

Educazione e inclusione: dal Villaggio Globale alla Megalopoli dell'Imprevedibile

Education and Inclusion: from the Global Village to the Megalopolis of the Unpredictable

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RIASSUNTO: L'evoluzione delle tecnologie dell'informazione e della comunicazione (TIC) ha introdotto una nuova dinamica nell'istruzione e nella scuola pubblica. Le scuole pubbliche hanno mitigato l'esclusione digitale, ma la formazione degli insegnanti in queste materie dovrebbe essere considerata una priorità, poiché le TIC, così come le informazioni che forniscono, rappresentano la scoperta di una nuova dimensione pedagogica, limitata in alcuni paesi dal divieto di utilizzo dei cellulari nelle scuole e dal complesso utilizzo dell'Intelligenza Artificiale (IA).

PAROLE-CHIAVE: TIC, Società della Conoscenza, Intelligenza Artificiale (IA), Inclusione.

ABSTRACT: The evolution of information and communication technologies (ICT) has brought a new dynamic to education and public schools. Public schools have mitigated digital exclusion, but teacher training in these areas should be considered a priority, since ICT, as well as the in-

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formation they provide, represents the discovery of a new pedagogical dimension, limited in some countries by the ban on cell phones in schools and the complex use of Artificial Intelligence (AI).

KEY-WORDS: ICT, Knowledge Society, Artificial Intelligence (AI), Inclusion.

1. From the Global Village to the Megalopolis of the Unpredictable

In this second half of the 21st century, we are experiencing a period of turbulence. The future is not linear. On the contrary, the symptoms and signs that lead us to judge it as deeply dilemmatic are mounting.

We have moved, vertiginously, from the global village to the megalopolis of the unpredictable (Ruivo, 2017; 2025).

On the one hand, the paths that lead us to hope and the will to overcome the remaining obstacles of the “old world” are becoming more pronounced. On the other hand, the signs of a crisis that brings malaise, helplessness, and discouragement are constantly being detected.

The scientific and technological revolution, notably the evolution of information and communication technologies (ICT) and the sudden emergence of Artificial Intelligence (Vicari, 2023; Oliveira & Pinto, 2023; Pscheidt, 2024), has created a dynamic of transformation, not only in the field of science and technology, but also in the field of education (Ruivo 2005; 2008 b; 2025), and in economic, social, and political relations. In particular, technological advances in the field of communications have meant that economies no longer depend directly on a single location for the production and distribution of goods, but rather have established borderless production and distribution networks.

This phenomenon accentuated the transnational nature of companies and led to market liberalization. Equally important as the transnational nature of companies is the internationalization of financial capital, which recognizes no physical or temporal borders.

The literature has termed this phenomenon globalization (Charlot, 2007), which fundamentally refers to the globalization of any human activity, be it economic, financial, political, or cultural.

However, globalization as a human phenomenon has served, almost exclusively, to promote economic growth at the physical scale of the sys-

tem itself, without regard for the development of people as a whole—that is, their well-being, education, and respect for their identity. Hence the concern of those responsible for educational policies in Europe to heed this call for “standardization,” attempting to spark a broad debate (Pacheco, 2003) around the need to bring educational systems closer together (Amaral & Veiga, 2008), with a view to the free circulation of thought, research, students, and teachers.

From this perspective, globalization could constitute a phenomenon of wealth transfer and management of planetary resources. However, what is happening is precisely the opposite.

And, paradoxical as it may be, the reality within each country, whether rich or poor, is equally one of imbalance between the various layers of their populations, widening the gap that divides the increasingly rich from the increasingly poor (Pacheco, Morgado & Moreira, 2007).

The idea of a united Europe emerges as a political response to the globalization of the economy and, above all, as a response to the dominance of the American liberal economy.

The so-called Social Europe has since been placed as a priority for discussion, bringing with it the need to promote and develop educational systems as drivers of social development and inclusion (Mesquita, 2018).

But for this to become a reality, globalization must be transformed into an instrument of solidarity, rather than a tool for mere competitiveness; it must be an element that promotes culture and well-being, rather than simply a means of achieving profit for anonymous, spiritless, and stateless capital (Ruivo, 2017; 2025).

Recognizing these potentialities means developing strategies to take advantage of this new stage of human life; ignoring them means leaving the field open to all those who exploit scientific and technological development for the benefit of a few, neglecting an all-too-significant portion of the population.

We live, therefore, in a time of profound change, in society and in schools (Ruivo, 2001), a complexly contradictory period in which we are experiencing worrying mismatches between the possibilities opened up by formidable scientific and technological progress and the emergence of the digital revolution, which is increasingly consummated and accelerated daily, and the inadequate and even outdated set of responses provided at various levels, particularly in education.

Clearly, schools and teachers can and should contribute to the progress of humanity and its political, economic, social, and cultural development (Ruivo & Mesquita, 2010; 2015). However, this is not achievable with simple educational tools alone, because they alone are not capable of shattering, for example, the world of growing inequalities and a political system under which injustice, unemployment, and social exclusion coexist.

This perspective therefore demands that education play its role in social transformation, supported not only by educators but also by other significant forces within the school community (Carneiro, 2006; Mesquita, 2018).

Therefore, we demand the replacement of a school where there are dangerous signs of student exclusion, early dropout and with inexplicable percentages of school failure, by an inclusive school, endowed with efficient, effective and coherent autonomy, open to the demands of society and with the capacity to provide an adequate response, through the pedagogical and didactic incorporation of new available knowledge (Mesquita, 2004 a; Mesquita, 2004b).

A school capable of training young people with knowledge and skills in the scientific, technological, and cultural fields, equipped with critical thinking tools, knowledgeable about the criteria for positive information selection, and with a solid foundation in areas that allow them to pursue an increasingly decisive lifelong education, particularly through distance learning, provided through e-learning platforms, which allow learning anytime, anywhere (Ruivo, 2006).

Todavia, não podemos apelar exclusivamente ao esforço educativo no sentido de este superar as fraquezas colectivas, já que estas estão muito para lá da possibilidade da educação, por si só, as suplantam (Ruivo, 2003 b).

However, we cannot rely exclusively on educational efforts to overcome collective weaknesses, as these are far beyond the reach of education by itself (Ruivo, 2003b).

It's worth reiterating that education and training cannot, without other substantial contributions, solve the problem of employment and, more generally, the problem of competitiveness in the industrial and service sectors.

This competitiveness brings us closer to the problem of the constant need to adapt to new conditions of access to employment and to the evolution of work itself. This is a problem that affects all social classes, all social groups, and all professions.

Therefore, it is prudent that we know how to investigate the future and, above all, that we not lose the ability to read the signs that accumulate around us.

2. Marks of a new century

The belief that increased efforts in education would lead to progressively better jobs and improved social well-being has apparently been questioned, not least due to the rise in the number of unemployed individuals with academic qualifications, many of whom can only find work in undifferentiated services (Ruivo, 2017).

It is acknowledged that education cannot solve all of society's problems and contradictions, thus becoming a clear victim of its own progress (Ruivo, 2025).

Indeed, education has undergone a radical shift since industrial society, and since then until the post-industrial information society: the concept of change dominates today's standard of living and requires individuals to reorient their functions throughout their life cycle.

A nation's well-being is consolidated when individuals believe they are part of a community based on trust. Therefore, this look of suspicion, this questioning that heralds distrust in educational systems, is a symptom of a crisis in education, a crisis that faces the clash of the information society, globalization, and the scientific and technological revolution that ushers us into the knowledge society.

Among the symptoms of this crisis, we highlight:

- The aging of the European population and the impact of the demographic crisis on lifestyles and standards, the financing of collective expenditures, and the pressure felt on educational systems. This demographic crisis also affects population growth and will translate (Ruivo 2003b; Almeida, 2008) into a decrease in student enrollment by 2030.
- The crisis of democratic values, such as peace, tolerance, cooperation, solidarity, and respect for the environment, and the emergence of populist, racist, and xenophobic values, which are growing.
- The formal disappearance of the three phases of the life cycle: a time to learn, a time to work, and a time to retire.

- The progressive erosion of the social image of teachers and educational institutions (Buchberger, 2000; Ruivo, 2008a).
- The development of the technological revolution leading to the knowledge society, unaccompanied by the evolution of mentalities and timely training of social and educational actors (Oliveira & Pinto, 2023)
- The precariousness of employment (breaking the myth of the same job for life) and the political and moral pressures caused by the millions of unemployed in the European Union.
- The corresponding loss of confidence in meritocracy and the social advancement effect of education, and the inevitable erosion of diplomas.
- The spread of functional illiteracy, which includes: the not knowing how to write; the not knowing how to read; the not knowing how to speak; the not knowing how to do; the not knowing how to work; and even the not knowing how to vote.
- The emergence of new forms of poverty and impoverishment in the cultural, material, spiritual, emotional, and civic spheres, such as the media trash, the crisis of values, and the crisis in the practice of citizenship, which create serious limits to inclusion (Mesquita & Quelhas, 2028).
- The spread of ethnic, racial, and religious conflicts, environmental destruction, along with the resurgence of fundamentalism, and movements that cultivate hatred and exclusion, and the most exacerbated nationalisms and regionalisms, all of which are accompanied by the dangerous erosion of the image of democratic institutions and the political class.

3. Future challenges in the context of the knowledge society

The circumstances described led those responsible for building Europe to rethink the role of education and educators from the perspective of 21st-century society, a society in which it is no longer possible to train young people to perform current adult tasks, as Bobbit (1924) proposed at the beginning of the last century.

Therefore, it becomes essential to rethink education and schools around the predictability of concerns that young people will face in the near future, such as:

1st – Permanent change (being aware of this change in all spheres: cultural, social, technical, economic...).

2nd – Acceptance of this change (which requires flexibility, an anticipatory vision of the future, and the desire to continue learning).

3rd – Retraining as a process of professional survival (this retraining should be understood as a “natural” process of personal and professional development).

4th – Permanent learning, formal and informal, of the resources and instruments provided by ICT, combating info-exclusion and systematically promoting a culture of media education (Eurydice, 2001; Mesquita 2004 a).

We are, therefore, tempted to list some challenges (Ruivo, 1998; 1999; 2008b; 2017; 2025; Buchberger, 2000) posed to education and educational systems, so that they can learn to coexist with the knowledge society that shapes the daily lives of our young learners:

1st – Recognize that a flexible basic education, coordinated with reality and in a broadband, will allow for improved retraining, mobility, professional integration, and adaptation to dynamic change.

2nd – Promote the provision of the practice of different types of knowledge, reflective knowledge, and action-based knowledge, in basic and secondary education, as well as in postgraduate programs in higher education. Schools must embrace and pedagogically integrate ICT, promoting the manipulation and interpretation of new codes, understood as master keys to students' educational and academic progress and to collaboration between the school and the complex communities (social, family, media, etc.) that surround it. Combating info-exclusion, starting in pre-school, should be considered a priority (Garcia, 2005).

3rd – Prioritize the development of lifelong learning programs, recognizing that education is an investment and not a social cost.

4th – Prepare schools to meet the challenge of building the four pillars of education:

- Learning to know;
- Learning to do;
- Learning to live together;
- Learning to be.

5th – Educate students to learn how to learn from the information that saturates the social environment, seeking and manipulating this in-

formation with a critical, ethical, and discerning sense, mastering new technologies.

6th – Promote distance learning as a process:

- To combat illiteracy;
- To contribute to professional retraining;
- To prevent unemployment among graduates;
- And to occupy with dignity the free time of the growing army of prematurely unemployed and retired, as people who want to continue learning, or who want to learn for the first time.

7th – Acknowledge that the return to higher education of those trained by it is inevitable:

- Will bring about a significant change in the age structure of students;
- It will promote the exchange of diverse experiences, generating new synergies;
- It will effectively connect higher education and the job market.

8th – Recognize the contribution of education (Mesquita, 2024) to the social and cultural dimension of development, which should be sustained and not controlled by inexplicable principles of economic “rationality.”

9th – Assign to education a pivotal role in mitigating tensions such as those generated:

- Between the global and the local;
- Between the universal and the singular;
- Between tradition and modernity;
- Between competence and equal opportunities;
- Between the evolution of knowledge and the human being’s capacity for assimilation.

This requires the understanding that every “educated” citizen is a “balanced” citizen, a “generator of synergies,” and respectful of the “right to difference.”

10th – Revalue the ethical and cultural aspects of education, leading teachers and students to self-knowledge, reflection, and constructive criticism and self-criticism, accompanying progress in respect for the human person.

11th – Engage local communities, families, and public authorities in the management of educational resources and information networks, as well as in defining the educational objectives that schools should pursue.

12th – Develop in students:

- Imagination;
- The ability to communicate;
- A passion for teamwork;
- Along with manual and cognitive skills, and a mastery of new technologies that allows for the decoding skills, and full, judicious use of the information they provide.

13th – Diversify students' educational trajectories, recognizing the diversity of talents. Multiplying the orientation phases, offering opportunities for recovery and reorientation.

14th – Recognize that teachers continue to play an irreplaceable role in shaping attitudes toward school and the educational process. It is their responsibility to awaken in students curiosity, autonomy, rigor, and socially recognized values, fostering a desire for formal education and lifelong learning. To this end, investment in the ongoing training of teachers is required, with a view, notably, to eliminating the tensions and discomfort caused by early outdated and professional erosion arising from the new conditions imposed by today's society (Ruivo & Mesquita, 2010; 2015).

4. For a school that learns

Although it is known that there are opinions (Carneiro, 2001; Ruivo, 2005; 2008 b; 2017) that point to moderate results, when analyzing the incorporation of technology in the teaching and learning process, especially when compared with the investment effort in its implementation; although it is repeated that there is much research that demonstrates the existence of good and bad educational experiences, regardless of the use of technology (Carnoy, 2004), despite this the majority of the literature recognizes (Carneiro, 2001; Ponte, 2002; Castells, 2004; Garcia, 2005; MediAppro, 2006; Ruivo & Carrega, 2013) that, when the use and manipulation of digital technologies are involved, no student should be left behind, the knowledge society is irreversible, even when this evolution raises some perplexities for us, such as the use of Artificial Intelligence in schools (Oliveira & Pinto, 2023).

However, there is a great challenge facing the school, families, and educators: knowing how to integrate digital technologies into an educational

environment, preventing them from being used as countercultural instruments. For these digital technologies to promote the expected changes in the educational process, they must be used as pedagogical tools that create an interactive environment that allows learners, faced with multiple situations, to investigate, develop hypotheses, test them, and redefine their initial ideas, constructing their own knowledge (Vicari, 2023; Pscheidt, 2024).

Unfortunately, there is a huge gap between the technological knowledge possessed by teachers and its relationship to and implications for pedagogical practice.

It is therefore necessary to bridge this gap (Almeida, 2004). Therefore, the incorporation of digital processing tools into education requires the acquisition of a new set of skills in the pedagogical use of this technology—in other words, it requires relearning how to teach (Moran, 2005).

This learning and use of information and communication technologies in schools should be viewed as a process aimed at developing yet another skill considered essential to students' professional and social success, rather than as a process that facilitates all learning.

The worst examples are also clear to see (Ruivo, 2008b): the mindless use of ICT has flooded our schools with toxic, depersonalized work. In these cases, intellectual production has proven to be very scarce. Students are content to discover web pages that address a specific topic they were asked to research. Then they simply copy, edit, and print the texts, without decoding and problematizing their content. Some teachers teach classes using data taken from websites they don't provide to students, and, in turn, there are students who produce assignments using data taken from websites they withhold from teachers. This situation has become dangerously worse with the emergence of Artificial Intelligence tools.

The literature is clear (Perrenoud, 2000; Hargreaves, 2003; Ruivo & Carrega, 2013) in its references to the fact that information and communication technologies favor the construction of new knowledge by learners. To achieve this, it is enough to value the contexts of this learning, understanding that content only makes sense if explored in dynamic contexts (Paiva, 2002; López *et al.*, 2002).

It is known that mass public schools hinder the digital inclusion of all students, as they promote a new type of school stratification, dividing those who have computers at home from those who do not; those who

have high-speed Internet access from those who do not; those who have game consoles from those who do not (Ruivo, 2008b).

However, this same mass public school can significantly contribute to mitigating the digital divide that many students would face if they did not attend. To achieve this, it is sufficient to democratize access to and use of these new educational tools, using clear objectives, accessible equipment, and maintaining a motivated, informed, and trained teaching staff in the use of these technologies (Mesquita, 2004b).

Therefore, it is insisted that digital inclusion is imperative for all citizens in this new century (Moraes, 2005), if we are to accept the challenge of ensuring that our educational systems are recognized as a benchmark for the quality of their educational institutions, guaranteeing that men and women of all ages have access to lifelong learning and development.

What do young people learn when they're navigating the Internet's garbage? The hundreds of hours our young people spend in front of a screen browsing social media can result in a regrettable waste if these mobile devices are not used as mediators of meaningful learning, starting in schools and guided by educators.

Therefore, teacher and educator training in these subjects should be considered a priority (Peralta, H. and Costa, F. A., 2007; Ruivo, 2017), because educators cannot, and should not, act as restraints and impede access to the rapid and nearly infinite knowledge provided by all these devices. Information and communication technologies and global information are the main arguments in favor of lifelong learning. ICT can extend and project the school into virtual communities, connecting countless people in collective and flexible thinking, improving and increasing individual and universal knowledge.

Reality is insurmountable. Here, the solution must be found by addressing the problem. Inclusive schools must learn to also embrace the new opportunities provided by the evolution of science and technology, transforming them into educational resources. Young people must be mentored in these activities, so they can incorporate a perception of ethics, critical thinking, and value. The skills acquired there must be channeled toward improving their quality of life and the democratic exercise of citizenship.

It bears repeating many times: what technological evolution has brought us is immense and good. The available information they provide us is excel-

lent. We don't know if we would continue to be who we are without some of these gadgets and almost all of this knowledge. They make our lives easier, add flavor to leisure, put the world in the palm of our hands, allow knowledge to grow algebraically, and streamline communication.

The literature indicates (Marcelo, 2002; Moran, 2005) that we learn in different contexts and in different ways and that each of us has a very unique learning style. Therefore, educating for the knowledge society requires understanding the advantage of developing skills in students that aim to use the information provided by mobile devices, within a framework that respects individual learning styles and new spaces for constructing knowledge and understanding (Ruivo & Mesquita, 2010; 2015).

The search for this new framework of educational action means that we have to use more flexible pedagogical methodologies, that the role of the teacher is resized (a more mediating teacher), and that ICTs are included as tools that mediate learning, since their use in the classroom promotes the development of skills, expectations and interests that are fundamental to the integration and survival of the student in the digital society (Figueiredo, 2001; Catalão & Maia, 2002; Carnoy, 2004).

Geared toward these goals, ICT in education, as well as the information they provide, represent the discovery of a new pedagogical dimension. An active pedagogical dimension that anticipates the needs and demands of the new 21st-century society, a society that aims to give new technologies a prominent role as mediators of the educational process.

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