Innovative Learning Environments: about traditional and new patterns of learning

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ABSTRACT How can the conception of formal learning environments like schools foster individual learning and the acquisition of the competences necessary for a rewarding participation in the knowledge societies of the twenty-first century? Just how important learning has become as an issue for society is demonstrated by the interest shown in the subject by the Organisation for Economic Cooperation and Development (OECD). A project launched by its Centre for Educational Research and Innovation (CERI) in a number of countries (including several European countries, among them Austria) focuses on how ‘innovative learning environments’ (ILE) can contribute to offering meaningful and sustainable learning experiences for learners in the twenty-first century. This article presents the main findings of the Austrian part of the project and discusses whether and how the development of ILEs is possible against the background of school routines and a school system that – despite a number of reform projects – seems to be successfully resistant to change. The article focuses on the question of whether and how learning is made meaningful for the pupils and whether and how those learning environments identified as innovative really do support fruitful and meaningful processes of learning.

Introduction

Learning and how it can be fostered have now become genuine matters of public interest. Although there has always been an interest in learning, a real hype in the topic has been seen in recent years. But it is not just those disciplines that have traditionally focused on the topic – like cognitive science, psychology and the educational sciences – that are now dealing with this subject: economics and politics have also discovered learning as a crucial aspect. With the emergence of the knowledge society, lifelong learning has become a necessity for twenty-first century society. Against this background, the Organisation for Economic Cooperation and Development (OECD) launched a project by the name of Innovative Learning Environments (ILE). Initiated by the OECD’s Centre for Educational Research and Innovation (CERI), the ILE project sought to identify and analyse learning environments which had developed effective and/or efficient ways and methods of helping pupils to develop the competences and skills needed in the twenty-first century. Such environments should support active learning processes and foster the ability of learners to apply knowledge and skills flexibly and creatively in a variety of different contexts (OECD, p. 3). The project is organised in three strands: the learning research strand (2008-2010), the gathering of innovative cases (2009-2012), and implementation and change (2011-2013). The goals of this project are to serve the international reform agenda in education by, ’[a]nalyzing and synthesizing current international research findings on learning, teaching and learning environments’ in the learning research strand, ’[i]dentifying and analysing examples of innovative learning environments from all
over the world’ in the innovative cases strand, and, finally, ‘[e]ngaging with the community of
policy reformers, innovators and learning scientists to discuss how to make better use of these
findings to make OECD education systems learning driven’ (OECD, 2013a).

A learning environment is considered as innovative if ‘the cases represent specific whole
learning environments rather than programmes or particular courses, and [i]f they are not so
exclusive as to have no relevance for others’. Apart from this, the ‘selection instructions left the
nature and extent of the innovation quite open to interpretation [i]f an intentional departure from
the traditional approach of the large body of general or vocational education in its own context
[can be identified] – i.e. it is deliberately innovative’ (OECD, 2013b, p. 25).

In the following article, the researchers in the Austrian ILE project team examine whether
and how those Austrian learning environments that were identified as innovative in line with the
above mentioned selection instructions do actually support pupil performance in the intended
sense, and whether this notion is, in turn, congruent with what school research considers to be the
central aim of learning processes, namely to support the fruitful moments of learning and,
consequently, to trigger off transformative experiences as instances of education in the sense of the
German concept of Bildung (see Copei, 1966; Meyer-Drawe, 2008).

**OECD Project – Innovative Learning Environments**

Since primarily teacher-centred forms of instruction no longer meet the needs of increasingly
heterogeneous learning groups in a rapidly changing society, the ILE project focused on a
reorientation of learning and teaching settings (cf. OECD, 2009, p. 1). Innovative learning
environments are supposed to take up current challenges of the educational system (like social,
cultural and linguistic heterogeneity) and the increasing need to individualise learning processes;
they are supposed to foster the capacity of pupil achievement and improve equal opportunities in
education systems. Accordingly, over 150 innovative cases have been brought together, 40 of them
having been subject to more in-depth case study research analysis. Apart from Austria, among the
participating European countries (along with other OECD countries, such as Canada, Mexico and
New Zealand) were the Czech Republic, Denmark, Finland, Germany, Hungary, Italy, Norway,
Slovenia, Sweden, Switzerland and the United Kingdom (OECD, 2013c).

**Austria’s Contribution to the ILE Project**

In Austria, the Federal Ministry of Education supported and led the national project team which
consisted of four research groups, each made up of experts in school research from the ministry,
three universities and three teacher training colleges. Seven Austrian schools (from primary to
upper secondary level), which met the basic OECD criteria, were chosen to be evaluated by the
research teams in order to determine how the innovation had emerged and how it had fostered
learning.[1]

The project team worked together to develop the national research design for Austria based
both on the OECD’s guidelines and on most recent findings of learning research. Accordingly, the
Austrian research team endeavoured to find a theoretical framework for the learning process which
reconceptualised current ideas about learning from the teaching perspective based on ideas found
in educational philosophy (for more on this see, Schrittesser, 2007, 2011a, 2011b; Meyer-Drawe
2008). Seen from this perspective, learning takes place not just out of innate curiosity as, for
instance, cognitive psychology would argue (see Ryan & Deci, 2000, p. 56 NOT IN
REFERENCES. PLEASE SUPPLY DETAILS), but from existential necessity: humans learn in
order to cope with life. Learners, therefore, always have good reasons for learning, and it is these
reasons which shed light both on how learning should be contextualised – particularly in school
practice – and on how it can be fostered (or hampered). The teacher’s role is to offer learners these
good reasons and, consequently, to initiate fruitful moments for learning (Holzkamp, 1995).

The Austrian research team focused on studying formal institutionalised learning settings to
find out how mainstream schools in Austria deal with the challenges they currently face. The
introduction of innovative practices in such institutionalised settings was considered to be
Innovative Learning Environments

particularly challenging for the Austrian school system and its teachers and was therefore seen as a valuable learning setting for the Austrian research.

The main challenges in Austria’s current school system are the handling of an increasingly diverse pupil population, a highly selective and relatively reform-resistant school system (including deficits in teacher education), and a tendency towards outdated assessment strategies. While the standard model of schooling in Austria has a long tradition of stability and relatively limited change, innovative learning environments have to be understood as more flexible environments that redesign the standard model and adapt it to the needs of the learners. Consistent with the OECD’s framework, innovations were defined as attempts on the part of the school to develop new ways of meeting the challenges of learning in the twenty-first century. Innovations in this sense change traditional settings to make learning more meaningful, more rewarding, and more effective for the learner.

According to Sawyer (2008, p. 58), the most effective learning environments make ‘customized’ learning experiences possible, offer diverse knowledge sources, support collaboration, and aim at conceptual understanding, which is reflected in assessment strategies that evaluate to which extent the knowledge of pupils ‘is integrated, coherent, and contextualised’. Based on this theoretical concept, the Austrian project team aimed to answer the following questions for the individual learning environments:

- How is learning organised? Which aspects can be identified as innovative?
- Which reasons for learning and which opportunities to learn are provided?
- How is assessment carried out?
- Which aspects in general encourage (or inhibit) learning at both the micro and the school levels?

Using this common basis, the Austrian research groups selected seven potential learning environments out of twenty cases in detail. The data collected formed the empirical basis for the individual case studies as well as for a national meta-study on the role of head teachers. The results of this research were presented and discussed at a large conference at the University of Innsbruck in November 2011. Representatives of the seven participating schools were invited to attend this conference at which the research teams also introduced a book (Schrittes et al, 2011) containing the initial project findings.

X-raying the Learning Environment

Essentially, the main interest lay in determining whether and how the learning environments studied facilitate learning and which factors of these environments help to make learning meaningful for the learners. Accordingly, the Austrian research team decided to use a mix of perspectives which would allow them to ‘x-ray’ the learning environment and uncover as many facets and specificities as possible. Five specific approaches were incorporated into the study concept: (1) document analysis; (2) individual interviews with head teachers; (3) group interviews and individual stimulated recall [2] with teachers; (4) group interviews with pupils; and (5) classroom observation (videotaping of lessons in which researchers also sat in and made additional notes).

As explained above, the purpose of this multi-dimensional approach was to open up various perspectives on the teaching and learning processes and to allow the researchers to grasp the different facets from different angles. NEED TO ADD SOMETHING HERE TO LEAD INTO THE LIST BELOW?

1. Document analysis was used as the door opener for the case study and was intended to obtain an initial impression of how the school in question presented itself to the public. The school websites, mission statements and documents developed by the teachers in the course of their school development activities were all analysed in detail.
2. The interviews with the head teachers were intended to provide an idea of how leadership was interpreted at the school, as well as the effects this had on the design of the learning environment adopted by the school and on the attitudes of teachers and pupils towards learning and teaching.
3. The group interviews and individual stimulated recalls (Calderhead, 1981) with teachers were intended to highlight the participants’ own particular perspectives and views of their roles, their relationship to the pupils, and how they felt learning should be organised.

4. The group interviews with pupils were conducted for the same reasons. In these interviews, the focus lay on whether and how the pupils felt responsible for their own learning processes and whether and how they felt supported by their teachers.

5. The classroom observations were conducted on two consecutive days, namely the first four lessons on a Monday and a Tuesday. Mondays were considered to be particularly informative as they showed how pupils got back down to schoolwork after the weekend and how they started the week. These classroom observations gave the research teams an insight into the concrete arrangements and patterns of interaction. They also helped to understand whether and how the ideas on learning articulated by the head teachers, the teachers, and by the pupils found their way into the classroom.

In essence, this approach provided an elaborate narration of the respective school cultures, which the research team subsequently sought to analyse and interpret.

First of all, the data was analysed using grounded theory. Since the procedures in grounded theory are aimed at identifying, developing and relating a storyline in the collected data based on concepts generated from this data, this approach was considered to be an appropriate way of revealing the immanent patterns of meaning and obtaining a ‘thick description’ (cf. Geertz, 1973). Since both deductive (e.g. preceding assumptions drawn from learning theories) and inductive aspects (concerning the analysis of the data) played a role in the study, the concept developed by Strauss and Corbin (1990, 1998) seemed appropriate for the purposes of this project. The concepts and evolving categories uncovered through the various coding activities were used to look for the key ideas inherent in the data and served as answers to the main questions in the research process.

The initial results provide a provisional impression of the factors that could be deemed to play a relevant part in facilitating learning in school. While these factors will be described in detail later, the unisonous manner in which the principals REPLACE WITH ‘HEAD TEACHER’ FOR CONSISTENCY?, staff and pupils talked about their respective learning environments suggested in the initial analysis that the learning environments studied did indeed achieve the criteria identified for effective and meaningful learning.

However, as will also be seen, it was only in a second analysis that some cracks in the seemingly smooth picture were revealed. But before we go on to examine these in any detail, let us first give a short description of the two schools in question, and take a look at some of the initial results, which focus on the factors that were identified as relevant to facilitating learning in school.

School A: new middle school in Linz (capital of the Province Upper Austria)

The new middle school which was examined by the research group from the Universities of Vienna and Innsbruck views itself as a ‘project school’ in terms of its approach to heterogeneity and internal differentiation. The school’s pupils come from very different social backgrounds – from academic, as well as from working class backgrounds. The school considers its highly individualised approach to learning and to assessment to be innovative in the Austrian school system. This allows pupils to assume a great deal of responsibility for both their own learning processes and those of their schoolmates. Last but not least, diversity is considered to be a source of learning rather than a reason for tension in classroom interaction. All this awoke the researchers’ interest in this school, prompting them to take a closer look at how learning happens there and to examine whether the goals set by the school were actually reached.

School B: grammar school in Vienna

The second case is a traditional grammar school in a so-called ‘good area’ of Vienna, whose focus is on supporting pupils to perform with excellence by introducing new teaching methods. The school’s pupils mostly come from academic family backgrounds, i.e. their parents are often doctors, lawyers, teachers or businessmen. The parents seemed to be highly supportive of the recent innovations introduced by the head teacher and staff. The researchers found this school interesting
because it seemed to be searching for a new profile to replace its former traditional grammar school image. They also felt that it offered an interesting contrast to the Linz case study.

**Initial Results**

**The Professional Concept**

The attitudes of the head teachers and their staff – in particular the way they interpret leadership – proved to play a central role in facilitating the innovations introduced. The way teachers view themselves and the realisation that they belong to a professional group with all the associated consequences seems to be a crucial aspect for successful teaching and learning. Even though the term ‘professional’ is not explicitly mentioned in the interviews, it could be determined from the way responsibilities and tasks were described by the teachers that wherever professional awareness was present, the teachers acted in a well reflected manner that was oriented towards the individual learning capacities of the pupils and their common educational goals.

**High Levels of Support for Learning**

Whenever the research team identified strong positive support for pupil learning on the part of the teachers – no matter whether the pupils were disadvantaged, fast or slow learners – pupils demonstrated not only interest, but also autonomy in learning, showed mutual respect for their classmates and their teachers, and exercised some control over the selection of activities related to their learning. The teachers aimed to promote pupils’ learning by making them understand that learning matters and by clarifying why enhancing one’s knowledge of the world and acquiring as many competences as possible might be important. These aspects became evident in the way teachers talked about their pupils and pupils talked about their learning activities in the interviews.

**Assessment as a Means of Promoting Learning**

As we know both from research findings and from learning theories, the forms of assessment applied in a school have a crucial effect on learning. This aspect also proved true in the project described in this article. All the teachers and head teachers studied gave a good deal of thought to how to turn traditional forms of assessment into new and more meaningful forms. Formative and feedback based assessment were shown to positively support learning and seemed to have an enormous impact on the way pupils view their own commitment in class. The schools had shifted their focus from selective assessment procedures to a feedback approach designed to make pupils aware of their strengths and weaknesses and provide them with guidance to improve their work.

While these general aspects seemed to coincide with the criteria expressed at the start of the project, the research team decided to take a second look at the findings. Somehow the results seemed to be too smooth. While the fruitful moments of learning were pointed out as being in abundance in almost all the interviews, most of the lessons observed left a more traditional impression on the researchers. For this reason, the observation data (transcripts of several lessons) for the two specific schools described above were re-examined using a further analysis method (the documentary method).

**A Second Look at the Empirical Data**

To go beyond the first impressions obtained in the initial analyses it seemed necessary to delve deeper into the material. According to Erickson (1982, p. 166), school lessons are ‘educational encounters’ in which teachers and pupils follow and use normative and evaluative rules to present themselves as actors. Such rules are well-known to the participants and do not need to be explained. That is why they are able to communicate and understand each other ‘naturally’. Different methods can be used to reconstruct the tacit knowledge and latent rules that underlie such interactions. One such method is the documentary method that has been developed by Ralph Bohnsack over the last 30 years based on the ideas of Karl Mannheim (1980). Initially used for the
analysis of group discussions, this method has since been extended to allow it to be used for the analysis of interviews (cf. Nohl, 2010), photographs and films (cf. Bohnsack, 2007). In our case, it is used to analyse real lessons in schools (cf. Bonnet, 2011 NOT INCLUDED IN REFERENCES OR SHOULD THIS BE 2009?). To help the reader better understand the documentary method – and show its potential for re-examining our initial results – some main assumptions and features of the method are outlined below.[3]

The documentary method distinguishes between two types of knowledge: discursive (i.e. knowledge which the actors can speak about, e.g. in descriptions, argumentations, evaluations) and practical or incorporated knowledge (which usually cannot be explained in language). The latter is the tacit knowledge that is embedded in the routines of everyday life. These routines are taken for granted and help us to know what to do next. Because the participants share the same conjunctive space of experience, they are able to act and interact ‘naturally’ in a social context. Gaining access to this space requires a change in analytical stance: from the question of what constitutes social reality from the actors’ perspective to the question of how this reality is produced in their actual practice. The modus operandi of practical action has to be reconstructed with the aim of looking below the surface and identifying general frames of orientation.[4]

In line with documentary method traditions, and with the addition of some specific elements for studying school lessons, our analysis was conducted in four steps (for a general description, see Bohnsack, 2010; Nohl, 2010; for the specific analysis of school lessons, see Bonnet, 2011 NOT IN REFERENCES OR SHOULD THIS BE 2009?). At all stages, our interpretation was bound by horizons of comparison to identify the regularities and particularities of the individual cases (cf. Nohl, 2010, p. 203).

In step one, the content structure of the lessons was identified – the beginning, the repetition phase, the introduction of new topics, and so on. The smallest units are the ‘passages’ in which different topics are dealt with. By paraphrasing the contents of the passages, what has been said is summarised (formulating interpretation). The goal of step two (reflecting interpretation) is to reconstruct the frames of orientation by identifying the how, i.e. the modus operandi. To gain access to the inner logic which holds the utterances and interactions together, so-called focusing metaphors – passages of metaphorical and interactive density – have to be identified (Bohnsack, 2010, p. 104). These passages are subjected to a comparative sequential analysis to explicate the frames of orientation by comparing similar passages. In step three, the lessons are summarised from a new perspective, namely that of the framework of orientation which had been found. The main features of the cases are then summarised in case descriptions. In step four, the typification phase, one or more tertium comparationis have to be found using an abstraction process. A tertium comparationis is an aspect, term or idea which restructures the topics from a new (‘third’) perspective. The orientation frameworks thus reconstructed are abstracted, detached from the unique case, and formulated as types (Nohl, 2010, p. 211). The sense-genetic type formation shows how different orientation frameworks are by making the patterns more and more dense and homogeneous. The sociogenetic type formation as a last step includes further criteria (e.g. in our case the type of school) to elucidate differences and commonalities beyond the patterns already found.

The First Findings put into Perspective: differences between schools

After identifying the structure of the lessons and the topics on the agenda, the learning processes and how they were initiated, supported and judged then formed the focus of interest. To reveal the inner logic and latent processes in which learning is embedded, what was said by the teachers and pupils, the interactions between teachers and pupils, and the interactions between the pupils now became the objects for the analysis (especially those utterances, processes, phrases which were said simply as a matter of course or which seemed to occur ‘naturally’ as commonplace events). The so-called practical knowledge of the actors becomes evident in such passages. When the lessons had been summarised as case descriptions, a tertium comparationis became visible, namely the collective expectations towards learning. Two different types of culture emerged as underlying frames of orientation: a performance-orientated culture and a support-orientated culture.
In the performance-orientated culture, pupils are (1) motivated by emphasising speed and performance (‘Come on, see to it that you finish your exercise!’) and the best pupils are addressed directly (‘Right. And the clever ones amongst you: what are you left with?’). The pupils are reminded that (2) the results of learning processes are important by drawing their attention to future examinations, like the matriculation exam they will take when they reach level 12, even though the classes observed were only level 7. The teacher points out that the pupils, who are currently 13 years old, have to know what a ‘reading comprehension’ is and – more importantly – she assumes that the matriculation exam is definitely what the pupils are aiming for:

If there are any difficult words, forget about them, just try to get what you understand. This is meaning comprehension. Reading comprehension. When you take the matriculation exams, it will be part of the written exam.

Such high expectations are also encountered in a computer studies class. Here, the pupils were given some exercises to do, and the teacher indicated that anyone scoring less than 100% would be an exception. Expectations are also expressed (3) regarding responsibility. In the performance-orientated culture, pupils are reminded that they are responsible for themselves and their own learning success. The following scene took place in a physics class (grammar school):

Teacher (stopping next to a pupil): Where is your book, young man?

Pupil: I forgot we had physics today.

Teacher: You forgot you had physics today.

Another boy: He wasn’t here yesterday.

Teacher: I’m sure he can defend himself! It’s nice that you want to help him, but I think he can do that on his own.

The teacher’s message is clearly articulated in the use of the words ‘I’m sure he can defend himself’: pupils are not allowed to help each other. A ‘self-made pupil’ is a solitary fighter who must be able to ‘defend’ himself or herself. He or she is responsible for his or her own failures and – of course – also for his or her own success. Although wanting to help each other is judged to be ‘nice’, the focus here is not on solidarity and giving support, but on looking after yourself. This expectation is accompanied (4) by clear expectations about how pupils should learn, what they should learn, and how learning should be monitored and controlled. Learning methods are defined and controlled by the teacher; individual variations are not accepted. The teachers emphasise the content in the lessons. Only short instructions are given on what to do, while the topics themselves remain in the foreground. It is the teacher who checks homework and classroom exercises: the pupils are asked to put their homework on the teacher’s desk, instructed to call the teacher when they have finished an exercise, and are not permitted to ask for help from their classmates. If a pupil is not able to finish an exercise in class, he or she has to complete it at home, an approach that serves as another way of reminding pupils to hurry up and finish on time. In addition, the controlling aspect becomes visible in the repetition phases at the beginning of the lessons: they are staged as test situations to check what selected pupils know and have learned. A final feature is (5) the fragmentation of time, which becomes visible in the rituals carried out at the beginning of the lessons when the teacher checks the register, makes a note of any pupils who are absent, and greets the class with phrases like ‘Good morning class!’, ‘Sit down!’ or ‘Take your seats, please!’.

In the support-orientated culture, pupils are (1) motivated by emphasising their success and giving them confidence (‘Correct! That’s absolutely correct! I knew you could do it!’). Heterogeneity is viewed as ‘normal’ (‘As I went around the class, I realised that you have naturally all reached different stages of development’). Pupils are reminded that (2) they should focus their interest on the current learning process and not on some future event. They are expected (3) to assume responsibility for their classmates and their learning processes. The following passage is taken from a math lesson (new middle school).
Teacher: When you’re ready, wait till the person next to you is ready too and then you play teacher again. Then swap over ... You’re now responsible for correcting your neighbour’s work – and for correcting it properly.

The pupils are trained to monitor their own progress and check the results of others. They are also expected to do so in a serious manner and not simply give them a perfunctory glance. This is a common routine for the pupils, and the teachers support this routine by preparing worksheets with the correct answers which they hang on the classroom notice board. The message that the teacher is communicating is that pupils should help each other. Pupils are expected to show solidarity and give each other mutual support and they do indeed assume this responsibility without any sign of impatience. In fact, they seem to take doing so for granted, as another scene in a math lesson (new middle school) shows:

C: Will you help me?
G: What do you need?
C [holds up the worksheet]: I don’t know how to do this, how to draw the angle.
G: You don’t know how to?
C: Nope!
G [gets up, walks over and leans towards C]: You’ve got this, I mean the angle, like mine – not that angle. Rub that one there out first.
C: Okay, I’ll get an eraser.

The expectation to provide mutual support is accompanied by emphasising different ways of learning and encouraging pupils to find the way that suits them best. There is no disgrace in having a problem – that is just seen to be ‘normal’. The teachers give pupils the feeling that they are not alone and that they can expect help from them. In addition, they show great interest in ensuring that all pupils learn by motivating them to repeat the material they have already learned. Repetitions at the beginning of the lessons are used to consolidate everyone’s knowledge, not to test pupils. In this type of culture, the school day is less fragmented due to the presence of a designated teacher in all main subject classes. This teacher is there to provide additional assistance and ensure continuity throughout the day. One visible sign of this continuity is the lack of rituals at the beginning of lessons. Classes simply start with a statement like ‘Okay, so today we have a practice lesson!’ or ‘Okay, then let’s go on!’. The use of the pronoun ‘we’ demonstrates that both the teachers and the pupils are responsible for learning and are co-constructors in the processes that will take place during the lesson.

When we sum up this second analysis using the documentary method, it becomes evident that a ‘conjunctive space of experience’ (Bohnsack, 2010, p. 105) must exist. The actors understand each other immediately. For example, the teachers can be sure that their pupils realise when a lesson starts, and the pupils behave in the correct way by becoming quiet and listening.

When we take another look at the background information provided on the Austrian school system, it comes as no surprise that the performance-orientated culture was found in the grammar school (Gymnasium, school B), whereas the support-orientated culture was found in the new middle school (Neue Mittelschule, school A). Grammar schools are traditionally the schools for the elite, while new middle schools are essentially – depending on the area and local situation – secondary schools for children from less privileged backgrounds. In the latter, the main aim is not to ensure pupils reach and pass the matriculation exam (Matura), but to improve their learning strategies and encourage them to continue learning despite their potentially non-supportive backgrounds.

What the Schools Have in Common

However, there was one aspect which was surprising. Although the schools differ enormously in their bias towards supporting learning, further analyses of the data showed that learning is understood in both schools as a reproduction of the knowledge and information presented to the pupils by the teachers. Learning processes which might be initiated by a fruitful moment and
become a transformative experience do not occur, are ignored, or are consciously prevented. To
demonstrate this point, we will now analyse three passages in detail.

Scene 1: Physics lesson (grammar school)

Teacher: Why do we actually need resistors? Resistors are also very important components in
electronics. For what purpose, Michael?

Michael: To restrict the voltage?

Teacher: Not the voltage, but ...

Michael: ... the electric current?

Teacher: To restrict the electric current. Why is this necessary? Many components in electronics
cannot tolerate high current. That’s why resistors are really important.

The scene starts with an open question posed by the teacher. But without any hesitation she
immediately gives the answer herself by carrying on with another question. The pupil gives the
wrong answer, but the teacher prompts him to find the right one with a ‘but’, thereby expecting
the pupil simply to finish the sentence. Without waiting she continues, formulating another
question and again giving the answer herself. She obviously wants quick, correct answers – not
wanting to waste time that could be used on additional content.

Scene 2: English lesson (new middle school). The pupils have been given the task of writing a telephone
conversation with a person called Pete. They practise the conversation in class.

Teacher: In this exercise ... it’s not important that everybody produces the same answers as we do
in this first practice run. You can all think up your own answers – with the exception of the first
sentence.

The teacher picks a pupil and gives him the following instructions: Ask whether you can speak to Pete. First
you have to pick up the phone and say hello. Then you need to introduce yourself.

Teacher: First you have to say your name. Hello, this is Paul. I would write this: ‘Hello, this is
Paul. May I speak to Pete?’.

The teacher starts pre-formulating questions in German and expects the pupils
to translate them and
answer in English. After one boy had said the first sentence, he says: ‘Exactly, now you have to ask how
Pete’s weekend was’. Then later, he prompts the pupil: ‘Now ask if he’s alright!’.

In this example, a little room was opened for options, but only very briefly. The teacher guides the
pupils to the correct sentences by telling them exactly what to do. The teacher knows the correct
way to do this and wants the pupils to follow him and do as he does. Trying things out for
themselves appears to be neither desirable nor possible. The pupils accept this form of instruction –
for them, it seems to be a routine which they do not call into question. Quite the opposite, they
seem thankful for being helped in this way. Although it happens in a friendly and appreciative
atmosphere, learning here is interpreted as being the repetition of known answers. Ideas on the
part of the pupils have no opportunity to develop.

Scene 3: Physics lesson (grammar school). The teacher starts with an experiment using lemons to
demonstrate the use of a voltmeter.

Pupil (raising her hand): Does this only work with a lemon, or would it work with something
else, too?

Teacher: It would work with something else, too. But I am going to show you something totally
different now.

This scene had the potential to turn into a ‘fruitful moment of learning’. However, the ‘real’
question asked by the pupil is ignored. The pupil herself questions what she has heard and seen.
She wants to find out about something that came into her mind as a result of observing the
experiment. The teacher does not realise the potential of this moment. There would have been
several options to continue, for example by involving the whole class and getting them to think
about the question, by providing a more precise and detailed answer to the question, or by letting
the pupils experiment with ‘something else’ – whatever that might be. The teacher would have
been able to encourage further questions and start ‘dancing’ around the subject, with the pupils as co-constructors of their learning processes. By doing so, learning would have become meaningful to them. However, in this case, the question seems to disturb the continuation of further experiments with the voltmeter and is therefore only answered curtly and in vague terms. The lesson is planned through to the end, there are only a few minutes left, and the teacher wants to finish what she has prepared. It is not even sure whether the teacher really intended to induce such a critical moment. But even if she did, she ignored it when it happened (cf. Combe & Paseka, 2012).

Pupil questions as basis for a dialogic learning environment are not allowed to emerge, and a monologic discourse dominates both in this situation as well as in those described above (cf. Nystrand et al, 2001, p. 5).

Conclusion

At first glance, the Austrian schools involved in the ILE project gave the impression that they had met the OECD criteria and had actually created innovative learning environments. The analysis of what was said in the interviews with the head teachers, the teachers and even the pupils produces a coherent picture. However, when the research team also sought to look beneath the surface to identify the latent structures that underlie the behaviour of teachers and their pupils, a somewhat modified picture appeared. By applying the documentary method to determine how teachers teach and pupils learn, two frames of orientation could be identified with regard to the expectations of learning. The way pupils are encouraged, the kind of support they receive, and the manner in which they are addressed by their teachers differ considerably between the two schools.

However, a homologous pattern was revealed with regard to the understanding of learning. In both schools studied, lessons take the form of a monologic discourse in which fruitful moments of learning can scarcely arise. Those that do are largely ignored by teachers in both schools. As a result, pupils have little opportunity to experience meaningful learning and are instead expected to reproduce knowledge already known by the teachers, albeit from different angles: with an emphasis on cooperation and social competence in the new middle school (school A) and with an emphasis on performance and individual success in the grammar school (school B).

Learning is subject to a high level of uncertainty both with regard to the process itself and to the outcome on the part of the pupils. Teachers therefore seem to try to remain on the safe side. They seek to achieve certainty by controlling processes and not straying from their planned course, which is usually a narrow one with only limited options – especially when compared with the level of diversity in the pupils and their ideas.

If we take the aims of the ILE project as laid out by the OECD (2009, 2013b) and contrast them with the final results, it becomes evident that a positive transformation of teaching and learning practices has not yet taken place in the two schools studied more closely, at least not to the extent suggested by the first impressions the schools made. Although they have attempted to install learning environments which could be classed as innovative according to the OECD criteria, these innovations have had no clear impact on how learning takes place, since subjectively meaningful learning processes are not encouraged and traditional patterns of learning continue to dominate in the lessons, even if under the surface and not easily discernible. The underlying structures are obviously still too deeply seated in the minds and actions of the actors (both teachers and pupils) as to make the learning environments truly ‘learning driven’ in the way it was proclaimed in the OECD project. The proclaimed transformation has so far only been superficial – and clearly still needs time.

Notes


[2] In stimulated recalls, researchers replay a videotaped lesson to a teacher who is asked to recall (and comment freely on) the thought processes in the taped teaching situation. For further information see Calderhead (1981).
Innovative Learning Environments

[3] The vast majority of texts about the documentary method are in German. However, for the purposes of this article, we have drawn on two texts written in English by Ralph Bohnsack (2010) and Arnd-Michael Nohl (2010).

[4] In the English publication authorised by Bohnsack (2010), the term ‘frame of orientation’ is used synonymously with the term ‘pattern of orientation’. However, in more recent and in German written publications, Bohnsack distinguishes between two forms of ‘patterns of orientation’: ‘schemes of orientation’ to refer to what has been said and ‘frames of orientation’ to refer to the generic principle which produces practice (the how). See Bohnsack (2012).

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