Review

Planning units of professional learning: the ecipar experience in Italy

Riccardo Pirazzoli

University of Bologna, Department DISCI, Via Guerrazzi 20, 40125, Bologna, Italy

E-mail: riccardopirazzoli@gmail.com

This paper intends to suggest some guidelines to create new methods in teaching, but also to analyse what kind of outcomes can be obtained. Through participant observation, it has been found that results in learning can be achieved only if: the focus is on the student; the skills are planned through a rolling approach; there is a strong coordination among teachers, tutors and coordinators; Active Teaching and Learning by Doing are fully implemented. A new approach, defined "Units of Learning" (UoL), has been carried out, since September 2013, in a school for hair-dressers and beauticians in Bologna, managed by ECIPAR (institution for training, sponsored by the National Confederation of Crafts). UoL is a set of multi-disciplinary and coordinated activities, performed in a certain time, to get a cognitive an operative goal. In this school, it has been detected that UoL method has an influence on creativity, communication, collaboration, critical thinking, and problem solving, which are considered by OECD as essential 21st century skills, highly required by labour market. In fact, according to several entrepreneurs, the mere technical competences are not enough. Good hands are as important as good brains.

Keywords: Units of learning, skills, new methods

INTRODUCTION

Daily life and work today require more than technical skills and content knowledge. The ability to manage complex life and work environments in this competitive information-age requires people "to attend rigorously to the development of essential skills, such as initiative, critical thinking, and self-regulation" (Partnership for 21st Century Skills, 2009). Besides, in this recessionary period, high general unemployment rates make the transition from school to work more difficult for young people (OECD, 2013). Besides, people with more work experience are favoured over new entrants into the labour market which will keep on searching for technicians, as shown by figure 1. To improve the transition of young people from school to work, whatever the economic climate could be, education systems should work to give people skills that match the requirements of the labour market, and to minimise the proportion of young adults who are neither in school nor in work (OECD, 2013). Therefore, it could be argued that only "good/expert hands" will be required, but this seems to be a

banal approach to analyse the skill issue.

In fact, European Parliament (2006) defined *skill* as the "proven ability to individually use knowledge and expertise in work or study frames and in personal or professional development". Skills can be divided into "hard", on modern equipment, and "soft", such as teamwork, communication, problem solving and negotiation (OECD, 2012). Put in this terms, a mix of hard and soft skills is desirable to merely knowledge, because people are living in "an information everywhere society" (Ting, 2011) where citizens are bombed by a huge amount of information after a simple "Googling-click" (*ibidem*). In this fickle society, the *easy-click* could be a risk for naïve minds, so that school cannot be just technocratic, but must be aware of its goals, built upon individual and social needs, in order to shape the learning process on micro and macro social frames (Brofenbrenner, 1986). Education has an important role in helping students develop their skills by making them responsible with the teacher for their learning and actively involving them in
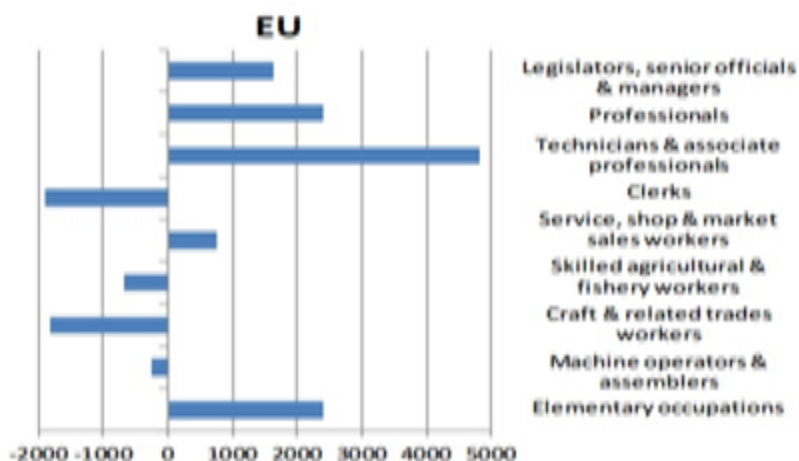
Figure 1 : Projected change in employment by occupation, 2010–2020. Source: Cedefop (2012).
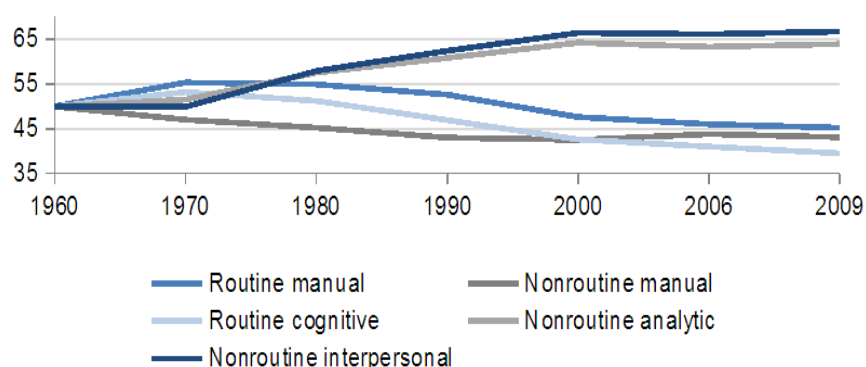

Figure 2 : Skills required by Labour Market. Source: Autor and Brendan (2013)

learning activities. School should not bring out just mere technicians because routine manual activities have been decreasing their relevance (Autor and Price, 2013). "Good/expert hands" managed by hard skills are not enough for labour market. Non-routine interpersonal (teamwork, communication and negotiation) and non-routine analytic (problem-solving) tasks are soft skills, and, as pointed out by figure 2, their importance has been increasing since the '60s. An education which allows toget these soft skills, positively affects employment rates. In fact, across OECD countries, people with these skills "are more likely to get a job, and working full-time, than those without. Unemployment rates are nearly three times higher among people who do not have an upper secondary education (13% on average across OECD countries) than among those who have a tertiary education (5%)" (OECD, 2013a, 38).

It can be so argued that soft skills are fundamental in every daily work experience,

whatever the industrial sector could be. This trend has been confirmed by Luca Roversi, director of ECIPAR-Bologna (institution for training, sponsored by the National Confederation of Crafts), during a meeting with all the teachers, tutors and coordinators involved in the Units of Learning project for the hair-dresser/beautician school, in September 2013. According to Roversi, entrepreneurs consider technical skills important, but other skills are required, such as "to know how to behave in a company". Since 2007, the Italian Decree-Law n. 139/2007 defined these soft skills as Citizenship Skills. These higher-order skills are now prior in workplaces and in society as they include the capacities to:

- generate, process and sort complex information
- think systematically and critically
- make decisions weighing different forms of evidence
- ask meaningful questions about different

Subjects
- be adaptable and flexible to new information
- be creative
- be able to justify and solve real-world problems
- acquire a deep understanding of complex concepts
- media literacy
- teamwork, social and communication skills (Dumont et al., 2010, 8-9).

Decree-Law n. 139 proposed to consider two different areas of learning, in order to better develop and assess these skills:
- Cultural Axis, standard for every school (Linguistic, Mathematics, Scientific-Technological, Historical-Social).
- Units of Expertise, different for every kind of professional qualification.

Consistent with all these issues, seven principles have been proposed to guide the design of learning environments, encapsulated by the following headings (Dumont et al. 2010):
1. Learners at the centre
2. The social nature of learning
3. Emotions are integral to learning
4. Recognising individual differences
5. Stretching all students
6. Assessment for Learning
7. Building horizontal connections

Aim of the research

The findings of this paper derive from a participant observation of the author, that takes part to the project as customer-care teacher in a class of 20 teenagers. The aim of the research is to propose some guidelines, deriving from the seven principles mentioned above, to create a new method in teaching, in order to allow students to get soft skills. The new method is defined Units of Learning (UoL) and has been applied since September 2013 in a school for hair-dressers and beauticians, in Bologna, managed by ECIPAR. The outcomes obtained by the application of UoL have been also analysed in this paper. The UoL methodology tries to answers these questions:
- How to plan a new kind of learning?
- How to trigger collaboration between students and teachers?
- How to involve students?
- How can students become autonomous and responsible?
- How can students get and interpret information?
- How can students detect connections among different subjects?
- How to trigger problem solving?

Literature review

According to a socio-constructivist approach (Brofenbrenner, 1986; Au, 1998; Powell et al., 2009), the analysis of new methods of learning should consider the process of learning as "shaped by the context in which it is situated and is actively constructed through social negotiation with others" (Dumont et al., 2010, 3). The above cited seven principles (Dumont et al., 2010) can be exploited as guidelines for the design of all the activities and relationships in Innovative Learning Environments. To be effective in ways confirmed by international research, learning environments should:
- recognize the learners as its core participants, encourage their active engagement, and develop in them an understanding of their own activity as learners ("self-regulation").
- be founded on the social nature of learning and actively encourage group work and well-organized co-operative learning.
- Have learning professionals who are highly attuned to the learners' motivations and the key role of emotions in achievement.
- Be acutely sensitive to individual differences among the learners in it, including their prior knowledge.
- Devise programmes that demand hard work and challenge from all but without excessive overload.
- Operate with clarity of expectations and deploy assessments strategies consistent with these expectations; there should be strong emphasis on formative feedback to support learning.
- Strongly promote "horizontal connectedness" across areas of knowledge and subjects, as well as to the community and the wider world (OECD, 2013b, 16).

The force and relevance of these principles are not in each one isolated from the others. Instead, they provide a framework in which all *must* be present for a learning environment to be judged truly effective. This framework should be composed by three components: "the pedagogical core, the formative cycle within the organization (learning design, evaluation, feedback and redesign), and partnerships" (OECD, 2013b, 187). Learning Environments should therefore be:
- constructive, because self regulated learning is fostered
- sensitive to context
- collaborative.

Dumont's seven principles try to build a positive learning environment, in which emotions and motivation are exploited to trigger the process of learning. In fact, emotions and motivation are considered relevant topics because they would be gatekeepers of learning (Au, 1998; Dumont et al.,

2010). Positive emotions towards learning experience can encourage participation and long-term recall. This deeply affects teaching and learning, "whether negative emotions are a result of classroom experiences or of outside experiences that are carried into the learning environment by students"(Dumont et al., 2010, 3).

Motivation can derive from learning in a sham workplace, obtained through labs or role-plays, or in a real workplace, outside the school. This approach would allow students to develop hard and soft skills (OECD, 2012) and to become aware of what is relevant in labour world. They can also manage their resources and deal with real obstacles efficiently. This workplace-frame training can also help to motivate disengaged students to stay in or re-engage with the school and smooths the transition from education system into the labour market (OECD, 2012).

The UoL Methodology: definitions

Unit of Learning (UoL) can be defined as an organic and designed set of learning opportunities to allow a student to build a personal relation with learning, through a direct, personal action to achieve tasks and to create a real good to be proud of and which can be assessed.

UoL practical features are a set of educational activities and didactics methodologies which gives a value to student's abilities in order to create a good/service in a framework that imitates reality and requires multi-disciplinary approach.

To sum up, UoL is a set of multi-disciplinary and coordinated activities, performed in a certain time, to get a cognitive an operative goal. It is a learning experience which should be

* Viable: it is self-fulfilling, unique, multi-disciplinary
* Purposeful: it connects learning to identity
* Assessable: it allows to get a minimum standard whose results can be measured.

Its structure must be inter-disciplinary because UoL is composed by several educational actions focused on a common mission accomplished through a creative cocktail of different skills.

UoL's main characteristics are:

* Focus on the student
* Planning of the skills through a rolling approach: plan-do-check-act
* Formation for teachers, tutors and coordinators
* Active Teaching, Learning by doing
* Authentic Assessment and Performance.

UoL is a learning opportunity to get a personalized learning, which means a common task to achieve, but several personal behaviours and interpretations are allowed to get the skills. Contents are *not*

adapted to student's capacity, but all the learning process should be set by suitable goals for each student. Results can be achieved throughout the application of abilities on available capacities, in order to transform them in skills. This desired learning-by-doing aims at tailor-made education.

Planning the UoL

Traditionally schools have been closed institutions, though the degree of closure varies from system to system. The tightness of this enclosure and the richness of additional capacity and connections on which the learning environment can draw, represent the ability to develop strong connections with external partners (partnerships with businesses, cultural institutions, even those of higher education) in order to extend the environment's boundaries, resources and learning spaces. These external partners could fill school with new ideas, expertise and perspectives. Teachers' background is highly diversified in ECIPAR's school: there are professional teachers, but also hair-dressers, beauticians and trade-agents who work as teachers, even if their professional background deals not with education.

Step 1: Formation Plan

The pedagogical core of the project begins from the skills which every student must have at the end of the formation. The Formation Plan is planned by a team composed by teachers and coordinated by tutors, but it is not defined *ex-ante* because it should be integrated or modified *in itinere*. It is over only at the end of the course. In Ecipar the pedagogical core was discussed by all the teachers involved at the beginning of the school year and was composed by four elements: learners (who?), educators (with whom?), content (what?), and resources (with what?). Of course, these ingredients cannot affect by themselves the nature of the learning environment and of the outcomes. There is "no guarantee that these elements will be brought together and implemented in effective and innovative ways. But at the same time rethinking each of these core elements – each one by itself and especially all four together – is to address the deepest core of any learning environment" (OECD, 2013b, 187). The formation plan should:

* Ensure that learning is social and often collaborative.
* Be highly attuned to learners' motivations and the importance of emotions.
* Be acutely sensitive to individual differences including in prior knowledge.

- Be demanding for each learner but without excessive overload.
- Use assessments consistent with aims, with strong emphasis on formative feedback.
- Promote horizontal connectedness across activities and subjects, in and out of the school (OECD, 2013b, 188).

In this first step, UoL is considered as a possible framework which could be modified afterwards, according to traditional Rolling Approach. This means that final skills (goals required by standards of qualification) come first, how to get the skills (UoL) come later. The questions to be answered by the planning team should be:

- Who are our students?
- What do they need?
- Why are they here?

Ecipar's students are teenagers, digital natives, multi-cultural. Many of them have lived underachievement at school, so that they consider themselves as losers. According to the planning team, their development tasks are:

- to build an identity as a citizen and as a qualified worker
- to perform professional and social responsible behaviours
- to achieve emotive independence.

In order to trigger Teachable Moments, other questions should be asked in preliminary discussion:

- What can motivate students?
- Where are they strong? Where are they weak?
- How to get educational success?

Ecipar's teamwork proposed these following issues to win the educational challenge: gratification, repetition, more roads to get to the goal, collaboration among students, personal relations.

Finally, a discussion about the teachers should occur, to answer this question:

- What are teachers' difficulties?

In Ecipar, this question was not deeply answered, but it was detected that the main constraints are:

- To work with fragmented target with different abilities
- To raise cultural skills but also to keep a professional identity
- To consider oneself as a teacher, and not just as a hair-dresser, beautician or trade-agent
- To work with a lack of coordination between tutors (who have a daily relation with students) and teachers (who have an occasional relation with them).

Step 2: Planning a draft of the UoL

The formative cycle (learning design, evaluation,

feedback and redesign) should be planned through the Rolling Approach (plan-do-check-act). This allows to avoid that a rigid project is applied to a living and fickle group. In this view, planning must be considered as a draft, a guide, but changes are highly recommended.

Step 3: Identifying specific learning goals

This should be done for each class, because it is a concrete group of students with different personal skills. Teachers therefore must deal with a great complexity, so UoL is a possible solution to build personal learning processes. In Ecipar's school, it has been observed that a Chinese boy, who speaks a poor Italian, has been assigned with easier tasks to be achieved in longer times, but in spite of this he has taken part to the UoL.

Step 4: Converting every learning goal in learning tasks

Tasks must be students-friendly: they must be perceived as something that can be individually achieved. For this reason, didactics must be based on *doing*, which is the reason for learning. Students understand why they are studying something and what they need to improve.

Step 5: Building the UoL

Goals, activities, ways, time and methods, assessment must be defined.

Setting a UoL: the Ecipar's experience

ECIPAR's project, whose title was "Promoting my Shop", is composed by ten points.
1. Planning Educational objective: knowledge and abilities to be obtained
In this UoL, the objectives are: to get aware of a real shop dynamics and services; to build a visual merchandising project; to get customer satisfaction; to manage selling techniques.
2. Intermediate/final results
In this Ecipar's project, teachers demand students for:

- an elaboration of a questionnaire and an analysis of it
- a creation of a concept-shop throughout the collaboration of different teachers (hair-dressers, beauticians and customer care for the Technical Skills; for Citizenship Skills, the teacher of Italian)
- a creation of a real shop, with the collaboration

of the teachers of informatics, Maths (Citizenship Skills) and safety, hair-dressing and cosmetology (Technical Skills)

- an ideation of a leaflet, involving teachers of informatics, customer care, hair-dressing and cosmetology

3. Skills required

In Ecipar's UoL, at the end of the process, every student should:

- Properly communicate in a professional framework.
- Positively behave in a professional framework.
- Be able to build positive relations with the customers.
- Know and use the hair-dressing/beautician techniques.
- Properly analyse the customer's feature to suggest and sell a product/service which is relevant for the customer.

4. Target: the features of the class as a whole, and of a part of it

The class is composed by 21 teenagers (one male). Four girls come from Moldova; they all speak fluent Italian. A boy comes from China; as mentioned above, he speaks a poor Italian. A girl comes from Albany; she speaks fluent Italian. A girl comes from Nigeria; she speaks a poor Italian. Many girls lived previous negative school experiences and had poor skills as defined by the Cultural Axis. The class has been often divided in small groups (4-5 members).

5. Prerequisite: the minimum level of competences required to begin

Just basic Technical and Citizenship Skills were required. This has been a weak point of the project, because the minimum level was not shared by all the group, even if it was taken for granted.

6. Time: the global amount of hours and how the calendar is structured

The UoL has been spread during all the school year: from September 2013 up to June 2014.

7. Methodology

UoL activities have been: real services on puppets/models; role-playings; video-makings; art labs; traditional frontal lessons; computer labs. These have been along with traditional methodology.

8. Resources

Who: teachers with professional experiences in the business, and tutors.

What: complete set of hair-dressing and beautician tools as didactics materials; camera; paintings.

How: Meeting with external stakeholders (professional hair-dressers/beauticians).Visits to Business fairs and real companies.

Where: classrooms and labs of hair-dressing and beautician; computer lab; designing lab.

9. Assessment: how and through what is possible to obtained a valuation

Teachers assessed: real services of cut, comb or

colour, writings, designed plan, video-making, presentations in Power Point, role-playing.

10. Sharing the advancement

The formative cycle composed by learning design, evaluation, feedback and redesign must imply a steady follow up to share the progresses among all the teachers involved. It could be obtained through mailing and meetings. This has been detected as a problematic area.

FINDINGS: A SWOT ANALYSIS

Strength: The more students are involved, the more they learn

A clear difference has been detected in outcomes, as shown in figure 3, deriving from different learning methodologies. When a traditional school model was adopted, the assessment's result was worse than when innovative learning models were adopted.

A traditional written exam was done in November 2013, during which a stereotyped school model was applied. In fig. 3, it is defined as *verifica stimoli* and it consisted in ten questions to be answered individually in 50 minutes. The average votes were70/100. Students with poor Italian had bad votes. In March 2014, as part of the UoL project, the whole class was divided into four group to analyse what happened during their stage period in several companies. Every group exploited a questionnaire, created by the teacher, to get information and made four different research dealing with: business model of the companies; Non-Verbal Communication of customers; managing principles; trade models of the companies. Every research was summed up in a poster, created and painted by the students. At the end, every member of the group explained a part of their research in front of a video camera. The average votes were 95/100. Students with poor Italian also had good votes because they were involved in the project and helped by other students. In general, it has been found that creativity, public speaking and problem solving were positively exploited by the groups to accomplish their tasks. It can be so easily assumed that learner's engagement is fundamental. If students are involved in the learning process, positive emotions and motivation are triggered. Giving the learners a leading role in the design and implementation of their own learning means "to rethink one of the fundamental assumptions about schooling. The stereotyped traditional model is oriented towards conformity and control in which the students' role is essentially as a passive recipient, not an active player and designer"

Figure 3: School Report. Different assessment in traditional schooling and in UoL activities.

(OECD, 2013b, 190). Students' engagement is encouraged when they are compelled to build their personal learning process. It has therefore been found that UoL avoids the passive "conformity and control" schooling model.

Weakness: Lack in coordination

An educational organization operates informatively: information must be constantly fed back to the different stakeholders in order to check and, eventually, redesign strategies for further innovation, according to a Rolling Approach. This continuous formative cycle (learning leadership and design, evaluation, feedback and redesign) not only affects the organizational dynamics and choices, but also it strictly connects learners, educators, content, and resources (OECD, 2013b). Due to the multitude of stakeholders involved, a strong leadership is essential to coordinate the learning design and to check how it has been put in place. Teacher engagement in professional learning is another key aspect of the planning and implementation process.

Information richness about learning strategies, students and learning outcomes could quickly become overload unless that information is gathered by a gatekeeper who knows what is relevant and how to convert information into meaningful knowledge for all the stakeholders. This means that "the feedback and reflection process is deliberate, not haphazard" (OECD, 2013b, 187). The UoL innovations must therefore refer to a cyclical and on-going nature of change, that involves design and redesign unfolding over time, and can lead to transformation only if sustained.

Unfortunately, it must be pointed out that schooling routines are so familiar that they deeply affect what occurs. The predominant role of the single teacher, sometimes his/her laziness, highly segmented classrooms, standardized timetable structures, and traditional approaches to teaching and classroom organization (OECD, 2013b, 187) are the deep-rooted organizational structures that undermine any innovation. Moreover, the lack in coordination between teachers and tutors and an inefficient sharing of information have been the worst organizational issues observed throughout the project in ECIPAR's experience. These could be the possible solutions:

- different ways of grouping teachers,
- regrouping learners,
- rescheduling learning,
- changing pedagogical approaches and their mix
- weekly and monthly reports of the progress, written by tutors and shared by all the teachers

By rethinking standard group sizes with educators and learners, sometimes with large amounts of learners working with several teachers through small group and individual study, greater flexibility would be introduced to do different things at different times. Innovating educational methods must go hand in hand with innovating the organizational dynamics (OECD, 2013b, 187).

Opportunities: avoid old models

It is commonly assumed that traditional school's main features are: whole-class teaching and poor personalization. These are considered as *social* elements. However, there is also an *individual* approach, because the highly personal understanding of learning is intended as something done by each individual inside their heads, without any collaboration with other learners. UoL methodology contrasts this stereotyped schooling, and points out a shift which involves the balance of what is social and what is individual in schooling. This is not "a linear matter of moving along a single dimension to have more or less social engagement or private activity, but a shifting balance" (OECD, 2013b, 189). The UoL examined has often turned these stereotypes upside down. Many teachers have tried to operate personalized learning programs that rejects "one size fits all". They test different mixes of small group, individual research and study, off-site and community work. At the same time, the UoL method is open to other "stakeholders helping to define strategies, curricula and legitimate knowledge, and to serve as educators" (*ibidem*).

Threats: to manage a lot differences

Daily practices in schools are made of large amount of very differentiated students. Besides, schooling is affected by a social frame rich in diversified inputs. All these reasons should give a new function to school: to build a personal awareness which can give a sense to the individual experiences. This means that school must be as inclusive as possible and accept "the responsibility to promote a cognitive self-development or cognitive flexibility" (Pacifico et al., 2012, 12).

In Ecipar's school, the main part of the teachers are professionals that are supposed to be also good trainers who can positively manage all these differences. This cannot always occur, but unfortunately a lack in *paid* training for educators has been detected. This could trigger a process of de-motivation among the teachers who could adopt the easiest, old learning methodologies based on discipline, order, and obedience. Students' curricula

have changed, but the autocratic model of schooling could keep on being untouched. In the class observed, inter-cultural interactions are not so easy and must be continuously stirred up by teachers. Furthermore, the poorer the Citizenship skills are, the more difficult interaction and communication are.

CONCLUSIONS AND SUGGESTIONS

The project described above, developed iteratively between framing concepts and the fieldwork findings of Ecipar's experience, offers a set of defining features to build UoL. According to the findings, the guiding UoL's principles should be:

• Innovation of the elements and dynamics of the pedagogical core.

• Transformation of the school in a formative organization through strong design strategies with corresponding learning leadership, evaluation and feedback.

• Opening up to partnerships to grow social and professional capital, and to sustain renewal and dynamism.

• Paid formation for teacher to be ready to face the challenges of modern education.

• Strong connection among teachers, tutors and coordinators to better coordinate and share the learning actions, to be aware of the progresses.

All the practices undertaken by the case studied, should trigger a reflection on traditional models of schooling. Besides, it should be debated how these models are being rejected or refined (OECD, 2013b). According to OECD, a fundamental schooling feature is "about proximity in time and space for teaching and learning to occur" (2013b, 189). It has been conventionally been necessary for learners "to be in proximity with one another, sharing space with their teachers, using books and other tangible materials. This could be thought to imply that education must in these circumstances be highly social and interactive, but the familiar stereotype of the old-fashioned school indicates that there is nothing automatic in linking proximity with interaction"(OECD, 2013b, 189). The UoL approach allows the students to be more involved "in intense interaction and indeed be active in the design of their own learning" (*ibidem*).

These conclusions may sound familiar to those who are experts in learning research, but are no less challenging to implement because of that:

it is one thing to know "as a fact" that research supports practices such as group work or formative assessment, it is quite another to embed these into daily practices such as group work or formative assessment, it is quite another to embed them in the practice of whole learning environments rather than in isolated pockets by particular teachers at

particular times. More demanding still, all the principles should be met rather than a selected few (OECD, 2013b, 188).

Education reformers should now be concerned on promoting creativity, negotiation, problem solving and communication in schools. All these 21st century skills deal with thinking unconventionally, having time to simply reflect, understanding that there is no single right answer, and appreciating and valuing failure. For instance, through UoL approach a student could be asked to come up with as many original or unusual functions he/she can conceive for an innovative hair-dress service. This means that student becomes an "active, autonomous and responsible in learning process which is not a mere transfer of the information as a content to be memorized, but it is also learning how to learn. [...] the student can embed the information in a personal way into a wider frame" (Spezzano, 2012, 9). Hence, the challenge must be to design learning environments and tests to assess the quantity and originality of responses to prompts that do not demand a specific answer.

REFERENCES

Au KH (1998). Social Constructivism and the School Literacy Learning of Students of Diverse Backgrounds, in Journal of Literacy Research June 1998 vol. 30 no. 2 297-319 doi:10.1080/10862969809548000

Autor DH, Price BM (2013). The Changing Task Composition of the Labour Market: An Update of Autor, Levy, and Murnane (2003), MIT Mimeograph, June

Brofenbrenner U (1986). Ecologia dello sviluppo umano, Bologna, Il Mulino

Cedefop (2012). Future skills supply and demand in Europe, Forecast 2012

Cinganotto L (2010). La scuola come laboratorio, in Annali della Pubblica Istruzione, 130/2010 Le Monnier

Dumont H, Istance D, Benavides F (eds.) (2010). The Nature of Learning: Using Research to Inspire Practice, OECD Pubblications, 2010

Dweck CS (2000). Teorie del sé. Intelligenza, motivazione, personalità e sviluppo, Erickson, Trento

Marzano R (1993). How classroom teachers approach the teaching of thinking, in Theory into PRACTICE, VOL. 32, 1993

OECD (2012). Better Skills Better Jobs Better Lives, available on: http://skills.oecd.org/

OECD (2013a). Education at a Glance 2013 DOI:10.1787/eag_highlights-2013-en

OECD (2013b). Innovative Learning Environments DOI:10.1787/9789264203488-en

Pacifico M, Spezzano C, Timpanaro G (2012). Il Progetto "Metodo di studio e capacità critica", in Annali della pubblica amministrazione, Metodo di Studio e capacità critica, 11-17, 2012, Le Monnier

Palumbo C (2012). Introduzione, in Annali della pubblica amministrazione, Metodo di Studio e capacità critica, 3-4, 2012, Le Monnier

Partnership for 21st Century Skills. (2009, December). Framework for 21st century learning. Retrieved June 2012 from http://www.p21.org/storage/documents/P21_Framework.pdf.

Powell KC, Kalina CJ (2009). Cognitive And Social Constructivism: Developing Tools For An Effective Classroom, in Education, Winter 2009, Vol. 130 Issue 2, p241-250. 10p.

Ting YLT (2011). CLIL: towards brain-compatible science-education, in Marsh, D., Meyer, O. (eds.), Quality Interface: examining evidence and exploring solutions in CLIL, pp. 12-26, Eichstaett: Eichstaett Academic Press

European Parliament (2006), Raccomandazione del Parlamento europeo e del Consiglio, 18 dicembre 2006, relativa a competenze chiave per l'apprendimento permanente

Watts AG (2009). The European Lifelong Guidance Policy Network and the role of National Lifelong Guidance Policy Forums. A paper presented to a conference held in Abano Terme, Italy, on 2nd March, 2009

Wilson NS, Bai H (2010). The relationships and impact of teacher's metacognitive knowledge and pedagogical understanding of metacognition, in Metacognition Learning, 5: 269-288