ESD Competences for Deep Quality in Education

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Chrysanthi Kadji-Beltran and Aravella Zachariou

Abstract

'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' is the fourth of the 17 Sustainable Development Goals. In practice, education for sustainable development (ESD) provides a well-defined context for quality education and competence-based ESD that can potentially become a framework for reaching effective and deep quality education if certain conditions are met. In this chapter we elaborate and reflect on the concept of quality education with respect to different education models and re-visit quality, not only in terms of measurable, quantitative outcomes but qualitative, subtle elements of quality in education. These elements can be sought within the context of education, the competences it is expected to deliver, appropriate pedagogies, its effectiveness and relevance and most importantly reflexivity and sustainability. Integrated in a competence-based ESD, 'qualitative elements' can ensure a deeper form of quality aligned to the humanistic education paradigm and values-based critical pedagogy. In this context we critically scrutinize an international model for competence-based ESD and discuss how such models can contribute to quality education.

Keywords

Education for sustainable development (ESD) · ESD competences · Competence models · Quality education · Deep quality education

Introduction

Quality Education (QE) finds its way into educational systems through the well-defined context, solid knowledge and pedagogy of education for sustainable development (ESD) as they share a common educational vision and objectives (Kadji-Beltran et al. 2017) in terms of pedagogy, skills and competences. QE can also benefit from the connection that ESD has with competence-based education, which enables the transition towards outcome-oriented and effective education. In this case, elements of quality must be defined and addressed within a competence-based ESD as competence-based education is often criticized for quantifying and standardizing education in alignment with an economic model of education instead of ensuring real quality. Following this rationale, the current chapter presents education for sustainable development as

C. Kadji-Beltran (✉)
Frederick University, Nicosia, Cyprus
e-mail: pre.kch@frederick.ac.cy

A. Zachariou
Frederick University, Unit of EESD/CPI, Nicosia, Cyprus

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QE and focuses the discussion on whether and how competence-based ESD enables a more effective form and delivery of QE, thereby promoting the achievement of the fourth Sustainable Development Goal.

Quality Education

In an attempt to define quality in the context of education, Colby, Witt and Associates (2000) claim that there is a consensus on the following dimensions of QE: good health and nourishment that allow the participation of the learner; gender sensitive, safe and well-equipped learning environments; curriculum content and materials that ensure the acquisition of basic skills and knowledge in areas such as literacy, numeracy and life-skills; as well as gender, health, nutrition, HIV/AIDS prevention and peace. Quality is also reflected in the child-centred pedagogy and assessment used in well-managed classrooms and 'nourishing' school environments resulting in reduced disparities. Quality outcomes encompass knowledge, competences, skills and attitudes linked to national educational goals and a positive contribution to society. Teacher-education can support quality by placing special emphasis on teachers' pedagogical content knowledge, pedagogical knowledge and content knowledge (Evens et al. 2018).

Nikel and Lowe (2010), synthesizing many studies on QE, propose a framework of seven dimensions of quality that are held in dynamic tension: (a) Effectiveness: the extent to which stated educational aims are met; (b) Efficiency: economic considerations, such as ratio of outputs to inputs to maximize the use of resources; (c) Equity: issues of access to education for all people regardless of gender, ethnicity, disability, sexual orientation, etc.; (d) Responsiveness: meeting the needs of the individual learners in classroom interactions by taking into consideration the uniqueness of the learner's abilities; (e) Relevance: the usefulness of education to the life of the learner immediately, when the learner comes of age and to a more distant future later in the learner's life; (f) Reflexivity: the ability to adjust to change, especially rapid change, which is important in engaging with an uncertain future; (g) Sustainability: goal-setting, decision-making and evaluation that attends to 'the longer-term future over the present and to the global as much as the local' (p. 599).

Providing QE is a challenging undertaking partially because the concept of quality in education is continuously evolving. Education is a complex system embedded in a political, cultural and economic context. The goals and orientation of education are influenced and defined by each country's contemporary reality and norms in a local and global perspective determined by their historical-cultural, anthropologic, biophysical and sociocultural horizons (Xohelis 2018). This reality is infused in the programmes of study, shapes their cognitive, epistemological, technological and scientific orientations (Herrerias-Lopez 2010) and influences the perceptions of quality which may be pursued in the form of efficiency, effectiveness and equity (Colby, Witt and Associates 2000).

International literature highlights three predominant models in education that influence how quality is perceived (Laurie et al. 2016):

1. The *economic model* of education deals with inputs and outputs. It represents an 'economist' view of education using quantitative and measurable outputs to measure quality. Quality is connected to enrolment, retention and drop-out numbers, rates of return on investment in education in terms of earnings and measurable students' achievement through standardized national or international tests. Within this theory, education is a key factor to economic development and reduction of poverty. Performance measures connected to quality entail standardized tests, certification, student satisfaction measures, industry feedback, international quantitative measures, national indices, audits to set standards and student evaluations.
2. The *humanist paradigm* emphasizes education as a process, focusing on an empowering, holistic development of the students' personality (Xohelis 2018). The humanist tradition is

based on the observation that children have an innate interest and ability to learn. They achieve personal goals, such as development of personal talents and abilities and wider social goals, e.g. understand cultural elements, respect human rights and act in ways that ensure social justice and democracy. Humanist approaches are currently described with terms such as learner-centred, participative and democratic and aim to develop creativity and problem-solving abilities amongst other goals. UNESCO (2005) has also identified common ground in the discourse around quality to include 'respect for individual rights, improved equity of access and of learning outcomes, and increased relevance which align quality to the humanist tradition' (p.19).

3. A third model of QE '*learning as connection'* emerged from sub-Saharan Africa. Following a constructivist perspective, the researchers that elaborated this model argue that for QE in the African context it is important to address issues that threaten sustainability and bring everyday knowledge into relationship with abstract and academic concepts so that both can grow together (Lotz-Sisitka 2013 in Laurie et al. 2016). This model is very similar to the humanistic paradigm, but it proposes a specific methodology of implementation.

The quality dimensions identified by Colby, Witt and Associates (2000) and Nikel and Lowe (2010) are prerequisites for reaching the shared vision of the Education 2030 Agenda which reflects a commitment to helping learners to develop as a whole person, fulfil their potential and participate in building a common future that ensures the well-being of individuals, communities and the planet (OECD 2018). In order to reach this envisioned future we need to overcome environmental, economic and social challenges. Humanistic education can help learners abandon the notion that resources are unlimited, and instead value common prosperity and well-being and develop the competences needed in order to be active, responsible and engaged citizens. Therefore, the purpose of education goes far beyond preparing young people for the world of work and entails a 'deeper' definition of quality. If we are to address quality as education for sustainable development we have to explore and define the aspects of 'Deep Quality' in that context.

Sustainable Development Goal 4 aims to 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all', in doing so it sets seven targets addressing aspects of quality that refer to equitable access to QE and relevant and effective learning. Special reference is made to preschool education and technical, vocational and university education. Targets a, b and c concern the school climate and infrastructure, financial support of students especially from the least developed countries and preparation of qualified teachers to deliver QE. Each target's corresponding indicator measures quality in terms of participation rate, percentage or proportion in which the target is achieved emphasizing quantifiable measures and aspects of quality, except for the target 4.7 UN (n.d.).

Although the quantifiable elements of quality are important, in the context of ESD it is imperative to stress the qualitative elements of QE that would result in a stronger form of ESD and provide the education needed for the 2030 horizon. These can be sought within: the context of education (cognitive goals, emotional goals and skills); the competences that education is expected to deliver; appropriate child-centred pedagogy; the effectiveness of education; responsiveness and relevance in meeting everyone's needs and, perhaps most importantly, reflexivity and sustainability. Integrated in a competence-based ESD, qualitative elements can ensure a 'deeper form of quality' aligned to the humanistic education paradigm and values-based critical pedagogy (Herrerias-Lopez 2010).

ESD, Competences and Quality Education

A competence-based education seeks to ensure efficacy, effectiveness and efficiency since it is output-oriented (Adomβent and Hoffman 2013).

For ESD as well as QE, competences are particularly important as they can bridge the gap between knowledge and action (Rieckmann 2018) and respond to both the 'humanistic' and the 'learning as connection' models of quality.

Competence-based education is linked to a focus on improving employability (Rieckmann and Hericks 2016 also see Chap. 2) and as such it has been criticized for falling under the economic model of education which undermines how QE is interpreted and is linked to a superficial form of ESD. Similarly, the discussion around QE pivots towards a 'version of market-driven education' (Gutiérrez 2016, p. 187) and our inability to imagine new trajectories for interpreting and acting in the world we are part of. Our educational vision is currently unable to transfer transformative experiences necessary for encouraging learners to act with agency (Jickling and Sterling 2017). Transformative competences are imperative for responding to the complex fluidity in today's world and the tensions generated.

Ensuring quality within a competence-based education is a challenge as the quality of the competences determines the quality of the programmes developed. Different models and innovations emerge rapidly although the process of improvement and effectiveness is long-term and iterating along the way (Sturgis and Abel 2017).

Bral and Cunningham (2016) explored and identified nine shared elements of quality within competence-based educational programmes: clear-cross cutting and specialized competences; coherent competence-driven programme and curriculum design; embedded process for continuous improvement; enabled and aligned business processes and systems; engaged faculty and external partners; flexible staffing roles and structures; learners' orientation; measurable and meaningful assessment; new or adjusted financial models.

Seeking quality in competence-based education (CBE), Sturgis and Abel (2017) discuss four important components. The first component places 'quality' at the core of CBE structure (beliefs, policies and operational processes) through deconstructing the traditional structure and constructing a new one with great intentionality to ensure that it works effectively. The domains that need to be restructured include, among others: the mission, a transparent continuum of learning objectives, students' performance, growth and process, mechanisms of empowerment for teachers and students, school autonomy and flexibility to provide timely differentiated support to students, internal accountability, evidence-based professional learning for teachers and adaptive leadership and empowering management. The second component focuses on quality learning, safety and respect, reflected in all elements of school culture. The third component of quality is identified in the pedagogy used; a clear philosophy of learning is a critical element of quality structure and facilitates the transition towards CBE. The fourth component addresses learning experiences; educational structures and mechanisms are needed to support quality learning experiences which can have a transformative effect.

The OECD (2018) document: *The Future of Education and skills, Education 2030* identifies three categories of 'transformative' competences to transform our society and shape our future, that address the growing need for innovative, responsible and aware learners and bridge the gap of a market-oriented quality and competence-based education (pp. 5–6):

(a) The 'creating new value' category entails creative thinking for new jobs, products, processes and methods, new ways of thinking and living, business and social models. Innovation springs through collaboration with others and requires adaptability, creativity, curiosity and open-mindedness.
(b) The category of 'reconciling tensions and dilemmas' is imperative in a world of interdependency and conflict. People will be able to ensure their individual and collective well-being by understanding the needs and desires of others and reconciling any tensions. This requires a more integrated and systemic way of thinking.

(c) 'Taking responsibility' is a prerequisite of both reconciling tensions and dilemmas as well as creating new value. It suggests a sense of responsibility and moral and intellectual maturity with which a person can reflect upon and evaluate their actions with respect to their experiences, personal and societal goals and what is morally right or wrong.

Jickling and Sterling (2017) argue that education needs to be 'remade in ways that are conceptually strong and respond to the educational imperatives of our time, particularly as they relate to ecological crises and human/nature relationships' (p. 1) through deconstructing the old and reconstructing a new vision for education oriented towards ESD. Nevertheless, ESD can become an empty signifier (p. 4) if it is not outcome-oriented and closely connected to QE.

So, how can we prevent ESD from becoming an empty signifier and at the same time ensure that it can support a 'deeper' form of quality in education? Can ESD competences guarantee this synergy?

The RSP Model of ESD Competences and Deep Quality in Education

In order to further reflect on how ESD competences can support Quality in Education we map qualitative elements of QE resulting from our literature review with Competence-Based Education (Table 9.1). We focus on A Rounder Sense of Purpose (RSP) as a model not determined by national or social factors (O'Flaherty and Beal 2018), but one addressing educational institutions as communities where transformation can be achieved through an iterative learning loop (Vare et al. 2019, p. 9).

The RSP model has the potential to ensure quality in terms of the context of education as it is flexible and dynamic. It can be adapted to a variety of educational frameworks. The competences, as presented on the RSP website (https://aroundersenseofpurpose.eu), are simple, visibly interconnected and linked to the 17 UN Sustainable Development Goals (SDGs). They give educators and learners a sense of purpose and empower them to meet the SDGs in pursuit of a better life for all. Having the RSP ESD

Table 9.1 Mapping elements of quality in competence-based education with the RSP model

Quality in education	Quality in competence-based education	The RSP model
Context of education	Quality learning	Interdisciplinary Linked to 17 SDGs
Competences	Specialized competences Quality learning	12 ESD competences
Pedagogy	Appropriate pedagogy Child-centred pedagogy Quality learning	Child-centred educational approaches, collaborative learning, suitable educational strategies and techniques (concept mapping, debate, role play, modelling, investigations, project-based learning, etc.)
Classroom/school environment	Quality at the core (beliefs, policies, operational processes) Quality learning	Whole institution approach
Effectiveness	Processes for continuous improvement Measurable and meaningful assessment Quality learning	Learning outcomes and underpinning components for each competence
Responsiveness	Learning experiences	Flexible to meet different learning needs
Relevance	Quality learning	Real-life issues—Connected to raising quality of life for all
Reflexivity	Quality learning	Competences empower learners to be flexible, adaptable and pro-active to address present and future challenges

competences as a guide, the SDGs can be integrated in each educational system as real-life issues, specific in the particular social, cultural and political context, giving relevance to learning. The RSP model can also ensure quality in education in terms of the content of education. Its connection to Content Knowledge and Pedagogical Content Knowledge is reflected on what both the educator and the learner need to know.

Evolving from more abstract and complex constructs of ESD competences, RSP distils and defines 12 competences (a manageable number) using accessible and user-friendly language. Each competence and its related learning outcomes are explicitly explained and analysed through the underpinning components provided in each case. This provides guidance as to what has to be achieved and how progress can be monitored by evaluating outcomes and ensuring effectiveness. The competences in the RSP model are not operated as another 'laundry list' (Wiek et al. 2011), but seek to contribute to QE by empowering educators to surpass school effectiveness and performance, ranking and quantification and reach meaningful school development. The model includes elements that go beyond the instrumental character of education; through the RSP lens educators address schools as whole institutions. It enables multiple roles for the educators and suggests the reform of learning itself based on re-thinking, re-discovering and re-designing. This is evident through the activities proposed by the model's webpage, which are adjustable to the level of the classroom and to what is being taught and learned according to the curriculum as well as proposing the use of school grounds, integrating school policies and seeking school collaboration and networking with local agents in the learning experience of ESD. These attributes of the RSP model and its related activities can help teachers increase the relevance and effectiveness of their teaching.

Pedagogy is particularly important in QE as it is the essential element in the educational process that enables teachers and learners to critically examine the world in which they live, identify problems and find viable solutions (UNESCO 2005). The RSP model places special emphasis on the pedagogy of the competences. The webpage of the project hosts a rich pool of activities, approaches and strategies. The proposed activities go beyond traditional ESD approaches and address all of the '5P' principles of the SDGs: planet, prosperity, people, partnership and peace, aiming to shape citizens that will be more inclusive in their perceptions of the world, able to differentiate its various aspects, open to other points of view and able to integrate differing dimensions of their experience into meaningful and holistic relationships.

Finally, the RSP model holds an important element of quality, the element of reflexivity. Learners become aware of their own role and moral responsibility and are able to adjust to change through developing the competences for envisioning a sustainable future and acting towards its achievement.

Concluding Remarks

This chapter possibly represents one of the first attempts to link QE to ESD competences acknowledging that these are of paramount importance in reforming educational systems despite their complexity in context and interconnectedness. Their discussion is timely, as what is currently required by education is quality in opposition to instrumentalism and mere quantification. The concern about quality is reflected in the various ESD competence models that have been developed (Corres et al. 2020; UNECE 2012; Vare et al. 2019). Despite being flexible and accessible, the RSP model has a strong theoretical character, while its flexibility in terms of evaluation has not been addressed yet. There is a need for developing appropriate tools that can evaluate educators' adequacy and effectiveness in using ESD competences to achieve quality in education (see Sect. 3 of this book).

The RSP model is not the only model that can promote QE. Quality is intrinsically pursued by

most models. What needs to be defined is *which quality* and with *which terms*. Without claiming that we answer these questions, we hope that we have triggered reflection and dialogue with respect to QE on the basis of its context and nature (qualitative elements and elements of quality in QE) as the key for a clear definition, interpretation, understanding and implementation of competences in ESD.

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