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**Learning in the 21st century: the digital challenge for teachers
L'apprendimento nel XXI secolo: una sfida digitale per i docenti**

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Abstract

Today there is a widely shared view concerning the importance of the promotion of Information Communication Technologies (ICT) in the educational area, thanks to the efforts undertaken by the European Community with the inception of the Bologna Process (1999) which assigns to ICT an important role in the promotion of Life Long Learning. The state of maturation of these technologies allows the development of learning environments inspired by different approaches. The spread of distance e-learning courses, of which the MOOCs are just the latest milestone,

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opens a significant debate on what should be considered for e-learning and its related quality standards. Scientific literature offers several contributions regarding the quality of e-learning. There can be no single view as the quality concept incorporates the "subjective", the "contextual" and the "objective" dimension and the issue can be explained in several ways, according to the perspective adopted.

In this essay, we want to illustrate that any debate regarding the nature of e-learning standards cannot exclude a reflection regarding the quality of teaching and the importance of a positive interaction to analyse the online relationship in a virtual classroom.

Key words: Online Teaching, online Interaction, Social skills, Communicative competences, Emotional intelligence.

Abstract

Oggi c'è una visione ampiamente condivisa circa l'importanza della promozione dell'Information Communication Technologies (ICT) nel settore educativo, grazie agli sforzi intrapresi dalla Comunità europea, con l'inizio del processo di Bologna (1999), il quale assegna alle ICT un importante ruolo nella promozione dell'apprendimento permanente. Lo stato di maturazione di queste tecnologie consente lo sviluppo di ambienti di apprendimento ispirati a diversi approcci. Con la diffusione di corsi e-learning a distanza, di cui i MOOCs sono solo l'ultima sfida, si apre un dibattito significativo sul tema della qualità dell'e-learning. La letteratura scientifica offre diversi contributi sulla qualità dell'e-learning, dimostrando che non ci può essere un'unica soluzione, perché il concetto di qualità comprende la dimensione "soggettiva", quella "contestuale" e quella "oggettiva": per questa ragione il problema può essere declinato in vari modi, a seconda della prospettiva adottata e del target di riferimento. In questo saggio, vogliamo mostrare che qualsiasi dibattito sulla definizione di standard di qualità dell'e-learning non può escludere una riflessione sulla qualità della relazione didattica e il significato di un'interazione positiva tra docente e allievi per analizzare il rapporto on-line in una classe virtuale.

Key words: Insegnamento Online, Interazione online, competenze sociali, competenze comunicative, intelligenza emotiva

1. Introduction

Today, there is a widely shared opinion with regard to the evolution of Information Communication Technology (ICT) and enhancement of communication as a social space. These relevant changes have had an impact on the evolution of distance learning and its spread in higher education. Often, e-learning is considered as a way to respond to requests made by the market, which comes from a growing and articulated demand for training, posed by the

knowledge society; in fact the change triggered by ICT within education and training systems is indeed far-reaching. However, experiences at an international level of comparison differ considerably. We may recognize different theoretical approaches to e-learning and different phases in the evolution of distance learning due to the progress of ICT. But the creation of platforms, through which to connect an increasing number of learners and teachers, does not solve the problem of knowledge construction. The risk we run is to create an education market where the only goal is the certification more than the actual formation and its socio-cultural impact on subjects and contexts.

For this reason, the focus of this reflection will be the mean dimensions of a positive interaction to understand how to analyse the online relationship in a virtual classroom.

With these issues in mind, the aim of the essay is to show that communication and didactical relation play an important and ineliminable role in the learning process both in the online learning sphere and in traditional learning.

On the basis of these premises the main research points can be summarized as follows:

What kind of educators' communicative skills can favour the e-learning process in a virtual classroom?

What kind of social and leadership skills characterize a good educator?

What are the key competences for digital educators? How can educators' communicative, social and leadership skills influence the learning process?

The essay starts with a reflection regarding the challenges teachers face in the 21st century (§ 2) and goes on to analyse teaching interaction and learners' learning (§ 3), and concludes with proposals for an empirical research and teaching teachers to teach (§ 4).

2. Learning: a challenge for teachers

In the Modernization of Higher Education (CE, 2013, pp. 20-30), there are some important recommendations to guide our reflection. *“The best teaching helps students to question their preconceptions, and motivates them to learn [...]. The best teaching encourages students to be aware of and to draw on the research. [...] Higher education institutions – facilitated by public administrations and the EU – should support their teachers so they develop the skills for online and other forms of teaching and learning opened up by the digital era”*. The *“Online delivery is not only a challenge to the classroom. It is a challenge to our entire model of higher education. Governance, accreditation and quality assurance will all have to adapt”* (2013:48).

With the Recommendation number 13 the European Union underlines the necessity to:

- promote innovative teaching, learning methodologies and pedagogical approaches able to favour guidance, counselling and coaching methods;
- improve programme design, taking into account the latest research on human learning;
- plan the professionalization and development of teachers, trainers and staff;
- guarantee systematic and regular data collection on issues affecting the quality of teaching and learning.

Donabedian (1980/a; 1980/b) notes that quality can refer to different educational processes or levels:

- *e-learning prerequisites* (input or structure quality): availability or capability of the technological infrastructure, tutors' qualification etc.,
- *learning process* (process quality): interaction of learners, learning formats, corporate learning culture, learning contents and training goals,
- *results* (output/outcome quality): the increase in learners professional competence.

We focus the analysis on the learning process, because the way in which teachers manage their interactions (environment, methodology, encouragement, respect, trust etc.) produce different kinds of learning and behavior models.

In this regard, the learning quality assurance in the educative interaction cannot be delegated. Teachers need to be helped to self-evaluate and improve their social skills and communication management. The only way to assist teachers to develop their teaching skills in the digital era is to help them to acquire awareness of their teaching style through assessment activities, inspired to an empowered professional approach. In the digital era as in face-to-face teaching, the problem is, always, the way in which educators use didactical instruments, and the way in which they express their social competences, emotional intelligence and communication styles to support the learners' learning process. For this reason, in the next paragraph, we focus on a way through which to analyse the online interaction² and the relevance of communicative competences and social and leadership skills.

3. How to analyse the interactions

Social research regarding the observation of classroom interactions can adopt different perspectives. The first one is the *socio-linguistic approach* that studies the use of language in different learning contexts. The second one is the *ethnographic approach* that explains what happens daily in the classroom. The third one is the *psycho-social approach* that observes the mode of behavior and communication styles in the classroom through observation grids and the classroom environment (Bales, 1951). The didactical activities and cooperative learning are based on verbal communication, accompanied by an intense nonverbal communication and management of proxemics. For this reason, the observation of what happens in the "black box" of the classroom is considered a communication research. Through the communication, we can observe specific characteristics of interaction in learning contexts: the asymmetry of the relationship; the specific routines that regulate the interactions between teachers and learners (lesson, transaction, explanation, interrogation, assessment, feedback etc); and the peculiarities assumed by the hidden curriculum in the interaction between teacher and students.

² About online interaction see, among others, Moore (1993).

In the following paragraphs, we attempt to analyse a few of the main dimensions of teaching-learning interaction with the aim to identify a list of indicators to build an observation grid to observe an online didactical interaction. The same dimensions are reproduced, albeit in a different manner, in the traditional teaching setting.

3.1 Key skills teacher

The *communicative competence* includes many skills required by speakers for effective communication and appropriate speech event (Coppola, 2008), such as: *linguistic competence*, the ability to understand and produce correct forms in terms of phonological, morphosyntactic and lexical; *metalinguistic competence* which refers to the ability to reflect a linguistic phenomena; *sociolinguistic competence*, which concerns the selection of linguistic forms and appropriate registers to the socio-cultural context in which the communicative event takes place in order to the status and role of all participants; the *strategic competence*, or ability, to use the language to achieve the goals of the communication; the *textual and discursive competence* to understand the production, identification and classification of texts, communicative genres and discursive sequences; *paralinguistic competence* referred to the hidden items, i.e. intonation, pauses, tone, speed and volume of discourse; the *extra-linguistic competences*, commonly defined as the ability to use properly and effectively non verbal codes, together with the language, or in place of it, and different skills that are part of it (kinesics competence, proxemics and vestemics); the ability to recognize and use *different tools* of communication; *cultural competence* which calls into question the cultural scene in which the event takes place and, therefore, the socio-cultural norms, values, customs, behaviors of all participants, and the *cross-cultural skills*, which highlight the cultural variability and the need to respect different symbolic heritages in a global education space. If all these elements are essential to study an effective communication, we have to remember that some of these change their representation in online interaction, i.e. the *paralinguistic and extralinguistic competences*, which represent the stage space and equipment activated by actors during their relations (Goffman, 1974) change profoundly; the indexicality supports explained by Garfinkel (1967) are minor.

Among several authors who have investigated the communication as object of study we should note the contribution of Grice (1975) in which he focuses on seven elements of effective communication: issuer, receiver, cooperation, quantity, quality, relation and mode. Furthermore, on the basis of this element we can distinguish different styles of communication which is always an instrument on which to build an intentional interaction to connect with others and generate sensemaking (Weick, 1969), learning, common rules and a sense of community in the socialization process (Mead, 1932). With cognitive and psychological studies, we can distinguish five different styles of communication: the assertive style; the aggressive style; the passive-aggressive style; the submissive style and the manipulative style. Each of these styles produce different reactions on the people who receive the message. Good communication skills require a high level of self-awareness, and teachers, both in presence and online, need to be helped to improve them. For this reason, in the following paragraph we will analyse the concept of social

skills and emotional intelligence, which are relevant for an assertive communication style and a positive interaction.

3.2 The central role of social skills

In recent years, we have assisted in an increasing awareness towards the social skills issue, highlighted also by the *European Key Competences Framework* (European Community, 2007) as a fundamental resource to live in the global and complex society. Moreover, in *Modernization of Higher Education* the European Community (2013) underlines the need to develop “transversal skills, or soft skills, such as the ability to think critically, take initiatives, solve problems and work collaboratively”. The document also states (2013:36): “An excellent teacher can enhance creative skills and learning outcomes such as:

- complex thinking – problem solving, reciprocal learning, experiential learning;
- social skills and participatory learning – interaction with tutors and other learners, active participation in learning, interdependence; and
- personal shaping of knowledge – progressive mastery, individual pacing, self-correction, critical reflection, active seeking of meaning, empowered self-direction, internal drive/motivation.

To effectively analyse the way in which the interaction takes shape, social psychology studies can be very useful to explain social skills to observe in the didactical relation.

With Comoglio and Cardoso (1996) we can consider four main dimensions of social skills. The first one is *Interpersonal communication skills* which are the sum of individual skills related:

- to the ability to *manage a message* (as receivers or issuers);
- to communicate, taking into consideration different levels of *interpersonal communication* (verbal and non verbal) that assumes different expression way in online environments, i.e.. *listening skills*, such as reading between the lines, using *paraphrases*, the intervention of *deepening questions*; *non verbal communication skills*, such as the correct and equivalent distance to maintain between all members of a group;
- to the *use of adequate instruments* with different groups working simultaneously;
- to adopt a “*warmth*” *communication*, capable of responding effectively using a *descriptive* and *non-evaluative communication*, using expressions related to *emotional experience*; the attention to structure clear and synthetic sentences.

The second one is *Leadership skills* with which we intend the sum of individual skills that allow individuals to *manage a group* during the execution of a task, in order to arrive at the end of the task in hand with the satisfaction of all the members. These include: the *ability to*:

- *introduce the task* and to illustrate the subject,

- *enhance the group and/or the environment*, distinguishing tasks and roles in the group,
- *clarify* the aim of activities;
- *implement planning and design*, such as defining the problem, clarifying the objectives of the task, establishing a schedule of priorities or actions;
- *organize management of the group*, such as checking the communication style, turn taking, encouraging participation, giving instructions, organising a timeframe, sharing materials;
- *set up the learning process*, such as explaining ideas and procedures, taking notes, summarizing, checking understanding, deepening knowledge etc.

The third one regards *problem solving* and *problem setting* which are the sum of individual skills that allow for the definition of a problem, encouraging the generation of ideas and the choice of the more effective idea, criticizing ideas but not people, being aware of the mistakes, making corrections taking into consideration the appropriate level of learners, developing self-improvement techniques, use of peer review, reaching an agreement, understanding the situation and internal relationship inside the group.

Last, but not least, it refers to the *positive and constructive management of conflict and decision making*, which represent the sum of individual skills that allow a group of people to make decisions together.

3.3 The emotional intelligence

The emotional studies (Ashkanasy, Humphrey, 2011) have illustrated that we can observe emotion at five different levels: within persons; between persons, at interpersonal level; among groups and teams and at organizational level. In this specific case, we consider emotion within groups and teams with regard to the problem of leadership (the ability to direct influence and emotional contagion); group affect (the ability to create effective team member exchange and group emotional intelligence) and group behavior and performance (the ability to influence the behavior of the group with the aim to reach the goal).

For this reason, the concept of *emotional intelligence* becomes relevant. One of the most important scholars of emotional intelligence is Goleman (2011), who identifies four important dimensions to study this concept.

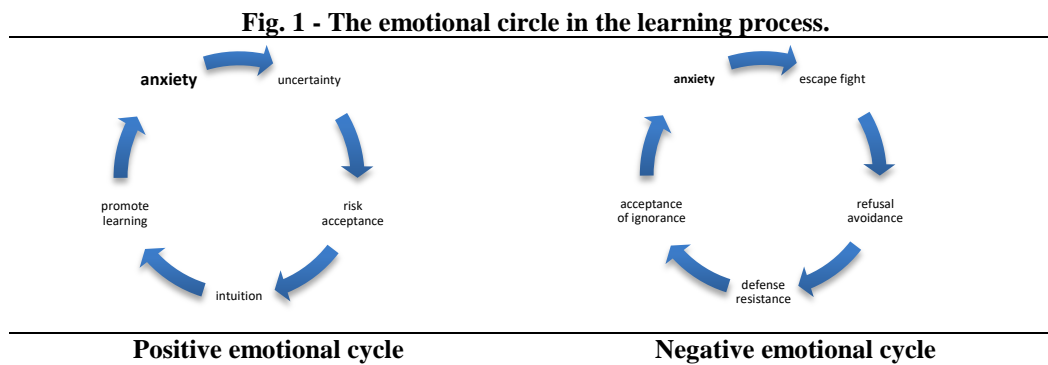
The first one is *self-awareness* to recognize our own emotions and how they affect our thoughts and behavior, to know our strengths and weaknesses, and to have self-confidence.

The second one is *self-management* to be able to dominate impulsive feelings and behaviors, manage emotions in healthy ways, take initiative, follow through on commitments, and adapt to changing circumstances.

The third one is *social awareness* to understand emotions, needs, and concerns of other people, pick up on emotional cues, feel comfortable socially, and recognize the power dynamics in a group or organization.

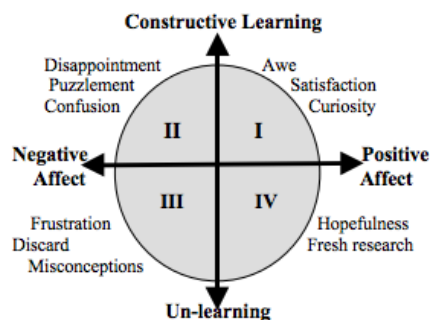
Finally, *relationship management* to develop and maintain good relationships, communicate clearly, inspire and influence others, work well in a team, and manage conflict.

Emotions are also extremely important in the learning process. We can recognise some differences in the way in which positive and negative emotions influence the learning cycle: in the first one the positive emotions cycle develops from anxiety through uncertainty, risk acceptance and fight, lead through intuition and promotes learning; while in the second one, the negative emotions cycle arises from anxiety, such as those of escape or fight; refusal or avoidance, defense or resistance, conducting the learner to accept her/his previous ignorance (Illeris, 2003).



Kort, Reilly and Picard (2001) proposed a four quadrant learning spiral model (Figure 2) in which emotions change while the learner moves through quadrants and up the spiral. In the first quadrant the learner experiences a positive affect and builds on knowledge. At this point, the learner works through the material with ease without experimenting anything overly puzzling. Once discrepancies start to arise between the information and the learner's knowledge structure, she/he moves to the second quadrant, which consists in the collapse of constructive learning and subsequent negative affect. Here the learner's experiences states such as confusion. The learner attempts to sort out the puzzle but fails, she/he might move into the third quadrant. This is the quadrant of unlearning and negative affect, when the learner experiences emotions represented by a sense of frustration. After the misconceptions are discarded, the learner moves into the fourth quadrant, marked by unlearning and positive affect. While in this quadrant the learner is still not sure exactly how to move forward. However, she/he does acquire new insights and searches for new ideas. Once the learner develops new ideas, she/he is propelled back into quadrant I; thus, concluding one cycle around the learning spiral of Kort's model. As the learner moves up the spiral, cycle after cycle, she/he becomes more competent and acquires more domain knowledge.

Fig. 2 – The Learning spiral of Kort’s model



It is a journey of learning and empowerment. At any stage the teacher has to combine a different set of competences to accompany learners through their discovery.

For this reason, emotional intelligence is so relevant to identify, use, understand, and manage emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges, and defuse conflict. In this way the communication style adopted promotes a positive, warm and encouraging communication and becomes very important.

This brief analysis of mean dimensions of communicative, social and emotional skills show us that a teacher should be more like a counselor/adviser/mentor rather than a content expert both in face-to-face teaching and in an online education process. She/he needs to develop a transformative, empowering leadership (informing, planning, clarifying, consulting, inspiring, recognizing, monitoring, supporting, team building etc.) according to the emotions and moods of the individual participants and the group and lead them throughout the learning journey. In this regard they should develop a situational (Hersey, Blanchard, 1970) and empowering leadership (McGregor, 1960).

In agreement with Simonsen, Smaldino, Albright, and Zvacek we think that:

“Personal relations, study pleasure, and empathy between students and those supporting them (tutors, counsellors, etc.) are central to learning in distance education. Feelings of empathy and belonging promote students’ motivation to learn and influence the learning favourably. Such feelings are conveyed by students being engaged in decision-making; by lucid, problem-oriented, conversation-like presentations of learning matter that may be anchored in existing knowledge; by friendly, non-continuous interaction between students and tutors, counsellors, and others supporting them (2009:48).

In order to reply to the recommendation of the European Commission, we can say that these teaching skills must be clearly identified and taught. To favour effective cooperative collaboration it is essential to develop appropriate soft skills (social, emotional and communicative) to adjust and make efficient interpersonal relations among group members and promote behaviors that induce proper collaboration, oriented towards the activity and a good group environment aimed to stimulate people to assume their own personal responsibility.

Online learning appears as a place where communications are circular and horizontal, inspired to the principle of community of practice (Wenger, 2002) where interactivity is considered a value as it helps students to build a sense of belonging and recognize themselves as part of the group. For this reason, we also need to consider the learners' perspective.

Clearly the intrinsic learners' motivation represent the central point of any learning process (in presence or on line).

Each learner starts her/his learning journey with specific needs and resources. To understand the way in which we can help them to reach the goal, we need to know them. There are a few essential dimensions which influence the way in which learners face the learning journey that assumes special features in online learning.

The first one refers to the issue of *motivation*. Each manual of pedagogy teaches us that:

- a) there cannot be real learning without intrinsic motivation (Reiss, 2004);
- b) the learning cycle has to include all the four phases of the learning process theorized by Kolb (1983) (experience, reflective observation, conceptualization and experimentation)
- c) adults (Knowles, 1993) - but probably everyone, independent of age - learns when the need arises to solve a problem, thus, when they can appreciate the value of their effort.

On these bases, any teaching activity, which wants to promote a real learning³ process, both online and in presence, have to ensure a set of e-learning conditions capable of placing students in a learning space that is suited to recognizing all these needs.

The Theory of Social Constructivism emphasizes the idea of the construction of knowledge, supported by social interaction. But as Rahman et. al. say (2011), literature reviews on psychological aspects of learning explain the basic concept of self esteem, self concept, self efficacy and motivations and the important role that these factors play in the way in which students will take part in discussions in the classroom. The online discussion, generally, is founded on asynchronous communication. It offers more time to reflect and expose their ideas; in addition to the absence of stress, due to the presence of others who are listening to us. This different composition of the environment influences the interaction in an online group of study in a different manner, creating diverse configuration in the students' participation. Timorous individuals, and those in the classroom who do not utter a word, to the benefit of the usual leaders, can take advantage of online communication, with beneficial effects on self-esteem and awareness. Therefore, for teachers the problem is how to promote a positive and constructive interaction which will result in the participation of a greater number of students in the knowledge construction process

In other words we note that different *expectations* exist, the learners perspective and the institution perspective. If we cannot understand the first and the deep motivation we cannot have

3 Suggested reading: Illeris (2003) who offers a complete review of theories showing the complexity of this fascinating process .

a real *engagement* by learners neither in face-to-face teaching nor in online teaching. The learners' engagement is possible only if students feel that the learning experience is extremely important for them; and they can recognize the empowerment perspective that can be reached through this effort.

4. Conclusions

Learning cannot be automated. The quality of the human factor, as we have tried to demonstrate, determines the quality of interactions and communication through which we can observe the quality of the teaching-learning process. In these terms, the issue of quality of e-learning stops being an exclusive theme for technicians, technologists and technology assistants to identify operational and management standards, but it becomes a challenge for social scientists called to provide for a new humanism of digital technologies in a social process where these will always become more and more extensive. What makes us specifically human is the social interaction. Therefore, this is the reason our focus in this reflection on the e-learning quality is concentrated on the observation of communication and which elements make it possible. A contribution both for research and teachers could be to study micro-interactions in online and presence classrooms and to develop empowerment instruments for teachers such as counseling (May, 1989) and coaching. These instruments of personal and professional growth attach a particular importance on reflexive processes and shared experiences, context, subject, and transformation of personal patterns and habits. Dimensions of analysis that, in different ways, represent the core of the process of evolution and subjective maturation by which we can accompany the elaboration of knowledge, skills enhancement and the construction of social and professional identity. We need to develop methods to help teachers to analyse and reflect on their communicative, emotional and social skills to accompany the improvement of new teaching methods capable of promoting improved learning results.

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