2010; Sorensen, 2009; Lave & Wenger, 1991), through the inextricable interconnection between subjects and symbolic, technical and material objects in the space-temporal flow of the action, giving birth to the hidden curriculum through which the educational action develops.

The online Dictionary of Social Sciences, edited by the *Athabasca Open University of Canada* defines hidden curriculum as “*the norms, values and social expectations indirectly conveyed to students by the styles of teaching, unarticulated assumptions in teaching materials and the organizational characteristics of educational institutions*”. Elements that act particularly on the structure of teaching, organization and culture that permeate the scholastic context, and is expressed through the complex analysis of the structural, procedural and relational dimension of the “school system”⁸. The hidden curriculum includes all the behaviors, expectations and values that implicitly emerge in school practices (rules, time and spaces management, the system of merits and detentions, the incorporation of mediators, the use of technologies, etc.). Generally, in the collective mind, the knowledge and use of ICTs are considered separate realities. In the hidden curriculum of teachers, the dialogue between culture and digital is difficult, ambiguous, uncomfortable and contrasting. Technology is often perceived as a factor of alienation, dehumanization, that hinders relationships and study, while the class, the book and the formal curriculum of disciplines remain the apparently neutral guards of the cultural heritage (Søby, 2014, p. 240), within which to operate the comfort-zone of an acquired professionalism. But ICTs rewrite the hidden curriculum, changing the didactic, the teaching and learning styles of teachers and students, the system of relations, internal and external communicative processes, opening a way to unexplored and, at times, ambiguous paths, and to spaces of mediation with an intense and always tense socio-materiality. The new techno-social space allows for the coexistence of more “spaces

Ashkanasy e Humphrey (2011).

⁸ On relations between organizations, cultures, models and governance systems see, among others, Coccozza (2014).

for learning”, through which to transit and move continuously (Edwards, Biesta & Thorpe, 2009), without never having full control over it.

Results of the analysis

The results considered are part of a wider investigation of a qualitative and quantitative nature conducted between 2015 and 2016⁹. For the purpose of this presentation we will focus exclusively on some results of the questionnaire which involved 1210 teachers¹⁰. The survey developed around six thematic groups with questions aimed at identifying socio-demographic profile, behaviors, attitudes and beliefs, learning paths and expectations. Although the absence of a reasoned sampling “does not offer all the necessary guarantees” (Corbetta, 1999, p. 350), in this specific case the exploratory nature of the research resulted to be functional in reaching the teachers most sensitive to the subjects of enquiry, who bring experiences and considerations to their professional practice. Even considering the initial *bias* due to the fact that teachers freely took part to the *online survey*, introducing, presumably, a distortive element that can be explained by a positive propensity to the use of digital technologies in the educational field, the results of the data analysis offers interesting stimuli for reflection to understand some dynamics that act in the construction of professional practices of the ‘teachers’ community in the digital era. Indeed, after the analysis of the univariate and bivariate, to offer a more effective synthesis, the following conceptual dimensions were isolated with the aim of reading the integration of ICTs in didactics through synthetic descriptors. The factors extracted through the Structural Equations Models (SEM) (Bollen, 1959) and their related components have been subsequently classified to arrive at the elaboration of a Cluster Analysis, dividing the complete cases sample (1028 cases) in specific groups¹¹. A partial reading of said results, focusing on only the three most interesting elements for the purpose of this paper, is reported below.

⁹ For the presentation of the whole research, see Capogna et. al. (2017).

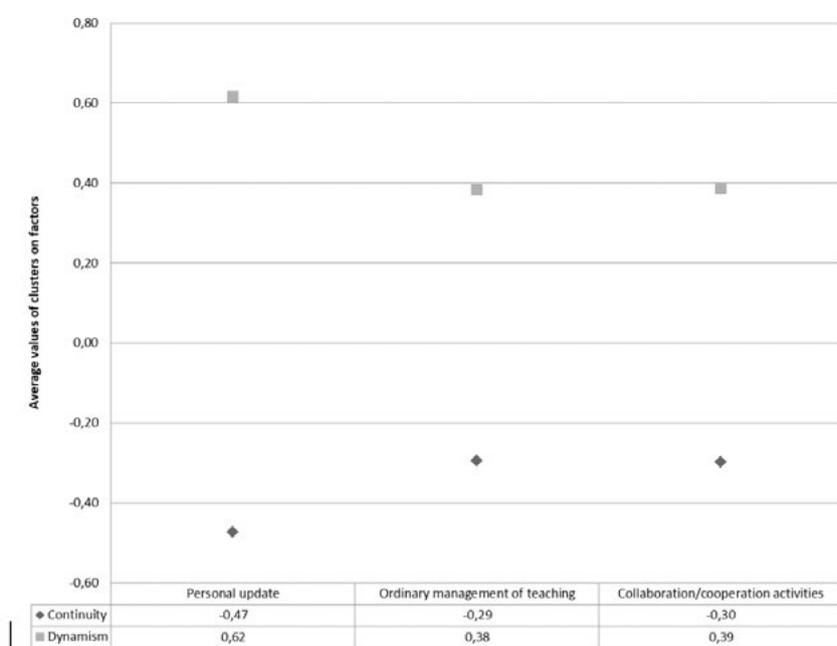
¹⁰ The exploratory quantitative research realized by questionnaire examines ICT availability in the classroom, practices, uses, competences and needs, expressed by teachers in the use of ICT in their daily practices. The questionnaire has been submitted (January-March 2016) to teachers for all levels of Italian school by email. For a deep presentation of the sample see: variable section in the questionnaire (Tab.1); teachers (Tab.2) and geographical distribution (Tab.3) and age range (Tab.4) in the Appendix. Regarding gender distribution, the analysis confirms scientific literature showing the significant majority of women (82,1%). Among those who have participated in the online research, we observe that discipline that uses ICT are mostly humanistic, historical, literary (34,6%) and the scientific and mathematical ones (34,8%).

¹¹ Maria Chiara De Angelis and Flaminia Musella have collaborated to the data elaboration and analysis (Capogna et.al, 2017).

Double speed innovation

The first *Changing the approach to ICTs in the professional practice* change is the result of three latent conceptual dimensions: propensity to change in the use of ICTs in one’s own personal training; propensity to change in the use of ICTs in ordinary management and, finally, propensity to change in the use of ICTs for collaboration and exchange activities with colleagues and students. In Graph 1, one can observe a polarization of the population reached. In the negative pole expressed by these three latent dimensions falls the group of teachers who express resistance to change and a certain difficulty in incorporating digital technologies in the ordinary professional practice made of self-updating, ordinary and repetitive processes and interactions with colleagues and students; while in the opposite pole we can place the nucleus of teachers who appear inclined to change through a reimagining of their overall professional practices, in the light of contaminations and stimuli offered by the meeting with digital technologies in their scope of action. In the second pole we observe a concentration of positive values related to beliefs, uses, practices and emotions.

Graph 1 – Double speed innovation

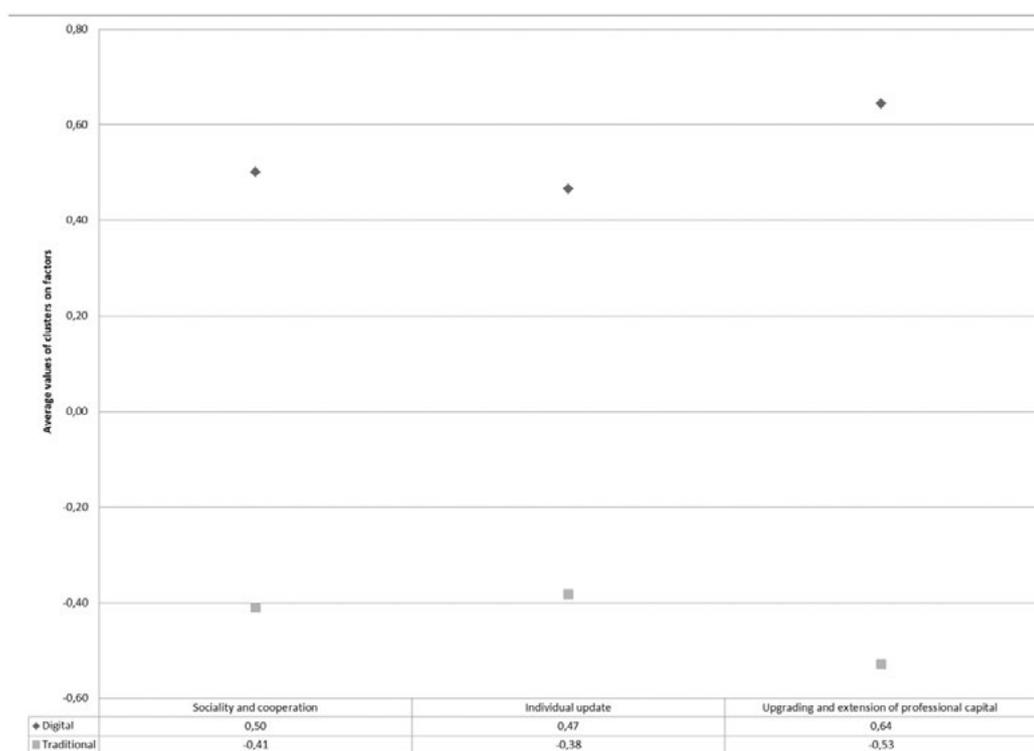


The two groups that express their different tendencies to *change in the approach to ICTs in the professional practice* have been interpreted through the label *continuity* and *dynamism* to highlight the changes that have occurred or not in the last three years, according to their statements, with respect to the use of digital resources for professional use. The *continuity cluster* includes 56.5% of teachers, indicating that portion of the teaching community that tends to maintain acquired professional practices without being contaminated by the encounter with digital technologies; the *dynamism cluster* includes, instead, 43.5% of teachers and brings together those who tend to be transformed, in daily practices, by the encounter with the socio-material density expressed by the introduction of technologies at school. This indicates that, despite the accusations of immobility and resistance with which the analyses of this complex world are often summarized, the teaching professionalism is crossed by many opposing tensions. If we look at the age of teachers in relation to the cluster, the youngest (up to 30 years) and the oldest (over 60 years) are those who show the least inclination to change their attitudes in the incorporation of ICT in learning teaching practices. For the youngest, this figure may be linked to their belonging to the cohort of digital natives, already accustomed to innovative practices and the daily use of ICT inside and outside the classroom but also to career instability. For older teachers, the data can show a general tendency not to abandon the comfort zone determined by the guarantee offered by consolidated professional routines. The genre does not particularly influence the distribution of teachers in the cluster. If the cluster is analyzed in relation to the tasks, emerge the force of the field in the influence of the professional change. Collaborators with vicarious function (62.7%), and those who carry out training/support activities for colleagues on the ICT (63.7%) are more likely to change in comparison to teachers without assignments and school precarious who declare that they have not significantly changed their approach to ICT in the last three years (respectively 63.5% and 67.9%). Nursery school teachers are those who in the last three years express greater continuity with regard to the use of digital resources in the learning-teaching process (71.2%) and this can be considered consistent with an educational approach, typical for this school population, aimed at favouring the game, the experiential and manipulative dimension of learning, aimed at the motor and cognitive development of early childhood. For this reason, kindergarten teachers allow lower values to emerge in the analysis of the factors relating to the change of approach to the updating of personnel, the use of ICT in the ordinary management of teaching and collaboration activities with colleagues. The positive or negative pole, expressing continuity or dynamism, should not be read in terms of value but as a field of strength in which different professional orientations and needs are compared.

Professional development between tradition and innovation

The second aspect *Digital resources in the professional development of teachers* (Graph 2) is the result of three latent conceptual dimensions: the tendency of teachers to sociality; the propensity for the individual updating of teachers through ICT, the use of ICT in the activities of updating and extension of professional capital. The pole that contributes in defining a traditional professional development, which tends to remain “disconnected”, collects the combination of lower values compared to the dimensions described. At the opposite pole, on the semi-axis of the high level of use of ICT and of networks in particular, for the professional development of teachers, are the same components in their highest values. Also in this case the population reached polarizes itself with respect to the use of *Digital resources in the professional development of teacher*, leaving a glimpse of two distinct models for professional growth: *Digital* and *Traditional*. Teachers joining the *Digital* model account for 45% of the total, compared to the 55% of those who declare themselves tied to a model of traditional professional training/development, where the use of the *net* is less incisive. The school order does not particularly affect the distribution of the *cluster*.

Graph 2 – Professional development between tradition and innovation



Younger and older teachers are the least represented in the cluster that identifies a participatory/innovative model for professional development, with 32% and 30.8% respectively of teachers in the age group up to 30 years and over 60 years. The ones probably held back by precariousness and unclear prospects, the others by the possibility of exiting from teaching and the physiological difficulty to accept the change due to age and experience acquired. A participatory and innovative model prevails into professional development, which combines individual self-updating, cooperation with colleagues and the extension of one's socio-professional capital. This is true in professors with vicarious function (66.1%); in instrumental figures (62.2%) and those dedicated to training and support of colleagues (82.1%). Once again, the absence of the digital professional development model prevails for teachers who do not hold positions of responsibility in the school (70.2%) and for the precarious members of the school (63.5%).

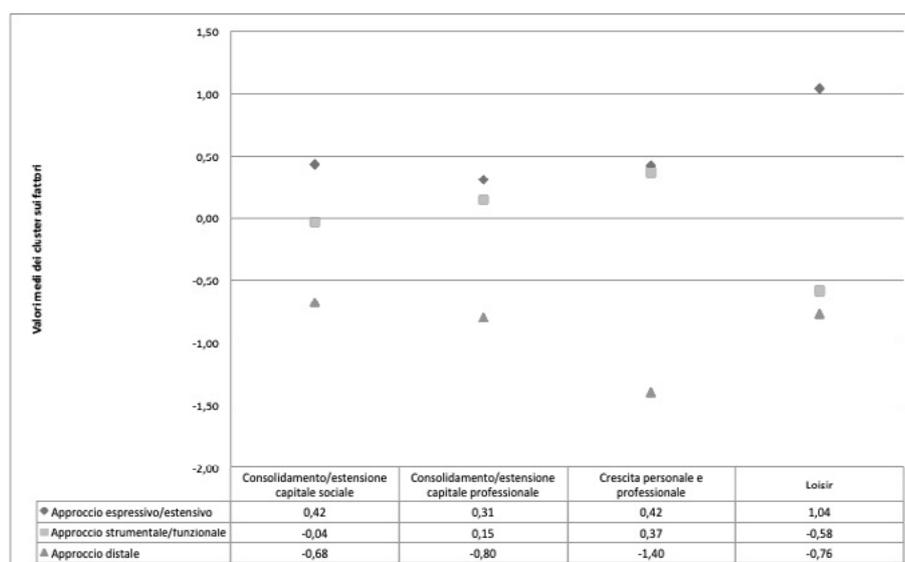
Use of social networks

The third aspect "Use of *social networks* (SN)" is the product of four latent conceptual dimensions: use of SN for the consolidation and extension of the social capital, use of SN for the consolidation and extension of the professional capital; use of SN for personal and professional growth, and finally, use of SN for ludic purposes.

The components described derive from variables such as the need to keep in touch with friends and acquaintances; to broaden extraprofessional contacts; to spend time having fun; to keep in touch with colleagues, etc. Groups related to this factor can be associated with three different models of approach to *social networks*, the *Expressive/Extensive* approach, the *Instrumental/Functional* one and finally the *Distal* approach. The first approach groups all those who use *social networks*, taking advantage of their potential and extending the fields of experience and the social capital through them: from the consolidation/extension of the social and professional capital, to the personal and professional development, to the strictly ludic dimension (38.4%). The *Instrumental/Functional* group includes all teachers that look at *social networks* with an approach strictly functional to their own individual/professional growth, rather than consolidating/creating social relations (39.6%). Finally, the *Distal* group presents low values on all latent dimensions identified and characterizes those who are distant from *social networks*, with relation to all the dimensions considered (21.9%). Of the three groups, the first two seem to approach the *net* with the logic of valorization and extension of the social capital, in terms of relational and value baggage that contributes to determine our own personal and professional identity, to a major extent. The extensive/expressive group seems to be guided by a socio-constructionist approach that considers knowledge as the fruit of

a shared construction between different subjects that belong to the same cultural community, where the acquisition of new knowledge and a primary professional *habitus* is the result of a more complex social, linguistic and cultural process that acquires its value through the valorization of social networks (Putnam, 1993); while the instrumental/functional group seems more linked to a constructivist kind of life, according to which new knowledge is a predominantly individual process, following the logics of rational choice of an individualistic nature (Coleman, 1988; 1990). In this case, those who live the *net* within private paths, closed on themselves, are concentrated. In both cases, the value in terms of opportunities and access to information is considered guaranteed by a weak-link network structure (Granovetter, 1973) that allows access to multiple communities and information by expanding opportunities for choice in terms of personal growth and professional career, as may be the one that characterizes social networks. By these different practices, differently finalized, we observe the way by which digital teachers seek to give sense to their social condition of possibility (Bourdieu, 2005, p. 45).

Graph 3 – Use of social networks



With respect to belonging to the school order, nursery school teachers are those who, in the greatest percentage, use social networks with an expressive/extensive approach (46.7%), followed by primary school teachers (43, 4%), secondary school teachers (34.3%) and high school teachers (36.5%). Among the latter, the majority has an instrumental/functional approach to Social Networks (43.8%). Those who combine the two age groups, up to the age of 30 and from 31 to 40, are the most competent and creative in the use

of social networks, inhabiting these network resources in a holistic and integrated way, for professional growth, personal and relational, with 45.5% and 44.2% respectively. Within the same age groups, there are the minor percentages of teachers who are distant from the use of the social network, respectively 18.2% and 15%. On the contrary, 26.9% of respondents in the age group over 60 are characterized by their adherence to an expressive model in the use of social networks; while 47.4% declare that they are used for strictly functional purposes. The gender does not particularly affect cluster distribution. However, in female teachers there is a greater propensity for an expressive use of the social network (39.6%), compared to male teachers (33.1%), which instead are a few percentage points more inclined to a functional/instrumental approach (41.1%), compared to female colleagues (39.3%). The teachers who carry out support and training activities for colleagues on the ICT side are mostly divided between those who have an expressive approach to the SNs (43.2%) and those who embrace a functional instrumental model less prone to the relationship to court (47%).

Conclusions

Examining the way in which daily professional practice comes into contact with technological equipment, the polarization of behaviors that highlights the difficulty in interpreting and integrating the possibilities offered by digital technologies in teacher's professionalism can be observed. The development of the professional practice is the result of complex and uncertain "translation" processes (Callon, 1984) that develop within the professional community, and through which technologies are appropriated, transforming the ordinary processes of work and relation. School organization *fields* appear fragmented, a space where different kinds of teacher profiles and professionalism emerge entering into conflict with one another. It clearly emerges that there is a predominantly pragmatic use, expressed by those who occupy an organizational role. Although, there is a certain openness of mind, confirmed by a system of basic assumptions and an overall positive emotional sphere in relation to the usefulness of digital technologies in teaching, an automatic transfer of practical knowledge acquired in the extra scholastic experience does not emerge. On the other hand, we note the relevance of the professional community in guiding and supporting those tertiary socialization paths within which to develop new perspectives for action and new areas of expertise. A community that seeks spaces of recognition and legitimation outside the narrow organizational boundaries, also through external allies. The prevalence of individual experience through which the professional practice and the paths of development of digital competence are represented, shows the strength and persistence of a sociality/

community based on the analogue dimension where digital represents an alternative that, although valid under many aspects, finds difficulty in being incorporated into the relationship and construction processes of a renewed professionalism which shows opposing tensions through the coexistence of sub-fields that are oriented towards specialization and frameworks of diversified knowledge and legitimacy. Even where motivation pushes innovators to self-determination and self-direction, there is a sense of loneliness given by the lack of recognition, by the lack of defined paths within which to constitute the professional habitus necessary to orientate the teacher 3.0. The participation in online professional communities seems only partly to respond to the need for comparison and shared redefinition of organizational rules, culture, strategic choices useful to keep pace with an innovation that seems to go faster than the capacity of the educational system to understand and co-evolve with it. The online community becomes a space for negotiation and revisiting the meanings and uses of technology for educational purposes, and provides the opportunity to use and contextualize the technological contribution in their own reality, slowly overcoming the primacy of the teacher linked to an exclusively disciplinary training, and that of a certain technological determinism based on trust in the ability that this has to transform reality, behaviors, and social relations.

In this absolutely non-linear path, lost subjectivities, when a professional community with which to share the weight of choices and strategies located in the context of belonging, as neither the disciplinary nor departmental dimensions seem able to support the change in act seems to lack, are perceived. Context appears mostly fragile, incapable of recognizing and exploiting the experiments present in the system. The virtual space becomes the place of the possible in which to seek confirmations, to expand knowledge, to share solutions and resources that can be poured into the real space of the organization in which it acts and to build professionalization paths outside the school. Online communities (Capogna, 2014a) present themselves as essential spaces in which to elaborate the set of values, beliefs, stereotypes, prejudices, and tacit and implicit attitudes in the didactic practice, through interactive and conversational processes useful and necessary for the understanding and progress of innovations and reflections on them, overcoming the boundary of the classroom, the teaching staff, the school. On one hand, there is a tendency to adapt to the strategies and established practices (exploitation) by the professional staff, on the other, the attempt to experiment innovative solutions and develop new competencies (exploration) is observed (Holland, 1975; Cyert & March, 1963; March, 1991). These are two tensions that coexist, allowing the emergence of pockets of more or less diffused resistance based on a certain difficulty in interpreting and adapting to the change occurred, in the absence of a system of accompaniment to the

teacher professionalism able to provide new explanatory keys, adequate to the exercise of a *teaching agency* that must confront increasingly “net-centric” (Capogna, 2014b) socialization and education paths, ambiguous and uncertain in the development prospects and in the self-realization outcomes.

The context appears to express its strength, its resistance, for this reason, in the absence of a vision capable of directing digital innovation in situational specificity, it is not able to produce significant results. The teacher risks being alone in the absence of reference values that act as background for the professional actions, allowing for the development of not well identified new educational emergencies, connected to a system of norms increasingly self-direct, where the relational asymmetry is less positional (linked to the role) and more situational (strongly anchored to the context-situation). Subjects are asked to define, each time in an autonomous and creative manner, the sense and significance of the experience and the educational relation (in and out of the web). This means that simple and immediate recipes cannot be supplied, it is not sufficient to offer guidelines to promote technological innovation for educational purposes, because there is no cause effect linearity since each context is different, and multiple forces, often contrasting, act on it. In other terms, it is fundamental to reinforce the definition of a new, more oriented professional *habitus* to accompany new processes of socialization and subjectivization, in relation to each student’s singularity and identity; and help teachers to overcome the disciplinary and organizational boundary to move in multidimensional professional environments, which, in recognizing greater scopes of autonomy, mature increasing margins of personal and professional responsibility. The dynamic through which the ‘digital teacher’ builds the professional *habitus* develops along that path of tertiary socialization that today is played (or at least should be) more and more in paths of lifelong and wide learning. A path where “The relationship between habitus and field is a relation of conditioning: the field structures the habitus which is the product of the incorporation of the immanent necessity of that field or a set of more or less concordant fields [...]. But it is also a relationship of knowledge or cognitive construction: the habitus contributes to constituting the field as a significant world, endowed with meaning and value, in which it is worth investing one’s energies” (Bourdieu, 1992, p. 94).

The elements that concur to outline the new professional *habitus*, in the transition from a closed disciplinary vision, based on the transmission of contents and the centrality of the teacher, to an open relation and trans-disciplinary one, which places at the center the student and his processes of discovery/learning, can be seen in the intersection (Fig. 1), in variable configurations, between contexts, culture (personal, organizational), community and practices, where the teacher can be recognized as the reflective professional (Schön, 1983). Exercising the educational action with reference

to objectives, expectations and contextual limitations for the teacher means activating a complex intertwining of practices through a pre-reflexive knowledge able to place itself in situation, and orient the course of action (and the human and non-human actors involved) in the desired direction. This is much more, and much different, from the technical and/or disciplinary knowledge that enable teaching, and recall that practical knowledge, referred to procedures, that is able to measure itself with the characteristics of ambiguity, uniqueness, temporariness and uncertainty of the results that distinguish each educational action and each human relation, which cannot be merely synthesized in terms of utility, measurability or expected results.

Figure 1 – The teacher as reflective professional



On the basis of these considerations the initial hypothesis, according to which availability of the technological infrastructure is not per se sufficient to guarantee the use (neither correctly) of learning and knowledge technologies in class and with the class, can be confirmed. Many teachers, in fact, although claiming to have the instrumentation in the classroom, claim not to use it, use it little or use it in a traditional and transmissive manner. The evidence that has emerged prove that even in front of the equipment in use and a positive availability to receive, though critically, the changes intervened in society, the possibility to develop an alternative practical knowledge, in the absence of new mental maps, able to domesticate and integrate innovation in the contexts of reference, cannot produce substantial advantages. A traditional action, guided by habits acquired through practice and able to guarantee the comfort zone, prevails. The more fragile element is identified in the difficulty of integrating digital technologies in the ordinary didactic practice, too often incapable of overcoming the mere transmission of knowledge to enhance the subjective and intersubjective dimension so deeply touched by digital society.

In a system decreasingly other-direct, where shared values and norms do not appear clearly evident and recognizable, the subject finds itself in the need of self-directing, autonomously identifying the system of norms to

which tend towards, evaluating what is prohibited, what is allowed, what is desirable or legitimate respecting others and oneself. This perspective defines the transition from the paradigm of transition, where everything is preordained, measurable, to the paradigm of understanding, where everything is contextual, iridescent and in progress, in function of the dynamics that define the single fields of action, which distinguishes the reflective professional. In the transition from modern society to *network society*, we assist in the transition from the primacy of 19th-century knowledge transmission, inspired by a positivistic model of the social organization and by strongly adaptive hidden curricula, to that of the relevance of understanding which restores centrality, dignity and power to the subject inserted in the teaching-learning processes (regardless of the demographic profile). Knowledge refers to the conscient absorption of information through the use of cognitive skills; while a comprehension and reflective approach allow the penetration of the knowledge experience through an intimate, intellectual and functional elaboration, able to conjugate information, sensations, emotions, feelings and experiences in the here-and-now of the action.

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