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Vare, Paul ORCID: 0000-0003-3182-9105 (2017) Assessing educators' competence in Education for Sustainable Development. In: ECER 2017: Reforming Education and the Imperative of Constant Change: Ambivalent roles of policy and educational research, 21 - 25 August, 2017, Copenhagen, Denmark. (Unpublished)

EPrint URI: <https://eprints.glos.ac.uk/id/eprint/7207>

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A Rounder Sense of Purpose: Assessing educators' competence in Education for Sustainable Development

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Abstract: A Rounder Sense of Purpose is an EU-funded project that is developing an accredited framework of competences in education for sustainable development (ESD) based on the UNECE ESD competences. A key issue for the project is assessing the learning of those who seek to gain these competences. This paper outlines the project approach to assessment and introduces a strand of research that is investigating the concept of horizontal and vertical dialogue as a means of identifying change in learners' affective development.

Key words: teacher competences; learning for sustainability; ESD qualification

Introduction: The context

While this symposium is largely concerned with assessing key competences in sustainability *per se*, this presentation focuses specifically on the assessment of learning how to educate for sustainable development using a given competence framework.

A Rounder Sense of Purpose (RSP) is a three-year EU-funded action project that is developing an accredited framework of competences in education for sustainable development (ESD) for in-service and pre-service educators working in formal and non-formal settings. This is being tested through bespoke educator training programmes in six countries: Cyprus, Estonia, Hungary, Italy, The Netherlands and the United Kingdom (see Annex A for partner institutions).

RSP's starting point is the United Nations Economic Commission for Europe framework of educator competences in ESD (UNECE 2012), which itself made reference to the work of the CSCT (Curriculum, Sustainable development, Competences, Teacher training) Project (Sleurs 2008). The UNECE framework remains a theoretical tool in that its 39 competence statements are not expressed as assessable competences neither are they linked to specific learning outcomes.

During 2016 RSP partners worked on distilling the UNECE competences, which included reducing the number, removing repetition and identifying gaps. This was done with reference to other work in the field including that of Wiek *et al.* (2011) and the RESFIA+D framework of Roorda (2012). These competences have been tested and modified through a variety of events among project partners ranging from conferences to Delphi studies and staff workshops.

The resulting framework of 12 competences (Appendix B) is sub-divided into learning outcomes but it was decided *not* to break this down further into skills, values, knowledge, etc. for two principle reasons:

1. This atomises learning into discreet components that appear meaningless in the context of sustainable development and undermine the notion of holistic thinking that underpins ESD

2. More pragmatically, there is no Europe-wide agreed format for such qualifications, rather each national qualification framework uses its own template for itemising assessable learning outcomes, therefore defining the award at this level of detail would make it more difficult to apply across Europe.

Rather than a detailed break down of attributes, the RSP framework provides a set of *underpinning components* linked to the learning outcomes that in turn relate to the twelve educator competences. RSP also suggests training activities that will help to develop the underpinning components and learning outcomes.

The RSP competences can be applied to various ISCED¹ levels; the RSP partners agreed on running programmes from Levels 4 to 7. At any given level there are three *stages*, which might be defined as 'degrees of engagement'. The first of these stages is simply an acceptable level of participation in any given training programme related to the framework, the second stage requires a demonstration of some practical application of the competences while the third stage calls for an effort to facilitate change in others or within one's work setting.

At the time of writing project partners are in the process of developing pilot training programmes for a total of approximately 400 pre-service and in-service educators. These were scheduled initially to begin early in 2017 but will now start in October.

Assessing the learning

A key issue for project partners is the development of assessment tools and techniques that align with the pedagogical approaches being promoted by the competence training programmes. In discussion with learners on a small pilot programme run in the UK in 2017, it was agreed that assessment would include:

- Presentation and discussion of one's work with the competences including a question and answer session
- An assessment of the learner's engagement in the discussion/question and answer sessions of their peers
- A portfolio (written or other media) that demonstrates a level of engagement with each of the competences

The first two approaches rely on dialogue and reflect an open-ended approach to assessment that allows for external influences and unforeseen outcomes.

Assessment is to be carried out by the student themselves and by their peers with the facilitator/assessor focusing on the engagement of all learners in the dialogue.

The portfolio may be in the form of text or other media; this is to be used to assess the degree of engagement with the twelve competences of the RSP framework in a more structured manner. In this way, the assessment approach lies somewhere between order and chaos, a key feature of successful complex adaptive systems.

¹ International Standard Classification of Education

The research

This brief discussion paper outlines one strand of the research that is proposed by RSP's UK-based partner. Other project partners are being invited to respond to this proposal so that ultimately a unified approach can be agreed.

The research question seeks a means of identifying how education in the RSP competences has affected the learners. Students may acquire a degree of knowledge and skill by attending a learning programme but determining the extent to which this represents *affective* change is not straightforward.

Students learning to say – or even do – the ‘right’ things represent what Wegerif (2011) terms *horizontal* learning. For Wegerif, horizontal learning is about how we become socialised into different group norms:

“it does not account for how we might learn to become more aware of our identifications in order to question and transform group norms.” (Ibid: 184)

This learning is a function of horizontal thinking that can, in turn, be detected through horizontal dialogue. Horizontal dialogue, thinking or learning can be applied to many different things but the *depth* of engagement remains the same even as more knowledge is acquired. We might, for example, gain an encyclopaedic knowledge of the UN's Sustainable Development Goals but this cannot be taken as an indicator of any kind of ethical or values shift.

A vertical dimension of dialogue is also required to indicate the quality of how one is learning to think; for Wegerif:

“...the idea of learning to think cannot be left as a neutral account of processes of socialisation but implies a notion of learning to think well.” (Ibid: 184)

We can detect this quality of learning through dialogue because of the way in which learners *perform* dialogue as if to a third person. Drawing on the work of Bakhtin, Wegerif suggests that all dialogue is addressed to an unseen super addressee or Infinite Other and it is this that offers the vertical dimension. Vertical dialogue (and thinking or learning) occurs in response to new events and across contexts; it is reflective and therefore challenges existing practices. This dimension can be detected through statements that demonstrate critical thinking and may lead to a consideration of underpinning ethical dimensions and values in any given situation.

Returning to our research question, evidence of growth in the vertical dimension of a learner's dialogue could be seen as an indicator of a potential, if not an actual, shift in values. It is expected that a focus on dialogue will allow us to analyse the extent to which students have internalised ideas and modified their thinking.

An action research approach

Among the RSP project objectives (Annex C) is a commitment to conduct research into the impact of engagement with the competence framework on pre-service teachers. Project partners are therefore in the process of developing a mixed methods action research programme. This will track the assessment process and evaluate its impact in terms of the students' achievement of the specified learning outcomes and their qualitative responses to the assessment itself.

As stated above, partners still need to agree on the specifics of the research; that said it is currently envisaged that quantitative data will include numbers attending

and completing each programme and the stages achieved (1, 2 or 3) by all students.

These data will be gathered from partner organisations with scores being based on assessors' records in light of evidence for each stage that will in turn build upon self-assessment conducted by the students.

Qualitative data is expected to include:

- (a) Peer reviews of presentations and question and answer sessions
- (b) Assessors' reviews of peer engagement in (a) and possibly elsewhere
- (c) Semi-structured interviews (SSIs) conducted with a sample of learners in each setting.

It is the assessor's guidelines for parts (a) and (b), i.e. *how to identify vertical and horizontal growth through learner dialogue in the context of ESD* that is currently under development.

The SSIs will focus on the students' perception of the assessment process itself and will explore issues such as levels of confidence in the process and the degree to which assessment captures or reflects all of the learning gained on the programme.

Next steps

Despite the delayed start (programmes were expected to take place in Summer 2017), some training did take place among a small number of teachers attending a ten-hour programme led by the RSP project team at the University of Gloucestershire, UK. Full-scale pilot programmes are now being planned in the six partner countries with the earliest beginning in October 2017.

NB. As an action project, RSP has a different starting point and approach to the CASE research project that also focuses on ESD competencies (Rieckmann 2017). It is hoped that links may be made between these projects, possibly starting with this symposium.

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References

Rieckmann M (2017) *Rethinking Higher Education in the Anthropocene – Insights from Sustainability Education Research and Practice*. Research Presentation Arizona State University

Roorda N (2012) *Fundamentals of Sustainable Development*. London: Earthscan

Sleurs W (ed.) (2008) *Competencies for ESD teachers. A framework to integrate ESD in the curriculum of teacher training institutes*, Brussels Online at: http://platform.ue4sd.eu/downloads/CSCT_Handbook_11_01_08.pdf

Wegerif R (2011) Towards a dialogic theory of how children learn to think in *Thinking Skills and Creativity* 6 (2011) 179–190

Wiek A, Withycombe L, and Redman C L (2011) Key Competencies in Sustainability: A Reference Framework for Academic Program Development in *Sustainability Science* 6(2): 203–18.

UNECE (2011) *Learning for the future: Competences in Education for Sustainable Development*. Geneva: United Nations Economic Commission for Europe

Annex A: The Project Partners

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Annex B: The RSP Competences

<i>Thinking Holistically</i>	<i>Envisioning Change</i>	<i>Achieving Transformation</i>
<i>Integration:</i>		
<p>Systems Competence The educator helps learners to develop an understanding of the world as an interconnected whole and look for connections across human and natural worlds and consider the consequences of our actions.</p>	<p>Futures Competence The educator uses a range of techniques to help learners explore alternative possibilities for the future and to use these to consider how our behaviours might need to change.</p>	<p>Participation Competence The educator contributes towards changes in education that will help sustainable development and encourages their learners to do the same.</p>
<i>Involvement:</i>		
<p>Attentiveness Competence The educator alerts learners to fundamentally unsustainable aspects of our society and the way it is developing and conveys the urgent need for change.</p>	<p>Empathy Competence The educator is considerate of the emotional impact of the learning process on their learners and develops their self-awareness.</p>	<p>Engagement Competence The educator works flexibly and responsively with others, remaining aware of their personal beliefs and values, and encourages their learners to do the same.</p>
<i>Practice:</i>		
<p>Transdisciplinarity Competence The educator acts collaboratively both within and outside of their own discipline, role, perspectives and values and encourages their learners to do the same.</p>	<p>Innovation Competence The educator takes an innovative and creative approach using real world contexts wherever possible.</p>	<p>Action Competence The educator focuses on the development of learners' critical thinking skills and helps them to take considered actions in their own context</p>
<i>Reflection:</i>		
<p>Evaluation Competence The educator helps learners to critically evaluate the relevance and reliability of assertions, sources, models and theories.</p>	<p>Responsibility Competence The educator acts transparently and accepts personal responsibility for their work and encourages their learners to do the same.</p>	<p>Decisiveness Competence The educator acts in a cautious and timely manner even in situations of uncertainty and encourages their learners to do the same.</p>

Annex C: RSP Project Objectives

The project sets out to:

1. Develop a practical accreditation model that teacher educators can use in any European context
2. Develop and disseminate a 'tools and guidelines' document to help teacher educators implement the accreditation model
3. Enhance mainstream educator training programmes with a wider set of competences that will reflect the role of formal education in supporting sustainable development
4. Conduct a thorough, formative and summative external evaluation of the project
5. Conduct research into the impact of engagement with the competence framework on pre-service teachers.