# Chapter 2

# The Competence Turn

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**Abstract**

The Competence Turn marks a shift of attention away from what is taught, with a focus on curriculum content, to what is learned, i.e. the outcomes of education. It is a shift with some considerable history. This chapter explores the approach to curriculum that underpins the Competence Turn, charts the growing use of the term 'competence' in education since the mid-Twentieth Century looking specifically at how it has been pressed into the service of environmental and sustainability education. The final section discusses some hazards that accompany this focus on competence. These can be summarised as: conceptual confusion; the centrality of context; impacts on pedagogy; distractions from fundamental issues concerning the wider purpose of education.

**Keywords:** Critique of competences; environmental and sustainability education; curriculum approaches; purpose of education

## Introduction

Competences are everywhere. At the time of writing (early 2021), the European Union has embarked on a mission to identify the competences that its citizens need in order to become more sustainable. This will be the fourth in a suite of key competence frameworks. The first of these deals with digital literacy, *Digicomp* (Punie *et al.* 2013), followed by competences to encourage entrepreneurial mindsets, *Entrecomp* (Bacigalupo *et al.* 2016), while the third framework addresses personal, social and 'learning to learn' competences, *LifeComp* (Sala *et al.* 2020). The concept of competence appears to have us in such a hegemonic grip that it is difficult to imagine a time when we did not think about education and its outcomes in terms of competences – or competencies (see Chapter 1 for a discussion on terminology).

This concern with competence marks a shift away from what is taught, with its focus on curriculum content, to what is learned – the outcomes of education. It is a shift with some considerable history. This chapter explores the approach to curriculum that underpins the Competence Turn, charts the growing use of the term in education since the mid-Twentieth Century and looks specifically at how it has been pressed into the service of environmental and sustainability education. The final section discusses some of the hazards that accompany this focus on competence.

**The rise of competence-based education**

Before the Second World War, the dominant mode of curriculum development was what Kelly (2009) terms *curriculum as content*. An early proponent of this was Franklin Bobbit, an American superintendent of schools who sought to deliver content in the form of manageable component parts that could be 'transmitted' by teachers. By the mid-Twentieth Century education planners were less concerned with specifying curriculum content and more interested in the uses to which a learner might put their learning – or the uses to which the learner might be put. This led to the planning of education to serve a predetermined outcome, what Kelly (2009) terms *curriculum as product*. In 1949, the American educationalist, Ralph Tyler, sought to define the purpose of education in terms of clear, behavioural (and thus measurable) objectives, guided by four questions:

- What educational purposes should a school seek to attain?
- What educational experiences can be provided that are likely to attain those purposes?
- How can those educational experiences be effectively organised?
- How can we determine whether those purposes are being attained?

(Tyler, 1949 in Lawton, 1996:19)

This approach reflects a Newtonian logic that views processes as predictable and manageable. It underpins what came to be known as competence-based education and training (CBET) which, as Shephard explains in Chapter 6, became popular in the USA largely as a response to the 'space race' and that nation's perceived deficits in technical education relative to the USSR. Indeed, for technical and vocational education, CBET presents a practical way forward; however, it has not stopped there. Outcomes are now "used as criteria for the productivity of entire educational systems" (Klieme *et al*. 2008, p.3); an example from The Netherlands in relation to teacher education is discussed in Chapter 13. While the term competence may still lack conceptual clarity (Chapter 1), this objective-based approach is founded on an absolutist epistemology, a view advocated as far back as Plato. While content-focused learning does not necessarily dictate what should be done with that content, a competence-based approach certainly does. The way in which this approach lends itself to measurable verification with apparent ease resonates with the all-pervasive managerialism that has come to characterise national education systems in the wake of neoliberal policy environments that have become a global phenomenon since the 1980s (Harvey 2005). It may be that this close fit between ideology and managerial expediency explains the popularity of competences as much as any inherent educational benefits that they confer, particularly given the concerns that it raises; something I return to later.

**Competences in environmental and sustainability education (ESE)**

Given that the clear, linear logic as expressed above has helped competence-based education to become a widespread and enduring approach, it is little wonder that this way of thinking has found its way into environmental and sustainability education (ESE). There is a distinction to be made between sustainability competence frameworks that describe what all of us should learn and education for sustainability competence frameworks that set out attributes that *educators* need to have to be able to support the development of learners' sustainability competences. It was actually the second of these types of frameworks that appeared first of all in the form of an international agreement. This was the set of learning outcomes for educators as defined by the *Inter-governmental Conference on Environmental Education* in Tbilisi, Georgia (then USSR) in 1977. There was no talk of competences back then, instead the outcomes distinguished between *awareness* and *knowledge* with *skills* and *participation* also listed separately. The other category, *attitudes*, spoke of

"a set of values" and "the motivation for actively participating in environmental improvement and protection" (UNESCO-UNEP 1978, p.27). This avoided the clustering of outcomes under broad competences that might otherwise be difficult to comprehend but it did lead to formidable lists of outcomes.

Some ten years later, in an effort to make all this intelligible to educators, the International Environmental Education Programme (IEEP) published a set of environmental education 'competencies' for teachers as part of its series of 'green books' (Wilke, *et al*. 1987). The term 'competencies' is understood broadly here, even so, the lists are daunting. Sub-divided into four levels, they cover: *(I) Ecological foundations; (II) Conceptual awareness; (III) Investigation and evaluation; (IV) Environmental action skills*.

Almost two decades elapsed before, in 2005, the United Nations Economic Commission for Europe (UNECE) published its Strategy for Education for Sustainable Development. This includes a key action area to "develop the competence within the education sector to engage in ESD" (UNECE 2009, p.21). Interestingly, this could be read as a Type 3 competence as defined in the concept map in Chapter 1, that is a system wide competence or capability rather than the performance of the individuals within it. That is not the way things developed. An early attempt to address this key action was made by the international organisation ENSI (Environment and School Initiatives), which developed the CSCT model, i.e. **C**urriculum, **S**ustainable development, **C**ompetences, **T**eacher training (Sleurs 2008). As the ENSI project was nearing completion, UNECE itself convened an expert group to define ESD competences for educators, which led to the development of 39 competences gathered under three broad headings: (a) holistic approach; (b) envisioning change; (c) achieving transformation.

Both the ENSI and UNECE models provide a valuable insight into the competences required by educators to promote learning for sustainability but neither model has been adopted widely. This is possibly because their level of detail, while helpful, makes them so unwieldy that they cannot be adapted readily into today's crowded teacher education programmes. Efforts to define the role and competences of educators of sustainability has continued apace; as discussed in Chapter 3, this includes the KOM-BiNE model (Rauch and Steiner 2013), the work of Bertschy *et al.* (2013), A Rounder Sense of Purpose (*Vare et al.* 2019) and the work of Timm and Barth (2021).

Meanwhile, competence frameworks for sustainability *per se* have also evolved; perhaps the earliest being the *Definition and Selection of Competencies* (DeSeCo) project established by the Paris-based Organisation for Economic Cooperation and Development (OECD 2002). This aimed to identify the 'competencies' necessary for individuals to confront the challenges of balancing economic growth with environmental sustainability and social equity. It continues to provide the foundation of the *OECD Learning Compass 2030*, a project that aims to help young people succeed in, and shape, their future by identifying what are termed 'transformative competencies' (Rychen 2019). Interestingly, the notion of 'shaping the future' is captured by the German term *Gestaltungskomptenz* (de Haan 2006), the discourse on which informed an influential paper on sustainability key competencies in higher education (Barth *et al.* 2007). Another highly influential set of key competencies in sustainability, developed originally as learning outcomes of sustainability science students (Wiek *et al.* 2011; Chapter 4) went on to inform UNESCO's key competencies in education for sustainable development (Rieckmann 2018) as well as a recent international Delphi Study on key competencies in sustainability (Brundiers *et al.* 2021). Perhaps, as Wiek & Redman suggest in Chapter 4, it is time to stop creating frameworks and focus instead on their implementation.

**Four hazards of the competence approach**

The accelerating rate at which global environmental systems are destabilising suggests that wholesale societal change, managed or otherwise, will be inevitable. Education clearly has a critical

role to play in any sustainable socioeconomic pathway (Samir & Lutz 2017), both in reorienting our models of development and preparing us for those changes. This is a serious responsibility that behoves us to subject any proposed educational approach to critique; despite, or indeed because of, its ubiquity, the Competence Turn is no exception. The following discussion therefore identifies four inter-related hazards that an emphasis on competences in environmental and sustainability education might present. These are:

- conceptual confusion
- the centrality of context
- impacts on pedagogy
- distractions from fundamental issues.

The term hazard is a deliberate choice, it suggests situations to be aware of as ever-present dangers that, while being unavoidable, may be managed with caution.

*Conceptual confusion*

The term competence is explored at length in Chapter 1 while the difficulty of combining, in the same term, the acquisition of specific skills and knowledge *and* the willingness to use them is addressed with some panache by Kerry Shephard in Chapter 6. Suffice to say we cannot assume that the word 'competence' is uniformly understood, or accepted, internationally. This may seem surprising given that competence-based learning (CBL) has become so widespread precisely because of the sense of certainty, in terms of measurable outcomes, that it provides to education managers.

As we explore in Chapter 1, the meaning of competence can be expanded to include values, attitudes, judgements and motivations as well as skills and knowledge but this has led to varying definitions in different locations. While it may not be realistic to expect a globally agreed definition to emerge, any confusion around meaning is likely to hamper efforts to share learning from place to place. More worryingly, this lack of consensus renders inter-researcher agreement difficult if not impossible across international settings, something that is essential if the implementation of CBL is to be verified by robust comparative research. This may not be a barrier to the implementation of CBL in any given context but this does need taking into consideration when evaluating proposals based on experiences of competence-based approaches elsewhere.

To some extent, a heightened awareness of this difficulty can be beneficial. If the advent of post-modernism gave us anything, it is the recognition that the replication of social processes is likely to be impossible; context matters. Acknowledgement that 'competence' is not universally understood should serve to remind policy-makers, educators and researchers alike of the need to unpack their assumptions when proposing competence-based approaches, to clarify exactly what they mean, how they intend to go about it and, crucially, to what ends.

*The centrality of context*

Even if the concept of competence were to be firmly pinned down, it is unlikely that any universally agreed definition would be a comfortable fit with the underpinning principles of environmental and sustainability education (ESE). A competent education system (in the Type 3 sense – see Chapter 1) staffed by competent teachers may be a prerequisite for a sustainable society yet it is unlikely to be the specific combination of competences that is crucial here, rather it is the context in which those competences are applied that will render them 'sustainable' – or not. All ESE-related competence frameworks, for example, include some form of systemic thinking (Corres *et al.* 2020; Rieckmann 2018), yet there will be many situations, such as the development of specific technologies, that

instead require a highly focused systematic approach, which in isolation, can be seen as problematic (Sterling 2001).

Any competence needs to be context bound in order to be put into practice, yet a competence for transforming the current state of affairs, let alone a competence for thriving in a sustainable society that has yet to exist is, by definition, difficult to practice in an authentic setting. Indeed, if an ideal situation for practising these competences already existed, there would not be such an urgent need to teach them. Even familiar competences, such as critical thinking, will develop over time and with practice in different contexts rather than in classroom settings (see Chapter 7).

This poses a double bind for any framework of competences for sustainability educators: the widespread appeal of competences lies in the way in which they define pre-determined learning outcomes or goals, yet our best hope for a sustainable future is to educate citizens to be open to unforeseen conditions, to learn our way forward into an unknowable future. This suggests that we would do well to modify our approach to competences. Rather than seeing them as the end goal, a 'curriculum as product', we could adopt a more emergentist approach, something Kelly (2009) terms *curriculum as process*. This avoids viewing teachers as technicians delivering pre-determined outcomes and instead positions them as facilitators of knowledge production and values identification. It is this process, together with its preparation, teaching and assessment that defines the resultant curriculum. Such a view is at odds with carefully defined competences; it is also difficult to imagine this being condoned within any education system whose overriding purpose is to provide credentials for labour market entry.

A middle way might be to view a competence framework as a proposal to be explored and challenged. This echoes the view of Lawrence Stenhouse (1975) who saw the curriculum, not as a body of material to be covered but as:

> "…a way of translating any educational idea into a hypothesis testable in practice. It invites critical testing rather than acceptance" (*Ibid*: p.142)

This avoids slavish adherence to any given framework. Indeed, such frameworks are most useful as comparators to be reflected on in light of the teaching context, which includes the state of knowledge and ideas of the learners themselves.

One approach to achieving this level of flexibility is that taken by A Rounder Sense of Purpose (RSP – see Chapter 5), which presents its competences in the form of an artist's palette[1]. This invites creativity on the part of the educator, encouraging them to combine competences in unique, context-specific ways while allowing space for additional competences to be added as new ideas are developed. In this way the palette avoids the sense of a linear progression in favour of an emergent approach, accepting that each time the competences are used they will support a unique learning episode with its own unforeseen outcomes.

*Impacts on pedagogy*

A number of different pedagogical strategies are discussed in Part Three of this volume beginning with an overview by Lozano & Barreiro-Gen (Chapter 17) whose work suggests that the available range of approaches is under-used or not applied appropriately (see Chapter 20). It seems ironic that sustainability competences, which are generally framed as observable behaviours, should be taught predominantly through transmissive approaches such as lectures rather than through more practical means. Perhaps this should not be surprising given that this research focusses on higher education.

[1] https://aroundersenseofpurpose.eu/framework/palette

In any formal education setting however, the way that competences are often broken down into knowledge, skills, judgements, values and so forth, leads to detailed inventories that can atomise learning in a manner that is antithetical to the holistic ethos of sustainability.

Equally concerning is the impact that this outcomes-based approach can have on the learner's view of their role in the world. Even as students enumerate the competences that they are acquiring, a slavish adherence to such carefully prescribed learning outcomes offers little hope for those who might wish to challenge the *status quo*. This is something that Biesta (2015) identifies as a widespread tendency across formal educational systems; by inhibiting students from challenging accepted norms, education supresses the emergence of human uniqueness. Curriculum as product approaches certainly present this danger, making it more difficult for teachers to facilitate learner agency, a key principle of ESE. As Dewey (1916) reminds us, objective-based learning can have serious unintended consequences:

> "Aims limit intelligence (because) given ready-made, they must be imposed by some authority external to intelligence, leaving to the latter nothing but a mechanical choice of means." (*Ibid*: p.138)

Instead, Dewey suggests the use of objectives as a heuristic device, what Dewey terms a 'legitimate aim'. As discussed above in relation using frameworks in context, this reflects an emergentist approach:

> "The value of a legitimate aim… lies in the fact that we can use it to change conditions. It is a method for dealing with conditions so as to effect desirable alterations in them." (Dewey 1916:138)

This pragmatist approach underpins a model suggested by Öhman and Sund (2021) that avoids the tendency to aggregate components of learning into competences by disaggregating the concept back into its constituent parts. In this case they use the concept of 'sustainability commitment' proposed by Scott (2011), which they see as comprising three inter-related aspects: intellectual, emotional and practical.

> "The model suggests that sustainability commitment should be a common goal for ESE and that a sound commitment is situated at the intersection of the intellectual, emotional, and practical aspects of sustainability." (Öhman & Sund 2021: 16)

They start by considering the pedagogic approaches that might build this layered commitment rather than the defining competences in detail which carry the drawbacks discussed above. Rather than a return to curriculum as content, they propose an iterative process that draws on students' knowledge, thoughts and experiences as well as careful preparation on the part of the teacher.

*Distractions from fundamental issues*

The hazards discussed above are concerned with the way in which the language – and nature – of competences might lead us to adopt approaches to education that run counter to the principles of ESE. Stepping back from the classroom setting, we might ask ourselves what we are *not* including in these discussions. There is a danger that all this focus on competences diverts our attention away from the overarching issue of the purpose of education itself. The framework proposed by A Rounder Sense of Purpose (Vare *et al*. 2019; Chapter 5) uses the language of competences in order to engage with current debate in this area but the project's name belies a deliberate attempt to raise a broader concern, that is, the need to reframe the purpose of education beyond its narrow, predominantly economic focus.

There are critical and enduring concepts and principles within ESE that might be discussed under the knowledge component of specific competences but which fall outside of the remit of existing competence frameworks. These include considerations of deep ecology (Devall & Sessions 1985), the need to consider the more than human world, perhaps through notions of 'inclusive pluralism' (Kopnina & Cherniak, 2016), the possibility of adopting an eco-justice pedagogy (Bowers 2002) or, as Bonnett (2002) has suggested, a complete adjustment to our 'frame of mind' in relation to human-nature understandings. Surely these issues lie at the heart of our current global predicament vis-à-vis the environment, they certainly challenge our current unsustainable model of development. Yet if these issues are raised in a mainstream education discussion, they still appear to be of minority interest, something of concern to the 'green lobby'. Discussion of competences has brought us close to current policy debates, such as those European competence frameworks listed in the introduction to this chapter. The danger is that we are held at a distance while we focus on which and whether competences are the best way forward.

Identifying key ESE competences for educators will, we hope, prove over the long term to have made a positive contribution to our long-term survival; if we didn't recognise this possibility, we would not have written this book. However, if there is one competence that any self-respecting educator for sustainability might usefully burnish, it is the ability to maintain a critical eye in the face of any framework that comes their way, even (or especially) those that come with the full weight of official compulsion. If education is about anything, it is surely about opening our minds to the myriad possibilities presented by our changing, uncertain world – and recognising the dangers of focusing on too few of them.

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