CROSSING BOUNDARIES
IN INTERNATIONAL COOPERATION

Eng. Jan-Willem Noom
Aeres University of Applied Sciences – Wageningen, Netherlands)

Abstract. Not only students, but also teachers in vocational (higher) education work together with people from all kinds of organizations, with different disciplines, cultures and perspectives. International cooperation in a reciprocal way is an important focus in the activities as expended by Aeres University of Applied Sciences. This is also called 'valorization': how to give knowledge (sustainably) meaning outside of one's own primary working environment. Increasingly, this requires boundary crossing competences: differences are useful to achieve innovative results. How can a professional consciously develop these types of competences? Which (learning) activities are needed?

Keywords: boundary crossing; international cooperation; identification; coordination; reflection; transformation; learning mechanisms

1. Introduction

Aeres University of applied sciences is strongly connected with its partners in the international field. Aeres has long-term partnerships with schools, training institutions, teacher training units, educational institutions and research associations across the world. Contacts are used in various collaborations through projects, valorization, common research and knowledge sharing and by participation in various international networks (Stoas Vilentum 2015).

EUROPEA: EUROPEA is an association to support development of vocational education and training (VET) in the land-based sector of Europe. This sector covers a wide field of professions within agriculture, horticulture, forestry etc.

ENTER: The European Network of Learning and Teaching in Agriculture and Rural Development is a European association of educational institutions in the field of teacher training for secondary and higher vocational schools in agriculture, forestry, horticulture and related subjects. ENTER is an exchange platform for professional experience, knowledge, skills, methods in green, rural, agricultural and forestry education and research.

EAPRIL: The European Association for Practitioner Research on Improving Learning (EAPRIL) promotes practice-based research on learning

issues in the context of initial, formal, lifelong and organizational learning. EAPRIL is unique in bringing together those who are interested in the connection between research and practice but also between education and professional learning.

Besides the participation in networks Aeres is strongly involved in international programs that are (partly) funded by the Dutch government. Aeres aims to introduce as many students as possible to international collaborations, activities and projects.

The variety in activities and on a certain specific way of cooperation means that the nature of the process of knowledge sharing and building can vary greatly. For example bringing certain knowledge without any way of exchange. But it can also involve joint knowledge creation together with partners. The process of creating new insights and knowledge in a cooperative way.

This paper expresses the value of boundary crossing and different degrees of learning across the boundaries of one's own domain.

2. Boundary crossing as a concept: crossing borders

Teachers and lecturers work in their own institutions, but at the same time in the sector, (international) projects and in their social environment. They work and learn in an authentic context with professional colleagues, clients and with stakeholders outside the institution. Vocational education teachers prefer to have both feet in the sector. Connecting what you learn in these different places requires crossing borders, to overcome differences. For example those between disciplines ('you use different technical terms than me'), between cultures ('we do that very differently from you in the South of Europe') or between perspectives and interests ('our focus is to be economically profitable, you prefer sustainability as most important criterion').

2.1 Three levels

These examples as mentioned above show that we can distinguish boundaries at three different levels (Akkerman & Bruining 2016):

– **Individual, intrapersonal**: limits that one person experiences when he or she works in different environments. For example a professional says: "I realize I cannot use the direct way Dutch people usually communicate, in a project in Asia".

– **Interpersonal**: boundaries between people with two different backgrounds. Two teacher trainers from different institutions, for example, discover they do not use the same methods to draw up a work plan for a project. They discuss both methods and, in consultation, make one new work plan format they will use in this project.

– **Institutional**: boundaries between organizations. A vocational school experiences that a profit-based company serves a different initial interest than education. For example, there is confusion about the requirements the school gives to students and the requirements as given by an internship company.

The basis of the boundary crossing theory (Akkerman & Bakker 2011) is that

people or organizations achieve new, innovative results when they work and learn across boundaries, i.e. across borders. In a boundary crossing work and learning environment, the participants are aware of the boundaries that arise, they actively seek those boundaries and make an effort to cross those boundaries on their way to a so-called transformative practice, a new way of thinking and doing beyond the boundaries of what already exists (Daniëls, Edwards, Engeström, Gallagher & Ludvigsen 2010).

3. Cross boundary learning: learning in a reciprocal way

Cross-border work can be a good goal, but is not easy (Akkerman 2011). Everyone knows that in the first instance boundaries between yourself and 'the other' are usually perceived as annoying barriers: 'he doesn't understand me completely', 'they are used to work very differently, working together is a step too far', 'in my institution they say this is how it should be done, and at a school abroad they insist that the other method is better'.

In 2011, researchers Sanne Akkerman and Arthur Bakker launched an idea to use boundary crossing in learning. In other words: more and better profit from boundaries with their powerful learning potential (Akkerman & Bakker 2011; Wenger 2000). Based on an exploration of 181 research articles on boundary crossing in various fields, they formulated four boundary crossing learning mechanisms. These learning mechanisms can be seen as efforts that individuals or groups make to work and learn from and beyond boundaries. Well deployed, they act as 'stepping stone' for learning. These four learning mechanisms help to support for example project coordinators, as learning guides, they give insight into what project members are doing (or not doing) in a learning environment where they are explicitly expected to learn from boundaries. From this point of view, learning mechanisms may be used as tools for developing well-boundary crossing education (Bakker, Zitter, Beausaert & De Bruijn 2016; Bakker & Akkerman, in print) and may also raise awareness of boundary crossing in international cooperation.

3.1 Four learning mechanisms

These are the four learning mechanisms that are distinguished by Akkerman and Bakker:

Identification

With identification you want to gain insight into how your 'practice' differs from the other (think of background knowledge, working methods, manners) and how they relate. Without the necessity to change something about the other practice. What do I know? What is my quality? How do I work? How is work done at this other location? Who else is involved in our project? What do they know and what can they do? What is their interest and perspective? What are the relationships between the various parties involved? All questions an individual professional asks himself when he is identifying.

Coordination

Coordination involves all the efforts you make to actually connect different with the aim of working together as effectively and efficiently as possible. Coordinating people consult, exchange, email, make appointments and maybe develop useful tools that facilitate collaboration. We call this boundary objects. A good example of a boundary object is an international project proposal: a communication instrument between different partners, schools and participants to strengthen communication on the project in different forums.

Reflection

Reflection is about drawing up mutual perspective. Empathize with the actions and ideas of others and thereby clarify your own perspective. And also encourage others to take a critical look at their own perspective. For example, a teacher in an international project says to his colleague: "I believe our colleague in Greece has a different view. He is not yet familiar with the requirements of Erasmus KA2. I will try to explain this to him again." The reflection learning mechanism here does not so much involve familiar flashing back at what has happened or looking forward to what is coming (and coordinating actions with that), but especially weighing up and (want to) learn from different perspectives.
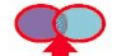
Transformation

Transformation involves connecting and even transcending different practices and perspectives, and thereby developing new knowledge and an innovative but realistic practice together. For example, when a participant in an international project is showing transformation, he expresses the intention to really create something new ("I think it would be really nice if we could make something that shows we use the best of three worlds"). He tries to visualize the new way of practice ("tomorrow I will show a visualization of how I see we can work forward") and helps to create that way of practice (Akkerman & Bakker 2011).

4. Characteristics of a boundary crosser

What can a professional who "crosses boundaries" do in projects or collaborations? How is someone behaving? Structured by the four learning mechanisms, below you will find examples of what a good "boundary crosser" or "bridge builder" can do and does.

Identification

To see an assignment / issue as something that is not only relevant to him, but maybe of interest to others; to visualize and acknowledge your own boundaries (in knowledge, skills, attitude, blind spots, etc.); to systematically identify which parties / persons are or should be involved in an assignment / issue and what the

Visualisation of the learning mechanism	Aim of the learning mechanism	What questions to ask yourself to stimulate the learning mechanism
	Identification Gaining insight into complementarity and added value of the different practices around the boundary	• What expertise do I have? • What expertise do I lack in the context of the sustainability problem at hand? • Who are the stakeholders? • What is their expertise, stake and perspective? • How to they relate to each other?
	Coordination Collaboration to deal with the problem, but geared towards efficiency and working along each other (e.g. task division)	• How can I involve the different stakeholders? • How do I approach the different stakeholders? • How can we communicate and collaborate effectively? • What agreements do we make with each other? • What object can I use or develop to facilitate mutual communication
	Reflection Learning to see the problem through the eyes of another. Both defining and exchanging perspectives focused on mutual meaning making and connecting different perspectives and expertise.	• How do I help other stakeholders understand my perspective? • What can I learn from the perspectives of the other stakeholders involved? • What can we learn from each other?
	Transformation Development of new knowledge/practices; an end result that could not have been developed without actual collaboration and integration of perspectives.	• What is my vision on the new practice? • How can we combine our knowledge and perspectives into a (innovative, but realistic) solution? • How can I get others enthusiastic for this new practice? • How can I stimulate follow-up to build on the new practice (towards a sustainable new practice)?

Figure 1. Visualization of the boundary crossing learning mechanisms

Source: Gulikers, J. and Oonk, C. (2016) Education and Learning Sciences, Wageningen University and Research

knowledge, expertise, interests, relationships etc. are of those other parties; to organize management of mutual expectations.

Coordination

To think of ways and tools to stimulate cooperation with others and facilitate communication with each other and also use these resources. Devising and deploying boundary objects.

Reflection

Being open to (consciously) learning from other people's knowledge and gaining new knowledge; to see added value from the input and knowledge of others; to empathize with other people's perspectives, interests and views, even if they are different from their own's understanding; to take targeted action in order to understand others; learn together and initiate reflection.

Transformation

Show the intention that you really want to create something new / innovative; actually using other people's knowledge within a project with the ambition to achieve together a better product; to develop a vision of a new approach and contribute to a product / process that can be applied in practice; integrate different interests and perspectives into an innovative practice / product; make people enthusiastic on picking up innovation and initiating follow-up actions; identify the aspects on which the other one has substantially changed through participation in the project.

An impressive list of skills that are impossible to "tick off" with every participant in an international project and, moreover, do not always have to be part of every form of cooperation. See this list as a checklist on the way to become an optimally prepared "border-crossing" professional who works in projects, and as a starting point for organizing border-crossing (learning) activities.

5. Reflection

In the almost fifteen years that I have been working for Aeres University of Applied Sciences (and its predecessor Stoas), I have undertaken a wide range of international activities. Study trips together with students, bilateral exchanges, participation in conferences and study days, but also setting up and participating in cooperation projects. In recent years there has been more focus on educational development projects outside Europe.

This wide range of activities, all focusing on learning and knowledge development, makes it necessary to reflect on learning mechanisms of yourself and others and what is happening in the collective process. This means that you are consciously engaged in identification: Who are you? What connects you to this project? How do your own views and beliefs relate to the other? Within short-term projects particularly focusing on contact between international colleagues or international students, coordination is the key. Streamlining and organizing. In particular in long-term projects and forms of cooperation (also in the long-

term connections around ENTER), the focus on learning from collaborations becomes more essential. Learning from essential aspects based on reflection and jointly achieving transformative learning. To achieve the most valuable results in international cooperation, we have to be aware of the learning mechanisms and the degree of complexity that we aim to achieve and that match the circumstances.

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✉ **Dr. Eng. Jan-Willem Noom**
Lecturer in landscape design and professional didactics
International consultant
Aeres University of Applied Sciences
Wageningen, Netherlands
E-mail: j.noom@aeres.nl