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Vocational education for a sustainable future: Unveiling the collaborative learning narratives to make space for learning

Saskia M.G. Weijzen[a,b], Cassandra Onck[c], Arjen E. Wals[b], Valentina C. Tassone[b] and Wietske Kuijer-Siebelink[a,d]

[a]Education and Learning Sciences, HAN University of Applied Sciences, Nijmegen, The Netherlands; [b]Wageningen School of Social Sciences, Wageningen University and Research, Wageningen, The Netherlands; [c]ArtEZ University of the Arts, Research Group Art Education as Critical Tactics Artez, Arnhem, The Netherlands; [d]Research on Learning and Education, Radboud University Medical Center, Radboudumc Health, Nijmegen, the Netherlands

ABSTRACT

In the light of urgent global sustainability challenges, vocational education is searching for new approaches that are more just and future proof. At least a part of the answer seems to lie in so-called collaborative learning arrangements where students together with societal actors explore sustainability-related challenges. The amount of this kind of arrangements in which vocational education participates increases. Empirical studies on what actually goes on in the collaborative arrangements are rather scarce. This study addresses the theory-practice gap by applying a participatory design. The study unveils that deeply seated educational and socio-cultural routines like the student as learner, alienation from issues, a bias towards cognitive knowing and 'solving' problems seem to limit the possibilities for more genuine collaboration to emerge. The study also found that by intervening with creative and reflexive methods, space for transformative learning can unfold that allows engagement with existential questions like 'what is it what I really got to do here?'. The opening up of these spaces was accompanied by longings to go beyond the rosy narratives of collaborative learning arrangements and to have more attention for the persistent embeddedness of educational routines in the societal issues around us. Vocational education *as* society. What happens if we progress towards vocational education for sustainable futures with more modesty and introspection?

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CONTACT Saskia M.G. Weijzen s.weijzen@han.nl

Introduction

Contemporary social, economic and ecological challenges represent persistent sustainability problems in our society. The call for vocational education and training (VET) to engage with these problems is increasing especially since the sustainable development goals (SDGs) have reintroduced VET into the sustainable development discours (Kuijer-Siebelink 2022; McGrath, Alla-Mensah, and Langthaler 2018; Powell and McGrath 2019). VET's discussions on *green skills* or *skills* for sustainable development have been moving away from an instrumental and narrow understanding of skills towards a holistic understanding including values and attitudes towards sustainable development balancing economic development, equity, wellbeing, and ecological concerns (Pavlova 2017). A more radical stream of the literature argues for a critical understanding of *skills*, rooted in (un)sustainable structures, practices and conventions that can be reproduced or transformed (Powell and McGrath 2019; Ramsarup, McGrath, and Lotz-Sisitka 2023; Spours 2019). The authors representing this stream prioritise deep comprehension of sustainable development and related key values and concepts such as social justice, equity, poverty and power, rather than questions of skills. This critical perspective may necessitate a more radical VET reorientation: from conceptually rooted in economic growth and productivism towards life affirming or regenerative, oriented at the wellbeing of all people, communities and the earth (Anderson 2008; McGrath and Powell 2016; Powell and McGrath 2019).

In this study we follow the critical perspective on sustainability oriented VET, reinforced by UNESCO's strategy for vocational education 2016–2021 with a strong argument for *transformative VET* (United Nations Educational and Organization 2016). Transformative VET requests vocational education to change the target from economies towards people and towards sustainable development. The implications of the strategy are large, as it implies that VET does *not* adapt to current work and social change, but aims to challenge and transform the world of work and society (Powell and McGrath 2019). In 2012 the OECD already argued that relying on current working life to identify gaps and to develop solutions regarding sustainable development is naïve (Gasior 2013).

In VET literature, three related tendencies can be distinguished, by which VET aims to respond to the UNESCO's strategy: boundary crossing (Gulikers and Oonk 2019; Oonk et al. 2022; Viertel 2010), ecosystems based contextual learning (Cremers et al. 2016; Spours 2019; Van den Berg, Seuneke, and De Jong 2021) and knowledge cocreation (Gulikers and Oonk 2019; Wals, Lans, and Kupper 2012). We will briefly outline the tendencies.

Boundary crossing

VET reform in order to attend to broad goals of wellbeing and equity may exceed the boundaries of disciplines. Considering these goals, the scope of VET might even extend preparing 'young people' for 'the labour market'. VET is called to adopt a broader scope on live long learning and to increase the porosity of school boundaries to the community in order to facilitate a transdisciplinary approach to 'real life' problems (Viertel 2010; Wals, Lans, and Kupper 2012; United Nations Educational and Organization; 2016). This requires 'boundary crossing' competence (Oonk et al. 2022).

Ecosystems based contextual learning

VET oriented at sustainable development may require an approach to development that is place-based and which can play a transformative role in local communities (Oonk 2016; Ramsarup, McGrath, and Lotz-Sisitka 2023). The place-based skills ecosystem perspective foregrounds context within skill development. The rationale behind contextual learning is that only contextualised notions of skills and training can facilitate local transitions (Oonk 2016). The contextual perspective helps to give attention to the history, social context, institutions and actors comprising the ecosystem (Spours 2019). The perspective produces alignment between VET, workforce development and living, and brings relationality and reflexivity to the heart of the learning process (Ramsarup, McGrath, and Lotz-Sisitka 2023).

Knowledge cocreation

The call on VET to be transformative implies new epistemologies or, in other words, new conceptions of knowledge generation (Wals, Lans, and Kupper 2012). In this perspective Gibbons (2000) mode 2 setting is frequently referred to. This setting involves a transdisciplinary path in which knowledge is constructed or co-created (Gibbons 2000). Knowledge cocreation is a process of mutual learning between people who do not naturally meet because of institutional boundaries or boundaries arising from differences in social or human capital. As a result, existing knowledge is altered, new relations are being shaped, and issues are reframed (Wals, Lans, and Kupper 2012).

The three tendencies can be integrated as movements towards *collaborative learning with and in society*. As we can understand from the tendencies, the collaborative learning is embedded in *relational* conceptions about knowledge, in *reciprocal* relations between the knower and the knowledgeable or the known, and in *dialogical* methods for knowledge generation. This framing of collaborative learning refers to Freire's critical pedagogy (Freire 1973). Critical pedagogy is critical about the fact that education, action and science are

commonly built on relations of domination through an understanding of subject (educator, professional, researcher) – object (student, client, respondent) relations. Critical pedagogy argues for subject – subject relations of equity and reciprocal dialogue with (other) others (Morrow and Alberto Torres 2002). From this critical perspective, collaborative sustainability oriented VET requests radical new relations in education, in action and in science for social change.

Compared to VET, higher education (HE) theory and practice has an already longer-standing policy drive towards sustainability-oriented collaborative learning, bridging (science) education and sustainable development through relationality (McGrath, Alla-Mensah, and Langthaler 2018). At least in Europe: in 2001 the European Commission developed an action plan 'Science and Society'. This has further evolved in 2010 to a 'Science with and for Society' plan which makes 'responsible research and innovation' (RRI) a key policy area for European research and science education (Tassone et al. 2018). The RRI approach resembles the VET tendencies described earlier, in that it encourages knowledge co-creation, boundary crossing and contextual learning (Von Schomberg 2013). The approach reveals something of an emergent 'responsible', life affirming paradigm of education. Partly supported by the RRI movement, more research has already been conducted in higher education on translating the re-orientation of education towards responsibility for people and planet into design principles for educational practice. Tassone et al. (2018) developed three robust educational design principles for responsible higher education curricula intended to transform work and society towards a sustainable future: education for society, education with society and whole person education. *Education for society* refers to the *reflexivity* of fully engaging with the interconnectedness and the complexity of sustainability issues through an open ended learning process of grasping root causes rather than an orientation on solving the issues; *education with society* which refers to *relationality*: reciprocal and empathic interaction about issues between students and other actors in society whose matters of concern are at stake. The third one, *whole person education*, refers to *creativity*: a process of embodied deep learning, bringing in the whole self, interspersed with creativity and experimentation (Tassone et al. 2018).

The tendencies in VET literature and the principles from HE literature encourage vocational education institutions to link the educational processes to innovative practices in work and society. Increasingly, parts of the vocational curriculum take place in collaborative learning arrangements (CLAs) in the region. These regional CLAs provide students with various opportunities to cross boundaries between multiple practices, disciplines and perspectives. Moreover, they foster engagement in a transformative, co-creative process with the expectations of contributing to sustainable development (Oonk et al. 2022). However, apparently contributing to sustainable development does not occur automatically through collaboration (Oonk, Gulikers, and Mulder 2019).

The question how VET and development patterns have to be transformed in order to deliver on the expectations remain unanswered (McGrath, Alla-Mensah, and Langthaler 2018). Still, VET seems conceptually rooted in a productivism paradigm rather than in a life affirming or regenerative paradigm. Practices may not actually confront the fundamental tensions that lie at the heart of sustainable development (McGrath and Powell 2016).

Moreover, the contextual ecosystems learning tends to be largely *demand led* learning and fails to account for increased participation and voice of learners, workers and citizens (McGrath, Alla-Mensah, and Langthaler 2018). As McGrath and Powell (2016) argue, the real test of the espoused sustainability-oriented vocational orientation does not lie in the text, but in the enactment. It is imperative to assess whether we indeed are moving towards a new VET approach for sustainable development, because there still seems to be a difference between vocational education's stated desires for more sustainable future and everyday actions (McGrath et al. 2019; Wals and Benavot 2017)

The central research question is: *how does the espoused collaborative sustainability-oriented vocational education manifest itself in practice?* The aim of this study is to understand and to contribute to the next steps for vocational education to unfold a sustainable future.

With this aim the paper contributes to bringing an emerging sustainability oriented VET conceptualisation and paradigm to action; a paradigm that is gaining momentum in this journal of vocational education and training with recent contributions on re-conceptualising or re-theorising VET in times of sustainability crises (Avis et al. 2021; McGrath et al. 2020, 2022; Spours 2023). Where current publications mainly focus on African development and on the paradigm debate, this contribution focuses on enactment in 'Germanophone VET' practice, in particular in the Netherlands.

Method

By participating for eight months in two Dutch local CLAs located at the interface of education and society, data were generated.

The context

The study was conducted from November 2020 until July 2021. The study was situated in the Dutch vocational education system. The Dutch vocational education system is typical because of the two different tracks leading to vocational qualification: secondary vocational education and training (SVET; in Dutch: MBO) and higher VET, or – more common – higher professional education (HPE; in Dutch HBO). The higher education system in the Netherlands is binary: HPE and academic education (Hoeve, Kuijer-Siebelink, and Nieuwenhuis 2019).

The two CLAs were initiated by the departments of health and social work of a Dutch HPE institute in the east of the Netherlands. Since the initiation different educational institutes (SVET, academic) had joined with their departments of social services (SVET) and pedagogical sciences (academic education). At the moment the study was conducted, three different educational institutes collaborated in the learning arrangements. The labs aim to enhance the potential of stakeholders to responsibly address complex challenges in society, like low literacy, inequalities, poverty or health risks. The CLAs were physically situated in a local area, in multifunctional buildings including, for example, a primary school, social services, healthcare and cultural activities. Each semester about 20 to 25 students of diverse disciplines (e.g. nursing, social work, physiotherapy, nutrition, pedagogical sciences) collaborate in the CLAs. In smaller groups from 3 to 5, students they work in projects on the societal challenges. The lab projects are part of the students curriculum. Two or more educators are in charge of facilitating the activities in the CLAs for one or two days a week. Professional partners in health and social work define the challenges on which collaboration is built upon. Each semester about six professional partners are involved within each lab. The two CLAs, further referred to as Case A and Case B, were selected based on the following inclusion criteria:

- The labs have been acknowledged by colleagues of the initiating HPE institution as successful and exemplary for others
- The participants in the labs are motivated to participate in a longitudinal case study
- The labs focus on (local) contribution to sustainable futures

The researchers

The first two authors (SW, CO) were the primary researchers in this study. SW is an educational scientist navigating the boundaries of research and innovative HPE practice for a sustainable future. CO embodies alignment between science and art. She is artistic researcher, singer, narrator and writer. Both researchers are driven by a desire to truly get to the bottom of things and to embrace the discomfort that comes with it. CO uses stories, songs and spoken to create a new possible future. As a researcher, SW also explores art-based or creative ways to support processes of (un)learning for new futures in a caring way. SW and CO shifted their role during the study: in the first, explorative part, they were external observers and interviewers; in the second, critical part, they became active participants and facilitators in the CLAs. The next section will further explain the two parts.

The last author (WK), researcher and expert on responsive and responsible VET and HE, was involved in the study-design, parts of the data generation, the data analysis, conclusion, discussion and the paper co-authoring. The third and the

fourth authors (AW, VT), both researchers and experts on transformative learning and education for eco-social sustainability, were concerned with checking the consistency of the study, discussing the results and co-authoring the paper.

The study

The participatory study consisted of two parts of five and three months, respectively. *Part 1* of the study was *explorative, part 2* was *critical*. This paragraph further explains the choice for two parts by first clarifying the part 1 approach and then enlightening the part 2 approach.

In *part 1* we – SW, CO, WK – participated by active, open interviewing (Holstein and Gubrium 2016) and by an ethnographic approach of observation (Atkinson and Martyn 2008. The active interview is a type of open interview grounded in a constructivist research stance (Magoon 1977), characterised by a collaborative construction of meaning between interviewers and interviewees. We will further refer to the active interview as 'open interview' and we will illustrate below what makes it 'active'. The ethnographic observation approach implied that we immersed ourselves in the CLAs on different moments in time, in order to closely observe behaviour, interactions, language, culture and conventions in natural settings. We will further refer to this approach as 'participant observation'.

Two phases could be distinguished in the *explorative* part 1: an *orientation* phase and a *deepening* phase. Aim of the *orientation* phase was to get acquainted with the living labs and with the embedded educators as stakeholders who might be most influential for the daily decisions in the labs. The *orientation* phase consisted of observations of lab activities and of open interviews with the educators. We asked them to build an artefact with different materials to map their CLA. The artefact building was inspired by the rich picture technique (Cristancho 2015). In the *deepening* phase we focused on exploring the enacted learning practices. We used open interviewing based on a timeline (Kwakernaak et al. 2016) to re-construct activities, interactions and experiences with all stakeholders involved in a project intended to act upon a societal issue. For this study, one project was selected in each living lab. The educators did the pre-selection. This selection was checked by the researchers with the following inclusion criteria:

- The project is ongoing in recent years
- The project is a typical example of sustainability oriented collaborative learning
- The project aims at sustainable solutions for the challenges addressed

As a result of the *explorative* part 1 we defined tensions between the espoused an manifested learning arrangements. Although the tensions

were apparent, we sensed just little consciousness of the tensions within the CLAs. We considered the unconsciousness undesirable as it interferes with agency to contribute to vocational education for sustainable futures. As the latter was our research aim, we decided to make a shift in the research approach. We planned to create an experiential field for the espoused learning arrangements. In creating this field we let us inspire by Tassone et al. 2018) design principles which we already loosely translated in the introduction into reflexivity, relationality and creativity. With the experiential field we would fully engage with the tensions together with the participants. Hence, we adopted a *critical* approach, stemming from a critical realist stance (Bhaskar 2016). Critical realism recognises the importance of agency in research and considers social transformation as an essential outcome of research in educational science and in human science in general. Critical realism is a philosophic foundation for transformative research aiming to reveal and ultimately shift enduring social structures and underlying mindsets, language and identities that ratify special interests and the status quo in society (Egbo 2005).

We worked in two phases in part 2: a *transformation* phase and an *evaluation* phase. In the *transformation* phase we created the experiential field through facilitating and participating in a creative workshop inspired by the dialogue for peaceful change (DPC) method (Craig 2019). Through an individual step of drawing associations on the part 1 tensions, and a collaborative step by drawing in pairs, the participants co-created a visual group manifesto to express what is fundamentally important for them all (*picture 2* in the result section shows an example). We collectively reflected on what the manifesto is telling about participant's self and their purposes in life. With the insights we reflected on their actions, positions and relations in the current learning arrangements and the way their actions might or might not contribute to sustainable futures. In the *evaluation* phase we had an additional reflection with the educators. We invited the educators because of their influential role in the learning arrangements.

We only managed to pursue the data generation after the *orientation* phase in Case A, as one of the leading educators in this case became long-term ill during the study. The workload was perceived to be too high for other educators involved to progress with the study. Compared with Case A the *orientation* was more comprehensive in Case B, because of the many participant observations. We will discuss the implications of the uneven amount of data on the study quality. Table 1 gives a complete overview of the data generation process.

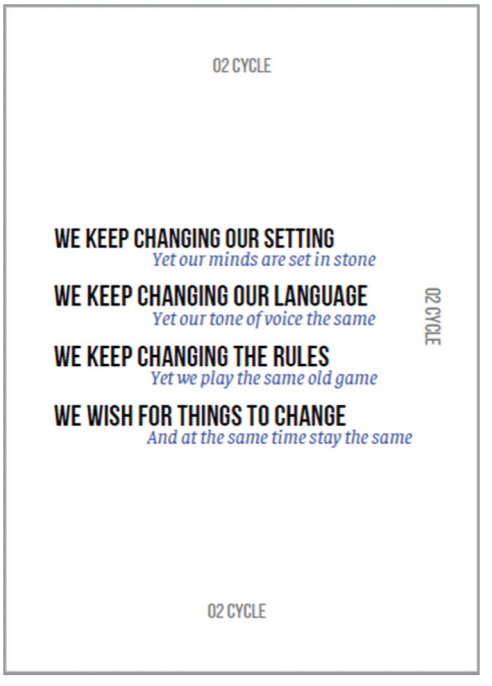
This study was approved (nr ECO 271.05/21) by the HAN University of Applied Sciences ethical commission (ECO), an independent expert commission for ethical responsible research methods and responsible care for people and for data. All participants provided informed consent when being informed by word and by text about the research aim and about the data generation.

Table 1. Research design.

Parts and Phases	Activities and methods for data-generation	Participants CASE A	Participants CASE B	Techniques CASE A	Techniques CASE B
Part 1 ORIENTATION	Open interview (2hours)	*n* = 2 educators HPE	*n* = 3 educators HPE *n* = 3 educators SVET	Rich picture	Rich picture
	Participant observation (3hours groupsession)		*n* = 3 educators HPE *n* = 2 educators SVET *n* = 1 student HPE		Open observation
	Participant observation (2hours groupsession)		*n* = 2 educators HPE *n* = 12 students HPE *n* = 6 students SVET *n* = 3 professional partners		Open observation
	Participant observation (3hours) groupsession)		*n* = 1 student HPE *n* = 5 students SVET *n* = 1 educator SVET *n* = 1 professional partner		Open observation
Part 1 DEEPENING	Open interview (2,5 hours)	*n* = 1 educator HPE *n* = 1 educator Academic education *n* = 1 professional partner *n* = 6 students HPE *n* = 1 student Academic Education		Timeline	
Part 2 TRANSFORMATION	Workshop (1,5hours)	*n* = 1 educator HPE *n* = 1 educator Academic Education *n* = 5 students HPE		DPC workshop	
Part 2 EVALUATION	Open interview (1hours)	*n* = 1 lecture HPE *n* = 1 educator Academic Education		Open interview	

Analysis

Data analysis was an inductive act of organising the data and searching for meaning within. Data analysis and data generation were iterative processes. Each data generation activity was recorded and re-listened. The participating researchers made fieldnotes, reflective memos and creative expressions like (spoken) poetry (picture 1, example) during the activities, after the activities and while re-listening.



After every activity in the two living labs, the participating researchers had one or more reflective dialogues in which they reflected on the interviews, their lived experience, their notes, their memos and the poetry. Afterwards, they organised and complemented the notes and the memos. The data of the *explorative* study part 1, the recordings, the fieldnotes, memos and poetry were initially analysed with descriptive codes (Miles, Michael Huberman, and Saldaña 2014) that reflected the topics in the data, like 'who is learning here?', 'how does the learning look like?' and 'what is participant's focus?'. Within the topics we explored the alignment and the tensions between the enacted and the espoused CLAs. Because the tensions were notably manifest, we used versus codes to point them. Versus codes identify in dichotomous or binary terms the individuals, groups, social systems and phenomena in direct conflict with each other. Versus coding is appropriate for qualitative data sets that suggest strong conflicts or competing goals within, among and between participants (Saldaña 2021). We grounded our initial versus coding in the actual, observable

conflicts. During a second cycle coding categories were defined. The categories were fairly creative constructs, not directly stated by participants, but generated by the research team during reflective sessions. We mentioned the categories 'tensions'. We looked for relations between the tensions and the design principles for responsible education (Tassone et al. 2018). We will elaborate on the four tensions in the results section.

The *critical* study part 2 aimed at creating an experiential field to fully engage with the tensions was analysed with emotion coding (Prus 1996). Emotion coding was used as the emotional responses were distinctive when working with the reflexive, relational and creative approaches. The initial emotion coding resulted in a second cycle in four categories, the 'emotional responses'.

The researchers used investor triangulation to validate or extend methodological choices and findings (Fusch, Fusch, and Ness 2018). Monthly they met with an external panel of experts on collaborative learning for a sustainable future. The triangulation validated the tensions derived from part 1 and validated the researcher's initial ideas about their roots. The triangulation sessions reinforced the researchers to shift towards a critical approach and to conduct this approach in a compassionate, non-judgemental way. The sessions inspired the researchers to make use of the dialogue for peace and change (DPC) method in the transformation phase.

Results

The research question was *how does the espoused collaborative sustainability-oriented vocational education manifest itself in practice?* We saw tensions between the espoused collaborative vocational learning arrangements and the manifestation of the arrangements in practice. As a response, we explored ways to reveal and to navigate the tensions. We will first present the tensions from the *explorative* part 1. Then, the overarching findings of the *critical* part 2 are presented in terms of emotional responses on the interventions.

Part 1 –tensions

The tensions from this part relate to the existing and the emerging routines and conceptions regarding education. They show discrepancies between what is enacted and what is espoused. The tensions are characterised as: *students or people*, *fixing or framing*, *head or whole self* and *out or in*. The tensions are introduced below and illustrated with one or more examples of what happened.

Students or people?

This tension is about who is considered a learner in the learning arrangements. The espoused CLAs promote a relational, reciprocal and empathic idea of

knowledge construction wherein all stakeholders participate as (non-formal) learners. The relational idea is about *education with society* (Tassone et al. 2018).

Although the phrase 'everyone is a learner here' was regularly used by the learning arrangement's educators, practice revealed that the arrangements were initially designed for students. Students worked on assignments from local professional partners. Although students collaborated in multidisciplinary or multilevel teams (SVET, HPE, academic education), it was the students who learned together. Professional partners answered questions and provided feedback. Educators did alike, they were available for consult, they provided feedback and they assessed the students. People in society whose concerns seemed to be at stake were referred to as 'the target group'. There was a connection between students and the target group through questionnaires, (online) interviews or short observations with specific topics. The aim of connection was generating data rather than mutual learning from the connection.

There were some exceptions. In one of the observations in Case B we met a student who had to find a way for poor farmers to outreach to service providers and to talk about their depts. The student believed she had to get to know the farmers first before she could fulfill the assignment. She visited the farmers to make connections with them. She had open conversations wherein she exchanged with the farmers about the meaning of money in life. These conversations resulted in reciprocal connections.

Fixing or framing?

The tension between fixing and framing is about the responses on issues and associated objectives of the learning. Sustainability issues are complex and interconnected in nature. The espoused CLAs go beyond a linear idea of solving issues. They support a learning process that allows to stay with the complexity, to see the whole and to (re)frame the issues from different points of view. What kind of issue is it and for whom? Why is it an issue? What and who keeps it from changing? This learning process characterised by complexity and reflexivity refers to *education for society* (Tassone et al. 2018).

In the studied learning arrangements students worked on pre-established issues. Professional partners defined the issues and educators effort went into translating the issues into projects for students. One of the educators in Case A said during the time-line session for example: 'we have to translate the questions into clear assignments because ill-defined questions are too complex for the students.' Student's usually interpreted their working on the assignments as doing (field) research, using their (disciplinary) knowledge and presenting answers within a report. They worked within the problem frame of the professional partner. An exemplary assignment was to increase participation of non-western mothers on a language course aimed at helping them read to their young children. Like the

professional partner, students considered the mothers as problematic because they didn't show up. The professional response – the language course – was not questioned. By contrast, students developed promotional material for the course in non-Western languages in order to improve the communication about the course.

An exception we observed stemmed from the same case as above. The student who engaged with the farmers knew she could not solve the issue presented to her. She decided to move from the presented problem frame. It was her choice to stay with the complexity of the issue and to put forward the framing of the issue as part of her learning process. She stayed open to question and develop her own assumptions, knowledge and values.

Head or whole self?

This tension is about perceptions of knowledge in the learning arrangements and associated methods for addressing issues: cognitive or embodied? The espoused CLAs consider knowledge as bringing up the whole self in the collaborative learning. This holistic process can be referred to as *whole person education* (Tassone et al. 2018). In the learning arrangements we studied students generally addressed issues based on their cognitive knowing of objective characteristics of the target group and of the issue at stake. For example, during the timeline session one of the student's said: 'These mothers do have to attend, because we know that language development is important for their children to participate in primary school.' We did not observe forms of experimentation or embodiment towards issues.

Except for one of the student groups. During one of the participant observations, this group showed some embodiment in engaging with the issue. The students were encouraged by the professional partner to work on an issue that had their personal interest. The students decided to work on the issue of becoming financially independent in the transition to adult life. They chose to focus on complex and hard-to-access information, they experienced themselves recently. They created short visual shots with information about financial rights, duties and services in easy language. 'Street language fits us youngsters just better', one of the students said based on his experience. The students experimented with the visual shots by showing them to their 18+ peers and by asking their feedback.

Out or in?

This 'out or in' tension is about perspective taking towards the sustainability issues. Are students and other persons involved in the learning arrangements: educators, professional partners and researchers – like we – out or in the issues? Do they question what in themselves may keep the issues from changing? Or do

they consider the issues an object, in order to help or to change the 'people whose concerns are at stake'?

Espoused on this point is the relational perspective embedded in collaborative learning (Morrow and Alberto Torres 2002). Participation in the learning arrangements revealed that the society as object perspective is dominant. Generally, students thought they could design solutions for rather anonymous people whose concerns were at stake according to them. However, they felt it was important to interact with the target group, and they mentioned several times that the target group was 'difficult to reach'. As a consequence, the result of not being able to interact with them was acceptable for educators, students and professional partners. Interactions that could be established were the mere subject – object interactions through interviews and observations. We didn't observe reflection regarding the subject or object positions, or regarding the role of the self or education as such *within* the issues. The focus was on issues outside in 'society', burdening others.

Part 2 – emotional responses

Experiencing the 'out or in' tension form part 1 made us more and more aware of our own role as researchers. Which position did we hold? Were we 'in' or 'out'? Were we reflecting enough on the role of the researcher within the vocational learning arrangements that we are trying to learn more about?

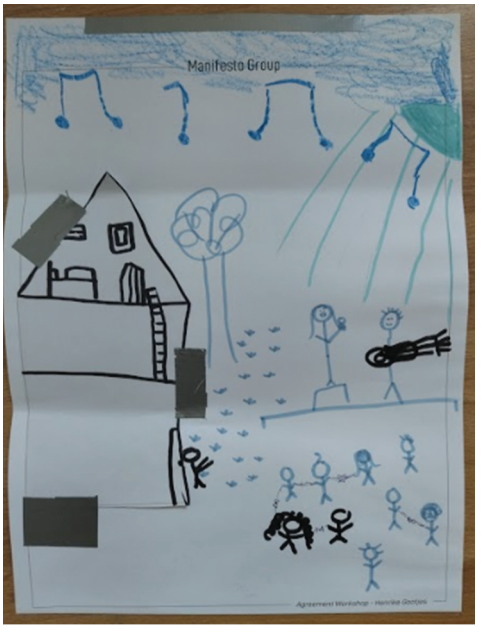
We experienced that educators in the arrangements expected us to come up with an advice on how they could even better arrange their education in order to contribute to sustainable futures. We might confirm the 'fixing', 'head' and 'out' orientations of the manifested learning arrangements, rooted in the dominant conceptions of knowledge (generation).

We deeply sensed we had to go beyond the design of 'better' learning arrangements or to advise with that purpose. We had to create a new space, to open up something else. We felt the urge to make a shift, to position ourselves and others as subjects in the learning arrangements embedded in society and to enter a new field together. As we described in the method section, we decided to move towards a *critical* research paradigm to evoke transformative learning processes together with the educators, students and professional partners. We, the researchers, facilitated the critical approach by bringing in reflexivity, relationality and creativity. And we participated.

Four responses could be distinguished when experiencing the new, *critical* approach wherein the tensions were unveiled: empathy, identity shift, disillusion and willing to make a shift. The responses are illustrated below.

Empathy as identification with 'the other'

The workshop fostered deep reflection about personal and collective, existential aspirations and their importance for dealing with societal issues at stake. The participants made a group manifesto with a house as symbol for a comfortable and safe place connected with family, friends and nature (picture 2).



When making sense of the symbolic artwork for the question of making non-Western mothers participate on a language course, they realised they actually didn't know the mothers. 'In which houses do they actually live, with whom do they feel safe?' a student asked for example. 'And if they, like us, feel safe in their familiar environment, ... why would they visit a course designed by people they don't know, from a perspective they are not acquainted with?' The same culture of designing for others is dominant in education, the participants reflected during the workshop. Educators decide about educational programmes for students and about what information they need before they are able work on an assignment, rather than really engaging with students, asking who they are and what their purpose actually is.

Identity shift: from professional to human

The collaborative workshop opened up space for new relations between educators and students. And between us, – the researchers – the educators and the students. Educators, students and researchers were participants, they collaborated, they shared what is important for them and they negotiated. It was easy

for educators, students and researchers to agree on basic human needs, which made them realise they entered a 'human' identity while collaborating. One of the educators illustrated this during the evaluation: 'at a sudden moment I was not aware anymore whether I as collaborating with students or with colleagues; we just collaborated.'

Disillusion because of rosy narratives

The evaluation of the creative workshop together with the educators led to disillusionment because of the sudden realisation of the latent tensions between daily educational routines in the learning arrangements and the espoused collaborative learning narratives about the arrangements. 'There are very urgent sustainability issues in society, we say we do something about it, but are we actually doing something?,' one of the educators questioned. She sensed that the relocation of education from institutional building towards society was not enough. The educator felt she had become alienated from her purpose when starting as an educator in the living lab. She said: 'I started to find out how I could be meaningful outside of institutional protocols and prescribed definitions of learning activities and outcomes. I wanted to slow down, to learn how to contribute to complex challenges in people's lives when no single disciplinary answer can solve them. Now I'm running all the time to fulfill the institutional demands outside the building.' The educators realised the embeddedness of vocational educational routines in the societal issues around. They sensed the paradox between solving issues outside while leaving educational identities and knowledge paradigms fundamentally unchanged. They got aware of the interrelatedness between dominant paradigms in education and socio-economic paradigms wherein social issues are rooted. The awareness of things that had been latent all along made emotional.

Willing to make a shift

The educators longed for more modesty and more introspection, within themselves and together with actors in their educational contexts. They sensed they had to hold far more space for this. One of the educators said during the evaluation: 'the attention is on upscaling the arrangements, more and more students, more and more assignments from professional partners. We have to shift to attention for not-knowing and for learning, deeper that we do now … we have to return and just stay to questions like what "is" it what I got to do here? Not only here in this context, but also in our institutional context. The system is so oppressive.' The educators were inspired by the creative, relational and reflexive ways of working during the workshop. The experience opened up new windows of opportunities to unfold the collaborative and transformative type of learning they searched for, although they mentioned the system constraints. They asked for more guidance in this way of working, because they felt

this could be key to reconcile the espoused and the enacted learning arrangements.

Discussion and conclusion

With this study we showed real stories of vocational education arrangements trying to contribute to sustainable futures. We shifted our research approach when we sensed persistent tensions between what is espoused and what is manifested, because of our purpose of contributing to education for sustainable futures. The unveiling of the tensions in an experiential field with creative, relational and reflexive elements of espoused and emergent approach showed the value of embracing tensions in itself. Especially in a context wherein attention for vocational education's desired direction tends to mask the very complexity of collaborative learning for sustainable futures. Being modest and being honest seems to shape space for learning and for transformation.

The limited number of cases (two) studied and the fact that we only could participate in case B during orientation could be considered limitations of the study. Relying on the investigator triangulation, however, coupled with the introduction that showed already the challenges of actually enacting a new VET paradigm (McGrath and Powell 2016; McGrath, Alla-Mensah, and Langthaler 2018), we tend to assume the experiences within this study are not particularly unique to the studied learning arrangements. Different authors moreover confirm our experiences with sustainability oriented learning arrangements and the associated findings (McCrory 2022; O'Brien et al. 2013; Sheffield 2015).

With regard to the central research question 'how does the espoused collaborative sustainability-oriented vocational education manifest itself in practice?' We have seen strong tensions between espoused and manifested learning arrangements. The tensions seem embedded in educational and socio-cultural routines regarding issues and problem solving in general, like tendencies to fix problems with cognitive knowing by experts. Students are dominantly educated to *become* experts, in their becoming further alienating from a 'target group' concerned with issues. Despite intentions to cocreate knowledge and to consider knowledge as something relational, there seems to be little attention for how to practice this new knowledge paradigm. Even the concept of 'knowledge' may hinder us.

The cases we studied confirmed the concerns about the sustainability oriented CLAs mentioned in the introduction as the CLA practices may not actually confront the fundamental tensions that lie at the heart of sustainable development (McGrath and Powell 2016). Moreover, the learning tends to be *demand led* and fails to account for increased participation and voice of learners, workers and citizens (McGrath, Alla-Mensah, and Langthaler 2018)

The most refreshing tension in this regard may be the 'out or in' tension, pointing at the fact that students, educators, professional partners and researchers were generally not aware of their position *within* the issues they tried to address. They engaged with the issues as something 'out there' in society, where vulnerable others are 'in'. An honest reflection towards the own roles in keeping the issues from changing might shape new spaces for problem framing accompanied with more equal or human relations towards others who are – also -'in'.

Bringing in creative, reflexive and relational methods as we did in study *part 2* seems promising. It unfolded space for transformative learning that allowed students and educators to reflect on their actorship 'within' the issues, and to engage with existential questions like 'what is it what I got to do here?', as opposed to typical educational issues like assignments and assessments. The opening up of these spaces induced senses of creativity among educators to envision new futures for education and learning. Accompanied by longings to go beyond the rosy narratives of sustainability oriented collaborative learning usually espoused by educational institutes.

As the introduction already showed (McGrath and Powell 2016; Ramsarup, McGrath, and Lotz-Sisitka 2023), our current ways of thinking, being and doing in vocational education, dominantly rooted in productivism may be part of the sustainability challenges we face. Despite our attempts to change our VET routines by re-localising the education towards the region and by shaping opportunities to cross boundaries in order to engage in co-creation processes, things at the bottom of change like identity, being, thinking and relating do not shift automatically. This may be due to poor understanding of sustainable development and key values and concepts related to it like equity and power, as McGrath et al. (2018) pointed out. And – as this study adds – perhaps due to poor recognition of the far-reaching practical and emotional implications of the paradigm shift.

This study has provided some guidance for putting the new paradigm into VET practice. We can derive several design guidelines from the tensions: 1) design for *people* rather than for students, 2) design to *frame* rather than to fix, 3) design to *embody* rather than to know, and – the last, most complicated one – 4) design for the *self*, as an actor in unsustainability.

From the emotional reactions, we can derive several attitudes to cultivate in VET like *empathy*, the earlier mentioned *modesty and honesty* - forthcoming from either the identity shift from 'professional' towards 'human' and the rosy narratives -, and *activism* as an expression of willing to make a shift.

With the guidelines derived from this study, the study adds a layer to the design principles of responsible education (Tassone et al. 2018) mentioned in the introduction that can be applied to VET. As *design for people* can be compared with the relational dimension of education with society, *design to frame* can be compared with the reflexive dimension of education for society,

Table 2. Design guidelines for sustainability-oriented VET, adding a layer to the existing HE design principles for responsible education.

Design guidelines for sustainability oriented VET	Dimensions	Added elements for the design of responsible higher education
Design for people	*Relational*	Education with society
Design to frame	*Reflexive*	Education for society
Design to embody	*Creative*	Whole person education
Design for the self	*Introspective*	Education as society

and *design to embody* can be compared with the creative dimension of whole person education. The guideline to *design for the self* as an actor in unsustainability may add the introspective principle of *education as society* (Table 2).

Designing for 'the self as an actor in unsustainability', is an important outcome of this study. This may ask an (un)learner position from all of us, bringing ourselves as 'human' into education and into sustainability issues; as an 'insider' whose concerns are at stake. This idea resonates with Freire's critical pedagogical thinking mentioned in the introduction (Masschelein 2019; Morrow and Alberto Torres 2002). The critical pedagogic perspective may require that we no longer think of educational design as something an educator creates for others. Co-design may become the heart of the educational process (Kessels and Ans 2011).

Anyhow, the design of sustainability-oriented VET all starts with awareness and concern about the deeply rooted economic focus of VET that shapes current structures and routines among VET, like adapting to current work and to social change. A focus that shapes ourselves within, including the language we use and things we are sure about, as it are the students who have to be educated. As argued in the introduction, sustainability oriented VET implies from vocational education to challenge and transform the world of work and society (Powell and McGrath 2019). We would like to add 'the world of education' itself, and the very own being within. As we saw in the studied cases, when sustainability oriented VET is implemented as an 'add on' (Sterling 2004) to mainstream VET rather than a new vision on VET there may always be tensions in favour of the mainstream. A new, sustainability-oriented vision will support to navigate the tensions.

Interesting questions to explore further are: How can we – educators, researchers, students, managers, VET partners – get aware of (impeding) deep rooted structures, routines and language we take for granted in VET in a way that fosters activism towards a sustainable future? How do we – educators, researchers, students, managers, VET partners – become open for deep learning probably resulting in radical shifts, even when it may affect our own position, being and 'knowing'? Which role can relational, reflexive and creative approaches play?

Not surprisingly, we suggest approaches for further research that are aligned with the idea of vocational education *as* society. We thoroughly

realise that those approaches are not a sinecure. They appeal to all people, also researchers, to be an actor in the issues we are studying and that we are – thus – willing and able to change. At this point, the study suggests that it may not only be vocational education that reflects society as it is; educational research may do the very same thing. And we as researchers may do. So we can and have to decide how to act: confirming the expectations or doing something different, with the risk of not being rewarded or even not being understood. The first one may be the easiest one, the second one is challenging, because of the entanglement with our very existence as a researcher. But precisely this makes it interesting to explore because it is about being, being present, and being human, beyond one's preconceptions and historical ways of making sense (Senge et al. 2004). *Is it still educational research then?* Let us be modest and just allow this question.

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ORCID

Wietske Kuijer-Siebelink http://orcid.org/0000-0001-7009-3378

References

Anderson, Damon. 2008. "Productivism, Vocational and Professional Education, and the Ecological Question." *Vocations & Learning* 1 (2): 105–129.

Atkinson, Paul, and Hammersley. Martyn. 2008. "Ethnography and Participant Observation." In *Strategies of Qualitative Inquiry*, edited by Norman K Denzin and Yvonna S Lincoln, 248–261. Thousand Oaks: Sage.

Avis, James, Liz Atkins, Bill Esmond, and Simon McGrath. 2021. "Re-Conceptualising VET: Responses to Covid-19." *Journal of Vocational Education & Training* 73 (1): 1–23.

Bhaskar, Roy. 2016. *Enlightened Common Sense: The Philosophy of Critical Realism*. London: Routledge.

Craig, Colin. 2019. *Navigating Conflict and Change. DPC Handbook*. Belfast: DPC.

Cremers, Petra HM, Arjen EJ Wals, Renate Wesselink, and Martin Mulder. 2016. "Design Principles for Hybrid Learning Configurations at the Interface Between School and Workplace." *Learning Environments Research* 19 (3): 309–334. https://doi.org/10.1007/s10984-016-9209-6.

Cristancho, Sayra. 2015. "Eye Opener: Exploring Complexity Using Rich Pictures." *Perspectives on Medical Education* 4 (3): 138–141.

Egbo, Benedicta. 2005. "Emergent Paradigm: Critical Realism and Transformative Research in Educational Administration." *McGill Journal of Education/Revue des Sciences de L'éducation de McGill* 40 (2): 267–284. https://www.mje.mgill.ca/article/view/568

Freire, Paulo. 1973. *Education for Critical Consciousness*. Vol. 1. London: Bloomsbury Publishing.

Fusch, Patricia, Gene E Fusch, and Lawrence R Ness. 2018. "Denzin's Paradigm Shift: Revisiting Triangulation in Qualitative Research." *Journal of Sustainable Social Change* 10 (1): 2.

Gasior, Katrin. 2013. "OECD: Education at a Glance 2012: OECD Indicators." *Sociologický časopis/Czech Sociological Review* 49 (6): 994–997.

Gibbons, Michael. 2000. "Mode 2 Society and the Emergence of Context-Sensitive Science." *Science & Public Policy* 27 (3): 159–163.

Gulikers, Judith, and Carla Oonk. 2019. "Towards a Rubric for Stimulating and Evaluating Sustainable Learning." *Sustainability* 11 (4): 969.

Hoeve, A., W. Kuijer-Siebelink, and L. Nieuwenhuis. 2019. "Innovative Work-Based Learning for Responsive Vocational Education and Training (VET) Lessons from Dutch Higher VET." In *The Wiley Handbook of Vocational Education and Training*, edited by David Guile and Lorna Unwin, 415–432. Blackwell: Wiley.

Holstein, James A, and Jaber F Gubrium. 2016. "Narrative Practice and the Active Interview." In *Interpreting qualitative data*, edited by David Silverman, 67–82. London: Sage.

Kessels, Joseph, and Grotendorst. Ans. 2011. "Het ontwerpproces als leerproces." In *Handboek Human Resource Development*, edited by Joseph Kessels and Rob Poell, 215–234. Houten: Bohn Stafleu van Loghum.

Kuijer-Siebelink, Wietske. 2022. *Samenspel. Leren voor verandering in werk en samenleving*. Nijmegen: HAN University of Applied Sciences.

Kwakernaak, Maarten, Jochum Deuten, Martha Agnes Wybrigje Biene, Wouter Vos, and Ahmed Hamdi. 2016. *De Effectencalculator: Evalueren Nieuwe Stijl*. Utrecht: Movisie.

Magoon, A Jon. 1977. "Constructivist Approaches in Educational Research." *Review of Educational Research* 47 (4): 651–693.

Masschelein, Jan. 2019. "Turning a City into a Milieu of Study: University Pedagogy as "Frontline." *Educational Theory* 69 (2): 185–203.

McCrory, Gavin. 2022. "The Unseen in Between. Unpacking, Designing and Evaluating Sustainability-Oriented Labs in Real-World Contexts." Chalmers University of Technolgy.

McGrath, Simon, Joyceline Alla-Mensah, and Margarita Langthaler. 2018. *Skills for Decent Work, Life and Sustainable Development: Vocational Education and the Sustainable Development Goals*. Vienna: Austrian Foundation for Development Reserach (ÖFSE).

McGrath, Simon, Martin Mulder, Joy Papier, and Rebecca Suart. 2019. *Handbook of Vocational Education and Training: Developments in the Changing World of Work*. California: Springer.

McGrath, Simon, and Lesley Powell. 2016. "Skills for Sustainable Development: Transforming Vocational Education and Training Beyond 2015." *International Journal of Educational Development* 50 (5): 12–19. https://doi.org/10.1016/j.ijedudev.2016.05.006.

McGrath, Simon, Lesley Powell, Joyceline Alla-Mensah, Randa Hilal, and Rebecca Suart. 2022. "New VET Theories for New Times: The Critical Capabilities Approach to Vocational Education and Training and Its Potential for Theorising a Transformed and Transformational VET." *Journal of Vocational Education & Training* 74 (4): 575–596.

McGrath, Simon, Presha Ramsarup, Jacques Zeelen, Volker Wedekind, Stephanie Allais, Heila Lotz-Sisitka, David Monk, George Openjuru, and Jo-Anna Russon. 2020. "Vocational Education and Training for African Development: A Literature Review." *Journal of Vocational Education & Training* 72 (4): 465–487.

Miles, Matthew B, A. Michael Huberman, and Johnny Saldaña. 2014. *Qualitative Data Analysis: An Expanded Sourcebook*. 3rd ed. London: Sage.

Morrow, Raymond Allen, and Carlos Alberto Torres. 2002. *Reading Freire and Habermas: Critical Pedagogy and Transformative Social Change*. New York: Teachers College Press.

O'Brien, Karen, Jonathan Reams, Anne Caspari, Andrew Dugmore, Maryam Faghihimani, Ioan Fazey, Heide Hackmann, David Manuel-Navarrete, John Marks, and Riel Miller. 2013. "You Say You Want a Revolution? Transforming Education and Capacity Building in Response to Global Change." *Environmental Science & Policy* 28 (4): 48–59. https://doi.org/10.1016/j.envsci.2012.11.011.

Oonk, Carla. 2016. Learning and teaching in the regional learning environment: enabling students and teachers to cross boundaries in multi-stakeholder practices. Doctoral, Wageningen University and Research.

Oonk, Carla, Judith Gulikers, Perry den Brok, and Martin Mulder. 2022. "Stimulating Boundary Crossing Learning in a Multi-Stakeholder Learning Environment for Sustainable Development." *International Journal of Sustainability in Higher Education* 23 (8): 21–40.

Oonk, Carla, Judith Gulikers, and Martin Mulder. 2019. "Educating Boundary Crossing Planners: Evidence for Student Learning in the Multistakeholder Regional Learning Environment." *Journal of Planning Education & Research* 39 (3): 360–373.

Pavlova, Margarita. 2017. "Green Skills as the Agenda for the Competence Movement in Vocational and Professional Education." In *Competence-Based Vocational and Professional Education: Bridging the Worlds of Work and Education. Technical and Vocational Education and Training: Issues, Concerns and Prospects*, edited by Martin Mulder, 931–951. Cham: Springer.

Powell, Lesley Joy, and Simon McGrath. 2019. *Skills for Human Development: Transforming Vocational Education and Training*. London: Routledge.

Prus, Robert C. 1996. *Symbolic Interaction and Ethnographic Research: Intersubjectivity and the Study of Human Lived Experience*. New York: SUNY press.

Ramsarup, Presha, Simon McGrath, and Heila Lotz-Sisitka. 2023. "Reframing Skills Ecosystems for Sustainable and Just Futures." *International Journal of Educational Development* 101 (6): 102836. https://doi.org/10.1016/j.ijedudev.2023.102836.

Saldaña, Johnny. 2021. *The Coding Manual for Qualitative Researchers*. London: Sage Publications Ltd.

Senge, Peter M, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers. 2004. "Awakening Faith in an Alternative Future." *Reflections* 5 (7): 1–11.

Sheffield, Eric C. 2015. "Toward Radicalizing Community Service Learning." *Educational Studies* 51 (1): 45–56.

Spours, Ken. 2019. *A Social Ecosystem Model: Conceptual Developments and Implications for VET*. London: UCL Institute of Education.

Spours, Ken. 2023. "Transitioning Vocational Education and Training in Africa: A Social Skills Ecosystem Perspective, VET Africa 4.0 Collective." *Journal of Vocational Education & Training* 75:1–9. https://doi.org/10.1080/13636820.2023.2230037 .

Sterling, Stephen. 2004. "Higher Education, Sustainability, and the Role of Systemic Learning. Problematics, Promise and Practice." In *Higher Education and the Challenge of Sustainability*, edited by Peter Blaze Corocan and Arjen E.J. Wals, 49–70. California: Springer.

Tassone, Valentina C, Catherine O'Mahony, Emma McKenna, Hansje J Eppink, and Arjen EJ Wals. 2018. "Re-) Designing Higher Education Curricula in Times of Systemic Dysfunction: A Responsible Research and Innovation Perspective." *Higher Education* 76 (2): 337–352.

United Nations Educational, Scientific, and Cultural Organization. 2016. *UNESCO Strategy for Technical and Vocational Education and Training (TVET)(2016-2021)*. Paris: UNESCO.

Van den Berg, N., P. Seuneke, and F. P. De Jong. 2021. "Boundary Crossing in Vocational Education and Research." In *Developing Connectivity Between Education and Work: Principles and Practices*, edited by Eva Kyndt, Simon Beausaert, and Ilya Zitter, 97–116. London: Routledge.

Viertel, Evelyn. 2010. "Vocational Education for Sustainable Development: An Obligation for the European Training Foundation." *European Journal of Education* 45 (2): 217–235.

Von Schomberg, Rene. 2013. "A vision of Responsible Research and Innovation." *Responsible Innovation: Managing the Responsible Emergence of Science and Innovation in Society*, edited by Owen Richard, Bessant John, and Heintz Maggy, 51–74. Chichester: John Wiley & Sons.

Wals, Arjen EJ, and Aaron Benavot. 2017. "Can We Meet the Sustainability Challenges? The Role of Education and Lifelong Learning." *European Journal of Education* 52 (4): 404–413.

Wals, Arjen EJ, Thomas Lans, and Hendrik Kupper. 2012. "Blurring the Boundaries Between Vocational Education, Business and Research in the Agri-Food Domain." *Journal of Vocational Education & Training* 64 (1): 3–23.