Approaching hospital-bound/home-bound special education as an opportunity for innovation in teaching

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Abstract

Paradoxically some "extreme" didactic needs, such as those of students who are unable to attend normal education regularly (e.g., hospitalized and/or homebound students), have shown themselves to be ideal for the development of a teaching style aimed at stimulating the active role of the student, at fostering a learning process based more on doing than on listening, hence in line with so-called "2.0 pedagogy". In this sense that special pedagogy can be considered as a potential crucible for educational innovation.

Here follow, asfter a few considerations on the current relationship between technology and pedagogy, we will try to understand if and how it is possible to capitalize on the numerous individual experiences of hospital and home teachers, in order to foster innovation in teaching and teachers' professional development.

Although the considerations in this article particularly refer to the author's direct experience in thecontext of hospital-/home-bound special education, it should be pointed out that numerous research projects in other special education contexts (e.g. cognitive, sensorial disability) also reach similar conclusions.

Introduction

If we exclude those teachers who already have a marked interest in both didactic innovation and ICTs, technology at school is in most cases perceived as an encumbrance, an extra. It is used because someone has brought it into the school or because someone else has asked to use it for projects. And when it is used, what a fag it is: managing a whole class in the lab, using machines which are hyper-protected by the technical assistants for fear of the students' tampering with them or contaminating them with computer viruses. And the list of complications could go on and on.

So, an almost forced use of technology and thus almost never a creative one, based on "conventional" teaching methods and practices rooted in old teaching/learning schemes. But the introduction of new technologies calls for the conception and introduction of new methodological proposals inspired by so-called "e-pedagogy" (Elliot, 2008), proposals which are able fully to exploit ICTs potential both for collaborative study and for individual access to knowledge.

In this context, Mary Thorpe (2012) argues that one of the main reasons for the lack of success in trying to innovate educational processes through the use of new technologies is the obstinacy in adopting pedagogical approaches which are now obsolete and which are limited to simply re-proposing old practices with modern tools.

Likewise, Norris and Soloway (2012) add that the didactic use of technology practiced exclusively at school, moreover with inadequate pedagogical approaches, has caused the school world to miss out on both the "desktop revolution", the "Internet revolution" and finally the "laptop revolution".

Today the most up-to-date and used ICTs are not those made available by schools, but rather those that students and already many teachers use daily, devices they carry in their pockets, bags or rucksacks. In this radical change of

scenario, with technology pervading daily life, it would be unjustifiable for school to miss out on the "mobile revolution" too (Norris and Soloway, 2012).

Alas, many alarm bells can already be heard ringing. For example, the gap between the personal/daily/informal use that students and many teachers make of the new network and mobile technologies (NMTs) and the way in which, instead, these same means are used/proposed in so-called "formal" teaching (Trentin and Repetto, 2013), is constantly widening. What can clearly be perceived is a kind of "backstage use" (the stage being the classroom) of technology, a parallel use to that in the school-space context, and a much faster one:

● on the one hand the students, assiduous users of social networks also for interacting with classmates (mostly activating somewhat unorthodox mechanisms of sharing/passing assignments), or for accessing informational resources for research projects, often consisting of haphazard copy-and-paste operations;

● on the other hand the teachers, who are also increasingly often technology and online resource consumers, but who however limit themselves to using them in the preparation stage of the classroom activity, rather than in fostering learning processes which promote the indistinguishability and interchangeability of study inside and outside the school area.

Thus for those operating in the school context the need arises to understand more and more fully the existing and increasing interconnection between these two apparently (or perhaps really) parallel contexts: school and extra-school.

We must however tread very carefully here, since NMTs are based on general purpose functional-models, not necessarily oriented to educational uses; hence, all those initiatives which tend to impose them without any specific pedagogical choices or any precise analyses of the real underlying didactic needs, are bound to fail. Two scenarios seem currently to favor our purpose (Trentin, 2013a):

- the need for a didactic-pedagogical innovation which is centered more on doing than listening, and is more in line with the habits, pace of life and communicative styles of the new generations and with the informational resources which these generations have literally within hand's reach throughout the day;
- the need to exploit the potential of technology in the management of teaching/learning processes in difficult, sometimes extreme, situations (e.g. social/educational inclusion of those who have difficulty in regularly attending normal study courses).

The teacher's crucial role

In the scenario hypothesized in this article, the teacher must logically play a crucial role, not only in his/her guise of subject area expert, but also in that of researcher (teaching implies a process of constant research) and educator. This is possible only if the teachers are willing to (Trentin, 2010; 2013b):

- enter the communicative dimension of the new generations, using the students' own virtual spaces (i.e. "going to visit" the students where they normally interact among themselves);
- indicate study methods which exploit the above dimension;
- educate students to use the potential of the network and mobile technologies which are at their daily disposal in a discerning, intelligent way;
- educate students to digital citizenship.

In all this, we cannot ignore the urgent need for a systematic initial training programme for educators, and for their continuous updating. They must be made aware of the need for change, and this can only begin from within and from the

conviction that this is the only way to achieve an alignment between the ways of communicating at school and in everyday environments (Zimmerman, 2007).

But what incentive can produce a strong enough impulse in teachers to make them change their usual way of teaching, when school organization itself is so alien to the demands of a 2.0 teaching method? In other words, if the teacher is mainly asked to respect the curricula indicated by the Ministry of Education, why bother to make extra work (which in any case is usually not even acknowledged). Why run the additional risk of being seen as someone who wants to destroy the well-established (or rather "crystallized") schemes which suit more or less everyone?

Two possible favorable situations can be hypothesized here (Trentin, 2013a):

a) Teachers really desire to renew their teaching and bring it up to date, guiding their students towards the discovery of discipline-specific knowledge by exploiting their technological aptitudes and habits (what Norris and Soloway call the "artisan teacher"). Thus, teachers do not limit themselves to acting as a didactic mediator, passing on discipline-specific knowledge to their students, but also (above all) help them to become citizens of the future. Citizens who are able not only to read, write and do arithmetic, but also to master methods and strategies for the effective and efficient use of communication technologies in accessing knowledge and in continuous learning (Trentin, 2013b).

b) Teachers up against a didactic problem whose complexity cannot be tackled using conventional methods and tools (hence even more "artisan" than the previous one). For example, teachers operating in contact with students affected by cognitive disease, or those students with difficult to attend lessons and/or normal educational courses regularly (e.g. hospital-bound/home-bound).

Experience has taught us that (Trentin, 2013a):

a) in the first case innovation rarely catches on, since it has to appeal mainly to the teacher's "intrinsic" motivation to innovate and create ad hoc spaces in "canonical" school life;

b) conversely in the second case there is a clear, prevailing "extrinsic" motivation; this derives from the particular operational situation, which paradoxically often presents an ideal context for the application of tools and methods (especially online ones) aimed at technology-centered didactic innovation.

Extrinsic motivation due to a problematic situation

In order to explain more clearly the extrinsic type of motivation which may induce a teacher to radically rethink his/her way of teaching, it could be useful to compare the features of the two different situations presented above (Table 1).

a) "Normal" teaching	b) Teaching in the presence of problematic situations
School space and didactic organisation inadequate for the development of pedagogical approaches exploiting the potential of the new technologies.	The school space is anywhere where study is possible (home, hospital), preferably offering the chance to do it in collaboration with other, even remote, students, and with teachers' support even if they are not always present.

Teachers hesitant in considering teaching activity which extends outside school time.	Most (sometimes all) teaching activity is developed outside the school spaces.
Teachers generally unmotivated to change their teaching style when they perceive no real need for them to do so.	Teachers' strong motivation to seek solutions which allow the disadvantaged student to take part in class lessons, helping their study through personalised paths potentiated by technologies and making them actively participate in collaborative study activities in class as well as in extramural ones.
From one hand, strong perception of students' need to acquire soft skills in using technologies to enhance their scholastic and lifetime learning process. On the other hand, since these skills are not "assessable" for school credits (except for ECDL[1] courses), technologies at school are seen as cumbersome and their use is often a forced one, sometimes not understood by students' families (a teacher who uses Facebook? Pure heresy!).	Awareness that only through a systematic and programmed didactical use of NMTs a disadvantaged students can enjoy both equal opportunities in following educational courses and total autonomy also in the future in tackling their lifetime knowledge needs. It does not matter that these skills are not recognized in scholastic assessment. It is a non-problem, since those skills are not an extra but a fundamental. And their fundamental nature is recognized and requested by students' families

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1. European Computer Drive Licence.

	themselves.
The above circumstances lead to great difficulty in involving the whole of a class teaching board in the re-planning the teaching process in order to integrate NMTs.	It is often precisely these problematic situations which convince even the most sceptical teachers to give it a go and which thus unite the various members of a class teaching board.

Table 1. Technological integration, "normal" teaching and teaching in the presence of problematic situations (Trentin, 2013a)

The last point in the table is particularly interesting, since the author has had the opportunity to witness how problematic situations (Trentin and Benigno, 2013) turn out to be a kind of Trojan horse for wider reflection on the introduction of NMTs into teaching (Mitchell, 2010).

Undoubtedly the proposal even to partially re-programme teaching activities in order to facilitate a remote student's normal school attendance always provokes much perplexity within the board of class teachers, even more so if this implies the introduction/"intrusion" of technologies. This perplexity is even more marked when the disproportionate overall effort required for managing what actually amounts to a single case is taken into account.

These resistances can often be broken down if teachers can be made to take a positive view of what is certainly not a positive situation (especially for the disadvantaged student). That is to say, if it can be demonstrated to them that the management of that problematic situation may become an opportunity for acquiring knowledge and skills on the NMTs educational use, which can then be extended to the whole class (and more generally to the whole school) also for other purposes at a future time. So, not only for solving a (hopefully occasional)

emergency situation, but also for innovating and potentiating the learning/teaching process throughout the class/school.

These situations, in which teachers', head teachers', parents' and classmates' interest in finding solutions to include disadvantaged learners are evident, have often turned out to be true incubators of educational innovation for that class/school, fostering exemplary experimentations in the didactic use of NMTs which can be used as models also for "normal" teaching.

So, we are looking at a teaching style which is forced to develop in unrestricted spaces, and which may act as an example and a guide to the opening up of the day-to-day spaces of the school system, a system that is still much too strongly anchored to schemes which do little to meet its users' expectations and demands for renewal.

As we have said above, the fact of operating in a dimension which is more "open" than that of classroom teaching alone, places the "special" (e.g. hospital or home) teacher in a situation which is, from some points of view, ideal for experimenting a new interpretation of their role of mediator in the students' learning process, even though they have to do without the normal, day-to-day, face-to-face interaction which the classroom situation would guarantee. Interest is generated in experimenting the use of technologies in order to create the necessary continuity in the relationship with the student confined to hospital or home, an element which is in any case fundamental for any teaching/learning process.

This is why the study and observation of the solutions, which hospital and home teachers have worked out to meet their teaching needs, is particularly useful for realizing how even, in a "normal" situation, the teacher's role can/should change to create a teaching/learning process which exploits the potential of the new communication channels and students' new ways of interacting (Roth and Erstad, 2013).

This study and observation could generate both the most suitable teacher training courses (preferably at an early stage of their training), as well as indications as to what norms should be instituted to create a type of school organization which can promote a true didactic innovation based on the considerations expressed above.

This is why for some time now the context of hospital and home teaching has been considered as an incubator for teaching innovation centering on the use of new technologies, and consequently as a potential crucible for 2.0 teachers.

In this regard, it should be specified that the term "2.0. teacher" (Trentin, 2010) is used here to indicate the function that teachers perform not only in the context strictly connected to the use of technologies, but also in a more general sense, when they organize and manage learning paths where 2.0 resources can take on differing roles according to the different didactic methodologies which are being adopted, i.e. ranging from being essential to being more modestly a simple support which is useful but not necessarily indispensable.

At the present moment however, the knowledge and skills for performing this function efficiently are not widespread among teachers. One element of sustainability for 2.0 teaching is thus closely related to teacher training, both in the instrumental use of 2.0 resources and in the various teaching/educational approaches connected to their use.

But what kind of training? Given the affinity between 2.0 teacher and online training tutor/teacher, and drawing on the experience acquired in the training of the latter figure, it may be concluded that if we wish to spread knowledge, skills and culture related to the didactic/educational use of 2.0 resources, we must use teacher training tools and approaches based on the same resources and methods by which they can then be proposed to students (Trentin and Repetto, 2013).

Hence no longer (or at least not only) formal training (i.e. participation in classroom or distance-learning courses), but interventions focused above all on informal (or non-formal) learning processes (Cross, 2005), which exploit the

potential of the NMTs for accessing and sharing information, knowledge and good practices, by means of direct consultation of the online sources and social interaction in networked communities of practices (Wenger, 1998; Trentin, 2005).

Conclusions

The body of individual experiences deriving from sometimes "extreme" didactic needs, such as those of students affected by physical/cognitive disease or who are unable to attend normal education regularly (if at all), has provided and continues to provide school and research worlds with useful material for reflecting on and experimenting new forms of teaching. We are talking about an "open" type of teaching which ignores the physical perimeter in which the class usually operates, while guaranteeing the same social and communicative dimension that must be allowed to develop within a class.

Studying these "extreme" experiences may undoubtedly help us to correctly dose moments of face-to-face interaction with moments of individual and/or collaborative study potentiated by technology-mediated interaction, also in a so-called "normal" teaching situation. And also to understand what role and functions a teacher must perform in order to successfully oil the new learning mechanisms which are increasingly centered on students' active role (learning by doing) and the individual, knowledgeable and informed use of the information and knowledge sources which can be accessed with the technologies they have daily within hand's reach.

The ideas developed in this article frequently refer to the context of hospital-/home-bound special education, this being the research field in which the author has developed most of his experience regarding special education problems. It is worth pointing out, however, that many of the conclusions reached here are shared by other authors working in other special education areas (Roper, 2006; Haddad, 2009), e.g. those pertaining to cognitive and sensorial disabilities.

It is in this sense that experts are becoming more and more convinced that the special teaching in general is a potential crucible for what we have called "2.0 teaching".

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