SUSTAINABLE EDUCATION AND THE CHALLENGES OF THE CONTEMPORARY WORLD

A EDUCAÇÃO SUSTENTÁVEL E OS DESAFIOS DO MUNDO CONTEMPORÂNEO

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ABSTRACT

In the last decades, the national and international reality is faced with multiple problems like the limited nature of natural resources, demographic growth, environmental deterioration, proliferation of conflicts between nations, increasing gaps between poor countries and rich countries, etc. Due to their regional and universal dimensions, these aspects constitute a complex phenomenon generically named "the problem of the contemporary world". This concept was introduced by the Club of Rome, founded in 1968 under the leadership of A. Peccei, as an institution that brings together specialists from all over the world concerned with the evolution and the destiny of people globally. Naturally, educational systems must respond to the demands of these realities and the challenges launched by the social space. The specific conservatism of educational systems, however, causes them to lag behind in relation to social demands, which generates a very uncomfortable phenome-non, identified in the education crisis. These causes are diverse and obvious, including currently at the level of education systems. The proposed solutions for solving the world education crisis fall under several directions of socio-pedagogical action.

Keywords: Education, Crisis, Development, Growth, Innovation, Resources, Sustainability

RESUMO

Nas últimas décadas, a realidade nacional e internacional tem sido confrontada com múltiplos problemas, como a limitação dos recursos naturais, o crescimento demográfico, a deterioração do ambiente, a proliferação de conflitos entre nações, o aumento do fosso entre países pobres e países ricos, etc. Devido às suas dimensões regionais e universais, estes aspetos constituem um fenómeno complexo designado genericamente por "o problema do mundo contemporâneo". Este conceito foi introduzido pelo Clube de Roma, fundado em 1968 sob a direção de A. Peccei, como uma instituição que reúne especialistas de todo o mundo preocupados com a evolução e o destino das pessoas a nível mundial. Naturalmente, os sistemas educativos devem responder às exigências destas realidades e aos desafios lançados pelo espaço social. No entanto, o conservadorismo específico dos sistemas educativos faz com que estes se atrasem em relação às exigências sociais, o que gera um fenómeno muito incómodo, identificado na crise da educação. Estas causas são diversas e evidentes, incluindo atualmente ao nível dos sistemas educativos. As soluções propostas para resolver a crise mundial da educação enquadram-se em várias direções de ação sociopedagógica.

Palavras-chave: Educação, Crise, Desenvolvimento, Crescimento, Inovação, Recursos, Sustentabilidade

1 INTRODUCTION

Today's society has one of the most interesting characteristics of social life, which is called diversity. Different ways of being, thinking and existing, different needs, world views, ethical positions mark the relationships between people.

The main objective of the methodology was to identify and understand the actions applied in the research, using in that study qualitative content analysis.

Methodology tools and instruments used for that study were observations, literature analysis, and own findings and correlations, critical thinking, that have been chosen, before operationalizing concepts construct.

The study has based on scientific materials, articles, published in peer-reviewed scientific journals and valuable reports of

international organizations (UNESCO, WORLD BANK, WCED, Brundtland).

The content of the articles was analyzed in detail using my interdisciplinary approach, involving in the final paper integration a multitude of factors different situations, ways, organizations, local communities and individuals. So, in the paper were presented the essential characteristics of education and defined the contours of its theoretical framework, firstly, as part of the field of Education, secondly, it refers to a conceptual framework of sustainable development.

Due to the many advantages, it offers in terms of all the development goals, education plays a significant role in the implementation of sustainable human development.

Clearly, improvements in education contribute to personal, economic growth and the elimination of poverty. Each additional year of education increases a person's potential earnings on an individual basis.

For instance, according to the World Bank, a 10% rise in secondary school enrolment rates is associated with a 3% decrease in the chance of civil conflict.

This study has already established that 21st Century Skills are acknowledged at national and global levels as priority attributes required to help countries and their workforces adapt to the significant worldwide changes in social and market economies. However, Section 2 of this study revealed a current and significant diversity in terms of the definition and conceptualization of those skills, and a lack of consensus over how to frame them. In addition, despite a consensus in rhetoric surrounding the global demand for 21st Century Skills, Section 3 revealed a significant diversity in current and future demand for those skills at regional and national levels. In the context of this study, this diversity is particularly apparent between those regions with either rapidly developing or develop-mental socio-economic profiles. Levels of demand for 21st Century Skills in these settings are also strongly influenced by contextual factors including existing industry, labor markets, technological and communications infrastructure. These findings point towards a number of practical challenges resulting from the issues outlined. The combination of a lack of clear definition of '21st Century Skills' together with variable levels of demand, particularly across developing countries, continues to present numerous practical challenges when it comes to the design and implementation of educational approaches for the teaching and learning of 21st Century Skills. In addition, supporting evidence from development contexts is generally regarded as limited, making it difficult to identify which approaches to skills delivery are most effective. For example, in their re-view of the evidence of impact of transferable skills training for youth in Low- and Middle-income Countries - LMICs, Brown et al. (2015) found only eight studies with sufficient information on impact, and only four completed systematic reviews, two of which focused on programs for youth employment. Across the additional body of literature they reviewed, the majority of evidence related to skills courses inserted in the formal education setting is health-related, and there was limited evidence on courses associated with, for example, skills training for work-readiness. Just over half the studies covered are from sub-Saharan Africa, with the remainder covering Latin America and the Caribbean, Asia–Pacific and the Middle East. (Brown et al. 2015) also note that more than half of the available evidence is drawn from studies of pilot or experimental projects rather than pro-grams, and there are no impact evaluation studies looking at the effectiveness of policies. Within this context, the following sections will provide a summary overview of a range of approaches that commentators argue may contribute to enabling the teaching and learning of 21st Century Skills within the formal education system, at the same time as acknowledging the limitations of evidence to support any claims resulting from the general challenges associated with the field at large.

2 EDUCATIONAL POLICIES AND PRACTITIONER ENVIRONMENT

In contexts such as these, it is suggested that an ambitious government-led willingness to capture the benefits of globalization, technological progress, and learning technology can accelerate or stimulate skills development in new ways, including through basic skills (Rolleston, 2018), provided any interventions are designed with appropriate cross-sectoral consideration. Such settings can be regarded as 'pockets of demand' that exist either at national state level within a wider regional context of lower demand, or as an active sub-sector of industry within a wider economic context of slower development. From a developmental perspective, such settings therefore offer potential as arenas for programmatic investment in 21st Century Skills development that may also benefit wider developmental goals.

The evidence points towards the need for such initiatives to be supported by an enabling policy and practitioner environment, as represented (1) by direct sup-port from the state and key sectoral engagement such as on the part of education and employment services, and (2) by a wider labour market that would benefit from the presence of such skills. For example, Dewan and Sarkar (2017) highlight the relationship between the deficiency in preparing workers with necessary skills and slow economic growth and development in national contexts. In the majority of low-resource settings, the relevance and applicability of the 21st Century Skills agenda and the urgency placed upon it as part of a global discussion, should be considered carefully in relation to the national context. It is suggested that any donor-led programming that encompasses 21st Century Skills should consider exploring the opportunities for highly targeted and context-specific investment in such settings, with a view to also enabling the wider beneficial impact identified above by Rolleston (2018). This should be guided in part through a process led by evidence across a range of criteria for regional and national state systemic engagement, as well as industry sector and local labor market demand.

2.1 Evidence of the demand for 'life skills'

In general terms, 'life skills' as defined within the context of international development, are presented by the UN, WHO and the SDGs as a developmental need linked with social development, public health and quality of life. With this in mind, discussions surrounding the development of 'life skills' in these terms can appear to emerge largely from within the donor sphere, rather than from those national or regional stakeholders associated with decision-making over economic modernization, global competitiveness, employment and the labour market.

In support of this perception, a number of commentators present evidence of tensions in the uptake of Sustainable Development Goals -SDG-defined 'life skills' as part of nationally driven development agendas. For example, in discussing emerging solutions for the monitoring of 21st Century Skills adopted by the UN, conclude that most countries agree on the need for inclusion of 21st Century Skills in their education systems. However, they also highlight that, in relation to the strand of competencies and practices aligned with 'life skills and the SDGs, there remains some resistance to including certain fundamental but contextually controversial concepts including human rights, gender equality, or climate change in education policies and teaching materials. In addition to the above, discussion of 'life skills' in these terms also points towards issues of varying interpretations and prioritization of these largely personal attributes according to cultural contexts. Concepts such as 'independence', 'responsibility' and 'happiness' are likely to mean different things within different cultural contexts. The interpretation of these concepts is societal insofar as they are values-based and instilled in children from a young age. From a developmental perspective, none of these concepts are necessarily associated with completion of basic education or being economically prosperous. In this setting, it is difficult to assess the levels of national-level 'demand' for the range of 'life skills' as

defined in the SDGs. Finally, in exploring such issues further, highlight tensions over priorities emerging at national level while looking at stakeholder perspectives on demand for 21st Century Skills across four countries (Mexico, Kenya, South Africa and the Philippines). Across all four countries, stakeholders at policy and state level empathy communication, social skills, critical thinking, and technology and computer skills – attributes clearly associated with globalized definitions of 21st Century Skills. In contrast, beneficiary stakeholders instead endorse characteristics such as confidence, independence and responsibility, being productive members of society, happiness, and possessing appropriate morals and values as the most important – attributes that might be more generally associated with the measures of well-being related to 'life skills. In terms of demand, this demonstrates a tension between the agendas of the state, which we might assume are primarily economically driven, and the agendas of beneficiary stakeholders, who prioritize 'life skills' as being largely based on social drivers. However, in terms of delivering on the demand for 'life skills', the cases of educational reform in South Africa, Kenya and the Philippines provide examples of how characteristics associated with life skills – such as community, society and citizenship – are featured as prominent elements within wider recent educational programming and curriculum reforms seeking to address 21st Century Skills, and that such elements are valued by both state and beneficiary stakeholders at national level.

In Kenya and the Philippines, the current and emerging programmatic models described above see the values and attributes associated with 'life skills' integrated across educational delivery within the formal sector. In South Africa, however, the teaching and learning of such skills are made explicit within the Curriculum Assessment Policy Statements - CAPS curriculum: Life Skills and Life Orientation are specific subject areas within the senior secondary curriculum, and have allocated time and suggested pedagogical practices. Under Life Skills, there are four study areas – beginning knowledge, personal and social well-being, creative arts, and physical education – through which learners are exposed to a broad range of knowledge, skills and values such as communication, creativity, social and interpersonal skills, moral responsibility, self-confidence, self-discipline and cultural values. Life Orientation is intended to guide and equip learners for 'meaningful and successful living in a rapidly changing and transforming society' and targets four learning outcomes: personal well-being, citizenship education, recreation and physical well-being, and career choices. As such, these examples demonstrate evidence of demand for 'life skills' at a systematic level, but on the basis of definitions developed largely in line with ex-pressed national and community-led priorities rather than donor priorities.

3 PREDICTIONS OF FUTURE DEMAND AT THE GLOBAL LEVEL

In anticipating the demand for 21st Century Skills, certain experts in the educational field concludes that for most developing economies the labour market of 2030 will continue to be heavily influenced by global trends in technology, migration, urbanization, demographics, foreign direct investment, education, agriculture and the environment. These trends will change the nature of work and access to it, and the skill sets required. In keeping with the findings presented above, it is also anticipated that technology will be a major driver, as will the demand for individual inter-social attributes associated with team- and project-based work, project management and problem-solving skills, and the ability to acquire and continuously update individual skills through self-directed or peer-to-peer learning and technology-enabled training opportunities. Such findings are supported in general terms by Kenworthy & Kielstra, 2015, whose global survey of company executives identifies 'problem-solving', 'team-working' and 'communication' as the top three skills currently required and expects their im-portance to grow. Looking to the future, 'digital literacy'

and 'creativity' were also cited as anticipated essential skills, although they were not currently seen as vital. However, when looking beyond the drivers of demand for 21st Century Skills, estimations show that the global labour market workforce of 2030 will comprise 3.5 billion workers, most of whom will be unskilled and based in developing countries. Based on population change, it is anticipated that, regionally, the labour force will decrease in Central Asia, China, Europe, North America and high-income countries in East Asia, while the sub-Saharan Africa labor force is projected to increase by 328 million (Ananiadoui et all 2009) . Based on this, there will be a predicted global shortage of 38–40 million high-skilled workers, with the greatest demand being for graduates in STEM disciplines (science, technology, engineering and math); a shortage of nearly 45 million medium-skilled workers in developing countries, brought about by low rates of high school enrolment and completion; and a global surplus of 90 million low-skilled workers.

4 IMPLICATIONS FOR LEVELS OF ANTICIPATED DEMAND AT REGIONAL LEVEL

While these findings point towards a need for 21st Century Skills at the global level, they also highlight a greater predicted demand within developing contexts for a workforce with basic literacy, numeracy, STEM and cognitive skills; and also, a continued diversity of need along largely regional socioeconomic lines. While 21st Century Skills are, in global terms, at the center of what a contemporary education system 'ought' to be providing, they are not universally seen as a high priority (Kenworthy & Kielstra, 2015). For example, in discussing the Asia–Pacific context, state that 'employability' and fitness for entering the labour market will be dependent on what are loosely termed 21st Century Skills. In particular, the authors emphasize a series of named 'employability skills' (communication, problem-solving, decision-making, analytical and critical thinking, synthesizing information, teamwork, interpersonal skills and continuous learning) that will be the 'prerequisite' for professional recognition. Their synthesis works high-lighted 'communication skills', 'problem solving skills', 'teamwork skills' and 'personal qualities' as the most employable attributes, and cited them as being the 'missing link' between education and the emerging regional and international labour markets. However, in development contexts, the current trend of poor educational results in countries with growing populations suggests instead both the need for a skilled and educated workforce in order to enable economic development and move towards a 'knowledge-based' economy, and a need to address increasingly severe competition for low-skill jobs. In international development and low-resource contexts, an emphasis on foundational and cognitive skills rather than 21st Century Skills is seen to best lead to economically significant difference in a country's economic growth (UNESCO, 2018). Compared with 21st Century Skills, in such settings literacy and numeracy are greater concerns (Kenworthy & Kielstra, 2015). However, in addressing these concerns, the need to improve levels of basic skills does not exempt a country from the need to also foster soft or non-cognitive skills in students (Kenworthy & Kielstra, 2015). UNESCO, 2012 also recognizes the importance of 'transferable skills', such as communication and problem-solving, in changeable contexts. Transferable skills can play an important role in supporting young people to adapt to labour market changes, including new technologies and the demands of a 'green economy'. Similarly, 'soft skills' associated with personal capabilities are also regarded as important to individual development. As evidence of this, a survey of school-aged children in Ethiopia, India, Peru and Viet Nam found that the degree of self-esteem at age 12 was positively associated with higher levels of schooling at age 15 in all four countries (Rolleston & James, 2012, cited in UNESCO, 2012), and another survey conducted by the World Bank demonstrated

that socio-emotional skills were correlated with earnings (World Bank, 2018).

5 CONCLUSION

The literature suggests that the need for 21st Century Skills at the global level is dictated by a combination of factors, including the change in societies resulting from the rapid spread of technology, increasing globalization and internationalization, and the shift from industrial social economies to information and knowledge-based social economies. This shift is reflected in the need for re-orienting education goals toward metacognitive skills which are becoming in-creasingly crucial for upskilling the workforce. The problem-solving, teamwork and communication are the top three skills that companies require and will increasingly need in the next years. As a consequence of the changing requirement of labour markets, many countries already recognize the importance of 21st Century Skills by including them in their education goals. However, looking at evidence of demand at regional rather than the global level suggests a significant diversity in demand based on developmental context. The need for 21st Century Skills seems to be clear in contexts of rapid development, such as East Asian countries, where labour markets are increasingly demanding a workforce with non-routine cognitive skills and interpersonal skills. Additionally, many developing countries are deeply affected by weak results in cognitive skills (particularly reading and mathematics), which are often recognized as a prerequisite for developing soft competencies such as critical thinking and problem-solving. This diversity of current demand for 21st Century Skills based on context is upheld by future predictions of need. Demographic projections show that the labour force will decrease in Central Asia, China, Europe and North America and in high-income countries in East Asia. Oppositely, the workforce will increase in sub-Saharan Africa. These trends imply an anticipated global shortage of high-skilled workers and a surplus of low-skilled workers who will be concentrated mainly in developing countries. Equipping low-skilled youth in developing countries with foundational literacy, numeracy and STEM skills would have the potential of stimulating the development of their countries. While improving youth's cognitive skills (particularly literacy and numeracy) remains a priority in developing countries to foster economic growth, this does not exempt those countries from fostering non-cognitive skills in students and incorporating those skills into the national curriculum. This situation highlights a tension in current discussions highlighting the 'urgency' of need for 21st Century Skills at an international lev-el. While it is acknowledged that there are extensive projected demands at the global level, discussions should also recognize the level of diversity of demand across regions (e.g., East Asia vs sub-Saharan Africa), as well as the ways in which contextual and economic circumstances of underdevelopment can inform practical skills needs and priorities at national and sub-national levels. These same context-specific and cultural circumstances also inform the nature of local demand for 'life skills', when considered as a subset of 21st Century Skills.

These findings point towards a need for a model that can address regional or national future priority needs in terms of 'life skills', basic education enhancement and STEM skills, at the same time as working to identify and provide for targeted interventions on 21st Century Skills development in national or economic development contexts where there is evidence of a demonstrated sectoral or sub-sectoral demand.

In conclusion it is difficult to imagine a universal model for development of edu-cation, as each country have defined its own objectives, priorities, action pro-gram and assessment plan. That are regional societal factors, economic, environ-mental, religious and cultural that can take different aspect and can particularize the forms of education.

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PROCEDIMENTOS ÉTICOS

Conflito de interesses: nada a declarar. **Financiamento**: nada a declarar. R**evisão por pares**: Dupla revisão anónima por pares.