"Evidence" about "outcome orientation" - Austria in a comparative perspective

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Abstract

The paper analyses the development of "evidence based policy and practice (EBPP)" in Austria, taking the policy of "outcome orientation" as its focus. First the concepts are explored in a generalised transnational and European space. A basic distinction is drawn between EB policy and EB practice and a model of the research cycle is applied. A review of research shows that "outcome orientation" and "learning outcomes" are in fact not "evidence based" policies so far. On the contrary, evidence runs often against the implications of "outcome orientation".
Second the concepts are applied to the Austrian experience. It is shown that "learning outcomes" do in fact play a minor role in the policies towards "outcome orientation". Applying a full model of the research cycle to the use of research and development (R&D) in education, we see practice being stuck in the very early stages of formulation and discussion of ideas and artefacts. The activities are situated very much at the policy level, and do not reach education and training practice.
The paper outlines some important conceptual preconditions for EBPP, and shows some basic paradoxes, including a lack of use of political science in analysing issues of education policy.

Introduction

"Outcome orientation (OO)" has been one of the key concepts in education and training (ET) policy since the late 1980s, with "evidence" moving up the agenda following the recent proposals for "evidence-based policy and practice (EBPP)" from influential players like the OECD and the EU. This article explores these concepts at international and European levels and analyses their relevance for Austrian ET policy.

In doing so, it examines the following questions: What evidence is there that OO has influenced the effectiveness of policies? To what extent is EBPP evident in these policies? Which unresolved issues arise when we link these two concepts? Are there any specific lessons to be learned from the application of these concepts in Austria?

1. Defining "outcome orientation", "evidence" and "evidence-based policy and practice"

This section establishes the basic concepts, identifies the "core" elements of OO and EBPP and describes their implications for both policy and practice (PP) and research and development (R&D). It does not consider their epistemological status or attach more complex meanings to them at this stage, but instead regards them simply as "policy proposals". [2]

1.1. Key elements of "outcome orientation (OO)" (see illustration in annex, figure 1)

In essence, OO is linked to the rationale of activities at all levels of ET and can be broken down into three primary elements:

1. A shift in attention in policy and practice from inputs/processes to results ("topological" element); [3]
2. An assumption (sometimes implicit) that results should be achieved, i.e. that they are in some way related to more or less explicit goals and objectives ("processual, teleological" element);
3. A link between inputs/processes and results, with the difference between the latter and the goals and objectives serving as a point of reference and assuming the notion of quality ("normative" element).

To some extent, these elements are all in some way related both to policy (setting of goals and objectives) and to practice (realising goals and objectives). A fundamental aspect of OO is that it resides at the policy (or control) level, where it seeks to establish references for ET practice. Practice, however, has always been somehow "outcome oriented"; if this were not the case, its activities would not make sense to ET practitioners. In other words, OO strives to influence or change activities in ET practice by means of policy interventions or activities.

Of course, it should also be borne in mind that policy making increasingly involves interaction at national, EU and even global levels. Indeed, OO as a policy proposal has received strong support at EU level. Recent main drivers of OO have included:

- the "new public management (NPM)" approaches and concepts in the 1980s and their contribution to spreading the basic OO rationale, which questions the traditional bureaucratic approach of establishing specific rules, guidelines and processes to govern a quasi automatic transformation of inputs into results;
- the EU's "Education and Training 2010" work programme to address the Lisbon 2000 objectives and the related "open method of coordination (OMC)", which incorporate OO by breaking ET down into a set of activity areas and clusters, each with its own stated goals and, in some cases, benchmarks (EC 2008);
- the international large scale assessments (LSAs) carried out by the OECD and IEA and their efforts to define the potential results of ET processes and identify means of measuring them (which have already been frequently incorporated into policy and practice);
- the push towards "learning outcomes (LOs)" as a specific aspect of results (alongside other aspects like access, attainment or economic returns to investment), which has gained prominence in discussions and activities in several places and ways (including the UK inspired "competence" approaches and the US inspired "standards" movement), as well as in the results of international LSAs (primarily PISA) (CEDEFOP 2009);
- the recent move towards readability and transparency through "qualification frameworks (QF)", which has indirectly boosted both OO and LO by promoting the idea that the main dimension of comparability should be shifted from system characteristics and institutional traits to "learning outcomes" (EU 2008).

1.2. Key elements of "evidence-based policy and practice (EBPP)" (see illustration in annex, figure 2)

The proposal to strengthen EBPP in ET arose from a combination of the OECD's activities in the field of educational research and development (R&D) with the broader exploration of the relevance of the knowledge society for policy and innovation mechanisms in different sub-sectors of society (OECD 2007). This

proposal was successively adopted by the EU (EC 2007), although the basic idea behind – that policy and practice should be based on, or at least informed by, the "best available evidence" – is, in fact, not new. Three fundamental aspects must, however, be clarified here:

1. What is meant by this 'best evidence' (theory and methodology)?
2. How can this evidence be transferred into policy and put into practice (brokerage)?
3. How can this best evidence be produced (mission and knowledge types)?

Since this proposal addresses issues of core interest to the educational research community, differences in opinion and position regarding these aspects are unavoidable.

Clearly, defining what is acceptable as "best evidence" will be a source of endless debate within the research community. If research results are to be used by practice, the people using them must have access to appropriate selection rules and procedures. However, although they are not actually controlled by the research community, these rules and procedures are themselves also the subject of debate. The OECD has proposed a model to describe the research cycle in educational R&D, which systematically combines different kinds of evidence to a comprehensive R&D standard model that tries to bridge the theoretical and methodological divisions of the research community (OECD 2007; see also Gorard/Taylor 2004). Although it has as yet seldom be used in practice, this model divides the research cycle into seven stages and two sub-cycles: (1) evidence synthesis, (2) development of idea/artefact, (3) feasibility study [stages 1-3 form the *descriptive* sub-cycle], (4) prototyping and trialling, (5) field studies and design stage, (6) definitive testing [stages 4-6 form the *causal-analytic* sub-cycle] and (7) dissemination, impact and monitoring. Similar standards can also be applied at a sub-discipline or sub-field level (see Flay et al 2005 as an example). [4]

When it comes to transferring "best evidence" into policy and practice (brokerage), two important divisions must be emphasised. Firstly, there is no unidirectional path between R&D and PP – they must both be seen as independent elements (EBPP cannot lead to R&D directing PP, but must instead respect the complex interactive relationships between the two). Secondly, there is a division between policy and practice, which ultimately results in one trying to influence or control the other. Since there is also a distinction between the individual realms of practice themselves (i.e. between policy practice and ET practice), we also find ourselves confronted with

separate R&D channels, each with their own different problems and demands. It is thus reasonable to assume that R&D into the *relationship between policy and practice* constitutes a very specific and (quite probably) problematic domain.
Likewise, the matter of producing the "best available evidence" (mission and knowledge types) is not without its own problems, particularly if we assume that policy and practice might not be interested in evidence that could force them to change their practices or restrict their spheres of influence and might instead seek to limit the production of such evidence. This, in turn, raises the issues of who controls the production of evidence and how the criteria for what constitutes evidence are defined. Several approaches and hypotheses have emerged which question the monopoly of the traditional academic disciplines and propose several extensions to knowledge types and modes of knowledge production (e.g. transdisciplinarity or the famous distinction between mode 1 and mode 2 of knowledge production; Gibbons et al. 2000). One key proposal suggests combining the two (seemingly contradictory) fundamental missions of research (i.e. the quest for understanding and the consideration of use – which have traditionally been juxtaposed and viewed as mutually exclusive) into a concept of "use-inspired basic research" that includes them both (Stokes 1997). In an EBPP context, such concepts underpin the complex relationships between R&D and PP seen through the shift from a linear (cycle of basic and applied research) to an innovation model (strongly reliance on interaction and relationships). Research into OO policy also considers concepts like "expert advocacy" (e.g. Young 2007) that can be related to the concept of the advocacy coalition in implementation and policy learning research (Sabatier/ Jenkins-Smith 1999).

2. "Outcome orientation": a kind of "evidence-based policy and practice"?

In the following section, we will seek to combine the two concepts and examine the "evidence base" for OO. However, answering what at first glance might seem to be a relatively simple question in fact poses several analytic challenges.

2.1. Conceptual challenges

The first challenges faced relate to the definitions and concepts. As indicated above, OO is by no means a clear and straightforward phenomenon. The basic idea behind it might be simple, but a look at the various attempts to realise or implement it reveals several (more or less complex) interrelated policies. To provide a clearer picture of what OO might signify, we can adopt the policy/practice distinction and locate OO on the policy level, i.e. as an attempt by policy to control or influence practice. This provides us with potential evidence on three levels: 1) how OO as a policy proposal might influence policy, 2) how it might influence ET practice, and – most important for our overall question – 3) how it might influence the impact of policy on practice. This, in turn, raises a number of questions at each of the different levels:

- OO as *evidence-based policy*

  Is the concept behind OO at a policy level clear? Is there evidence to support the fact that OO works at a policy level? Has it actually been implemented or only just used as a rhetoric? What are the conditions that support or hinder its implementation?
- OO as *evidence-based practice*

  Similar questions apply regarding the (in)significance of some policy level OO interventions at the practice level (i.e. interventions whose aim *precedes* any actual policies towards OO in practice). By separating the two levels, we see that OO can be possible at a policy level without any great impact to the practice level, particularly if it primarily addresses policy outcomes, i.e. accountability aspects or policies regarding primarily the context of practice only requiring little (if any) change at the practice level (e.g. new administrative structures, distribution of institutions or degree locations, support structures, admission policies, etc.).
- OO as evidence based *impact of policy on practice*?

  This is of course the main idea behind OO. However, since the emergence of NPM there has been no evidence of how this model would work in ET: its basic rationale was borrowed from other sectors (mainly the business sector) and was based on the expectation that it could work in ET. In fact, this evidence is still lacking or disputed to a high degree with regard to other disciplines and their research methods and practices, as can be seen by comparing the results and comments from a recent large comparative study by researchers from the educational sciences

(Oelkers/Reusser 2008) on the practical impact of standards with the evidence produced by applying economic models to LSA data (Wößmann 2008, Hanushek 2005).

If we were to apply the stages model of the research process at this conceptual level, the first stage ("evidence synthesis") would not be possible as long as the proposal remains unapplied. However, there is a lot of activity at the next step ("development of an idea or an artefact"), most of which falls under the category of transdisciplinarity or "mode 2" production of knowledge. Many ideas have been put forward at the policy level by different administrators and experts in a "transnational space" and have been backed by political decisions at national, EU and international levels. As already mentioned, a complex network of ideas and artefacts can be observed under the "outcome orientation" umbrella, e.g. in the following activities:

- the *EU's Education and Training 2010 work programme*, which established the OMC as a combination of goals and reporting, indicators, peer learning about good practices and benchmarks;
- the *LSAs* (PISA, TIMSS, PIRLS, IALS, ALL, PIAAC) as measurement and data production endeavours used increasingly in the production of evidence;
- the increasing emphasis placed on *learning outcomes* in OO in various competence models, standards policies and the related quality assurance models which are one component of the Bruges-Copenhagen process towards to a "common quality assurance framework" (CQAF), also referred to as the future "European Quality Assurance Reference Framework" (EQARF);
- the *EQF/NQF process*, which pushes strongly for the dissemination of learning outcomes as the key element of comparison and transparency in ET systems, including the notion of "recognition and accreditation of prior experiential learning" (RAPEL);
- the *Bologna process*, which initially placed more emphasis on structures and inputs, but has now also been finally driven towards learning outcomes.

Another parallel policy proposal with some strong links to OO – or at least to its ideas and artefacts – is the *lifelong learning (LLL) policy*, which is to a certain extent cited as a potential goal or meta-outcome of these artefacts (in particular EQF/NQF).

Since each of the ideas and artefacts mentioned has developed a great deal of complexity and launched several conceptual debates, it is easy to lose sight of the overall focus and become caught up in specific issues, often in the early stages of the

development or research process. Indeed, much of this research and analysis often remains at the conceptual discussion (e.g. what a given concept might mean in different contexts, which aspects are key to specific artefacts or what the "real intentions" behind the ideas/artefacts might be), comprising the development of ideas/artefacts and discussion of their significance and implications (stage 2 of the research cycle).

2.2. Challenges at the empirical and research level

The conceptual stage is followed by the "feasibility studies" stage. This closes the first cycle and is itself followed either by a return to stage 1 ("evidence syntheses" and the production of new artefacts) or a progression to "prototyping and trialling" as the first stage in the more rigorous second cycle.

Before we examine the available research, let us first reflect on the possibilities of empirical research into the complex artefacts that constitute OO. It is fairly easy to identify and define certain indicators as results and empirically study changes to these indicators over time. This is the approach used in the ET 2010 work programme. But OO requires a deeper analysis of the distribution and development of the selected indicators – an analysis that is rarely carried out. It is even more difficult to identify and assess good practices beyond putting together a list of what constitutes such good practices. The Lisbon working groups basically stopped at this stage and moved on directly to providing lists of ideas and artefacts and making political decisions on specific priorities and recommendations. In other words, while some attention is paid to outcomes under the OO umbrella, several conditions have to be met if it is to have any consequences: specific analysis and policy must be introduced to change practices and improve results, although even this does not necessarily guarantee a rapid change in practices. Some comparative results data is produced at regular intervals for a broad range of European ET systems and can serve as initial input for EBPP (cf. EC 2008). The situation is different for LSAs, where the production of evidence is a core element that is scrutinised in the research community and disseminated to a wider audience (including those involved with ET systems). Their contribution to OO is twofold: firstly as powerful demonstrations of how to pay attention to the results of teaching and learning, and secondly by developing a growing (and increasingly used) database that permits analysis of the factors that contribute to the production and

distribution of results. Interestingly, it is has mostly been economists who have drawn on this data and claim to have obtained solid evidence regarding the factors in ET systems which support and inhibit learning results (Bishop/Wößmann 2004). However, critics maintain that the data is too weak and the measurements too limited to permit such strong claims (e.g., Hopmann et al. 2007).

Since the analysis of LSA data can only examine policy effects indirectly by controlling for system characteristics, additional direct analyses have been carried out on specific LO-based policies. Much of this research has focused on the British NVQ system, one of the first attempts to assess competence standards in terms of learning outcomes (with mostly critical or negative results; Cox 2007). A second body of evidence is also available on the use of standards to improve achievement in various systems. The latter was recently reviewed from an educational science perspective in a comparative in-depth study of four systems as a large "synthesis of evidence" which focused in particular on how standards can be used to influence practice. Interestingly, this study virtually ignores economic research on the same topic, and so could be classed as moving within the first cycle (Oelkers/Reusser 2008). On a European level, a recent more general, quasi feasibility study into the uses of learning outcomes at the policy level clearly states that its methodology would not serve to reach the practice level (CEDEFOP 2009).

Research into qualification frameworks has been carried out at different stages of the research cycle, but does not yet extend to the "definitive testing" stage. Initially, the ideas and artefacts in the early frameworks were analysed at a conceptual level to examine their achievements at the policy level. The subsequent development of the EQF advocated the creation of new ideas and artefacts, yet paid little attention to the critical aspect of prior experience. In EBPP terms, this leads to the following complex and contradictory situation: early research identified a fully developed QF as a clear departure from existing structures, and proposed a gradual, long-term development (Young 2003, Raffe 2007), while the policy behind the EQF establishes it as an extremely urgent process aimed (indirectly) at changing systems in the LO direction Bouder et al. 2008). A further study into the use of LOs shows that the presumptions for the EQF only apply to a limited extent (CEDEFOP 2009). Overall, from what is already known about the successful implementation of LOs, achieving the expected results is a long-term, gradual process that should be pushed through very quickly, this situation leaving us with a kind of "double bind".

One final thought on EBPP and the EQF: EBPP was ironically advocated by the same institution that launched the EQF, thereby overruling the experts commissioned to establish an evidence base for the latter (Bouder et al. 2008). This constellation would seem to be of particular interest from a political science rather than a substantive perspective, which may be able to offer potential explanations for contradictory constellations of this nature. It is also interesting to note that the EQF does not directly advocate OO, but instead promotes it indirectly by presupposing LOs as the main dimension of qualification classifications. So the question is not whether LOs exist, but rather whether they should be used as the basis for classification. This – as we will see – has some absurd consequences for the Austrian NQF "strategy".

2.3. Research results and questions concerning evidence with "outcome orientation"

It has already been shown that the policies in place to support OO are a complex conglomerate of different proposals and activities in different stages of development. Indeed, in most cases, these cannot be described as EBPP. The following section provides a systematic account of this conglomerate and the main points of evidence that are either available or required based on a list of issues and questions drawn from recent research [5] into the key elements that should contribute to OO. This list not only reinforces the impression of a lack of EBPP, it also indicates that the proposals contradict the evidence. The main issues and questions identified are as follows:

1. The emphasis on *qualification systems, certification and assessment* as policy instruments and their role in ET systems with regard to learning processes and instruction.
2. The mechanisms to *bridge supply and demand* and the roles played by qualifications, LOs and information in these mechanisms.
3. Can the shift to LOs and the use of QFs serve as a *lever for more fundamental reforms*? Can this happen more or less automatically or must LOs be seen as a part or reflection of far broader changes that need to be achieved by other means?
4. The mechanisms needed to *influence the core instruction and learning practices* at the grass roots of ET systems (in particular teachers and their work).
5. *System building and convergence* and how to deal with different country-specific VET provisions, their consequences for OO and LOs, and their potential integrating effects.

While most authors observe a new emphasis on qualifications as a direct policy instrument to bring about changes in ET systems, their assessments of this policy differ greatly. Bouder et al. (2008) contend that structuring ET systems by certification and qualifications has an "inverse relationship" with employment, since the qualifications structure would precede and define, not reflect and follow demand. Coles/Werquin (2008) refer to the distinction between qualification systems (QS) and qualification frameworks (QF), and assign QS a strong organising role in the relationship between the VET system and the labour market. Qualifications are bundles of skills and competences (very similar to the classic German formulation of the occupation in the sociology of occupations; Beck/Brater/Daheim 1980), and a key issue for the coordination of VET and the labour market is that the qualifications describe the bundle of skills and competences as accurate as possible. Since skills and competences are situated on the employment side, qualifications should transport the information from demand to supply.

This is the opposite view to that of Bouder et al. (2008). It also contradicts decades of labour economics theory and research into filtering, signalling and labelling concepts, including the notorious problem of asymmetric information (the employer has information about the job, the employee has information about her/his skills and competences), which have led to labour market mechanisms to compensate for exactly such information gaps. While qualifications offer rough indications and represent structures that might be more or less "real", a person's "true" skills and competences will ultimately only be revealed when they are put to use (employment records may be a good indicator, but an employer can never know whether a pilot with many years of successful experience will actually take the right decisions in the next crash – no matter how good it might be, even the best account of learning outcomes will not provide the information that *really* matters; see Blaug 1993 for an overview).

Young (2005) expresses this as follows: "The limitations of an NQF are inherent in the assumption that learning can be adequately expressed in terms of outcomes (p.33) [... and] there are no unambiguous ways in which the criteria and standards developed can be linked to specific and concrete examples of learning (p.34) [...] Qualifications inevitably claim to represent more than they can demonstrate (p.21)". As a solution, he points to trust developed over time by practice, which would in fact seem to be how the labour markets work. This view is complemented at an institutional level by

research identifying complementarities between employment and training systems (culminating in the "varieties of capitalism", as well as in the "skill formation systems" approaches; see Hall/Soskice 2001,), whereby practices at a transaction and use of competences level are complemented by the emergence of an institutional superstructure.

It is often argued that real skills and competences are the sum of initial ET and accumulated learning outcomes throughout a career, with the weight of the latter increasing with time. However, there is still little evidence to support this claim, as the estimated returns on initial ET tend to be much higher than the returns on experience or continuing ET (Bassanini et al. 2005, Boarini/Strauss 2007, Strauss/de la Maisonneuve 2007).

The idea that OO could be a lever for a change in practices is simple and straightforward: if teachers were to plan their teaching based not primarily on what they can offer their students, but on what they should ultimately have learned, the probability that they would achieve the expected results would increase. Of course, this also implies a higher degree of control over what should/could be learned and a higher degree of uniformity in what is learned – at least where traditional practices are concerned. But practice is, of course, never quite so simple and straightforward. Most teachers already have an idea of what their students should learn (and a new "learning outcomes" directive is unlikely to change the practices of those who don't).

Conventional wisdom shows that curricula do not impose much change on practices, so why should a new formulation of the "programme" be any different? The core issue here is in fact assessment: not just of students, but also of teachers and/or schools.

There have always been two basic approaches to introducing a results-based orientation: a hard-core approach based on indicators, measurement and sanctions and a soft approach that combines assessment with supporting measures of empowerment (cf. Kettl 1998). Both seem to have prevailed right through to the present day, creating two basic approaches to school development – one based primarily on control and the other on support. The evidence would seem to support the need for a combination of the two, with the latter perhaps offering greater potential for strong and sustainable change.

A comparison of the approaches taken in economic and pedagogic research reveals a difference in focus. The main impetus of the economic approach is to reduce

opportunistic behaviour on the part of the teachers; the others involved normally have less room for opportunistic behaviour, as they are either strongly assessed (students) or have little scope (parents). Opportunistic behaviour is seen as resulting in a diversion of resources away from the main goals (achievement). Thus, the main aim of institutional economics models is to establish incentives and sanctions that counter a diversion of resources to purposes other than achievement. In effect, this sustains a more efficient use of resources and (when combined with other design factors) means that the assessment of LOs is directed at realising better achievements with the given resources, at least in a cross-section analysis. Efficiency is improved primarily by obtaining the same level of achievement with fewer resources ("rationalisation").

The pedagogic approaches aim somewhat higher. They seek substantially higher achievement through improvement in practices and do not look primarily at the necessary resources. Standards are seen as an element of improvement, although a broader range of activities are required to achieve reforms: over the last few decades, there has been a host of evidence indicating the resistance of teaching practice to reforms (see the classical study by Tyack/Cuban 1995).

Consequently, it can be concluded that outcome orientation might be a lever for reform at a policy level, but its power is at best limited to rationalisation when it comes to reaching teaching and learning practice. Yet although it does not have the power to really reform practice, it could serve to improve evidence-based practice to some extent by relating teaching and learning more directly to results.

System building and convergence could be one particular area in which outcome orientation might have the strongest effect. However, it also faces some strong obstacles. Many experts see ET systems as the result of long-term, historically dependent processes with different sources and different origins (Bohlinger 2006, 2007/8). Accordingly, there is no coherent structure, in particular within VET systems and between VET and other ET, general education (GE) and higher education (HE) systems (Lassnigg 2006).

A QF based on LOs could serve as a source for building a more coherent structure, and thus also provide better opportunities for mobility and progression within the national or regional system (a QS without LOs might also serve this purpose). While LOs are more important for coherence on a transnational level, there is little evidence of a need for such transnational coherence. One possibility here might be an

alternative view of development that brings the different systems into more direct competition, instead of creating an artificial level of coherence across systems.
OO policies in this field have resulted in several attempts to contrast, compare and establish a deeper understanding of the differences between the various LO structures and formulations. At the start of the EQF debate, the competence concept assumed a very prominent role. This brought the different approaches to the fore, with the British and German systems serving as the two extremes (see Bohlinger 2006, 2007/8 for an instructive, stylised account). In the meantime, a form of compromise has been reached by adding "knowledge" to skills and competencies. Indeed, there is even a proposal on the table to drop the concept of competencies from the LO debate because of the differences and ambiguities involved (CEDEFOP 2009). However, different approaches do remain, such as the differentiation between the "composite" (qualification as an additive sum of smaller elements, units and/or modules) and "holistic" (qualification as a complex construct that constitutes "occupational competence" ("*Handlungskompetenz*") in a broad field of activity) approaches.
From an evidence-based perspective, the dividing of qualifications into units remains a fundamentally unresolved key issue in the debate. The basic contention from the British perspective is that a QF has to include a mechanism of units and credits which can both stand for their own and be accumulated into further qualifications. This evokes apocalyptic responses of a neoliberal attack that would lead to the destruction of the "Dual System" from some camps in the German-speaking debate, and although this is not the majority view, strong reservations against the whole concept are evident here from all sectors (cf. Dehnbostel et al. 2009). Another consequence of the holistic view can be seen in the strong emphasis on valid "competence models" in research in German-speaking areas. These models focus on the "right" partitions and sequences for cumulative learning in certain fields or subjects, as well as on the "right" levelling or grading of competences. In EBPP terms, the effect of omitting a key concept and research issue from the debate because it appears too complex and complicated remains to be seen. [6]

3. A comparative look at the situation in Austria

3.1. A brief history of OO in Austria

The first deliberative move towards OO in Austria was the establishment of the *Fachhochschule* (polytechnic) sector at the beginning of the 1990s (Pechar 2004, Prisching et al. 2004, Lassnigg/Unger 2006). This can be seen as a reflection of the broader Austrian ET sector, as the policy documents explicitly refer to the bureaucratic, input-oriented nature of the school and university systems and their then apparent inflexibility (see also Schmid 2007). The new sector was to be shaped differently, more in line with current knowledge of good practice, and the basic ideas behind OO (and NPM) were already fairly well known and established. It should be predominantly unbureaucratic, with a lean legal structure, extensive provider autonomy, unmistakably demand driven and outcome oriented. Its OO focus is initially limited in scope and applies only to the teaching area, primarily through close monitoring of student numbers and minimisation of drop-outs. The sector regards itself as the forerunner of LOs in Austria, as its study programmes have to specify LOs at module level. However, there is no stipulation as to how they must be assessed, so the difference to units of material in curricula is not particularly marked. At the same time, the prevailing school governance system was put into question by a commissioned research endeavour geared towards school autonomy. This included strong and concrete criticism of how the bureaucratic system made work difficult, as well as proposals for some fairly radical moves towards autonomy, which primarily assigned responsibility for work to the individual schools (Posch/Altrichter 1992; Friedrich 1993; see also Altrichter et al. 2005). Outcome orientation was indirectly included here in the criticism of the system's strong input orientation, while the overall approach clearly followed the NPM empowerment path. The main protagonists were prominent action research academics and a non-academic business consultant with a high interest in the public sector. The main mechanisms were envisaged as bottom-up approach to school development based on a combination of negotiated goals defined in a school programme with a revision of the curriculum towards more complex competences (called "dynamic competences"). A new lower secondary compulsory school curriculum was launched in 2000 which accommodated the development of a new competence model and included the joint negotiation and

development of concrete LOs through a cooperative rearrangement of subjects to learning fields, etc. This should allow teachers and schools to accept ownership of and orient the teaching-learning process towards the envisaged LOs. Mainstream adoption of this strategy was prevented by trade unions demands for additional remuneration for the additional work (Thonhauser 2000), but it was followed up on a voluntary level with the support of the Ministry (Lassnigg/Mayer 2001).

A next step towards OO was the development of a comprehensive quality assurance and quality development (QA/QD) master plan for the school sector by a broad group of prominent academics and a research group involved in the Austrian TIMSS and PISA assessments (Eder et al. 2002). It was at this stage that the quantitative dimension of learning outcomes came into play, firstly in a large-scale project to translate the somewhat disturbing TIMSS results into school development activities (see imst.uni-klu.ac.at/english.php), and secondly through the introduction of quantitative monitoring approaches as part of QA/QS (see NBB-I 2009 for details of the current status). A leadership improvement project was also established to complement these activities (see www.leadershipacademy.at/index.en.php).

LOs in the quantitative assessment sense came into play with the PISA 2003 results, which brought the discrepancy between high costs/resources and mediocre results on to the agenda. In addition to the prevailing autonomy strategies at an "underground" practice level (there have been no change to the system at a regulatory level), the idea of standards gained relevance, and a number of large-scale projects have been set up to develop these standards. These projects are currently in a trial phase (see the chapter on Austria in Oelkers/Reusser 2008, Specht 2006). Interestingly, this endeavour has remained almost entirely in the bureaucratic realm, with the added support of some external expertise. PISA 2006 has played a key role in highlighting the huge discrepancy between teacher assessment grades and test results that provided additional impetus to the standards project.

In the full-time VET school sector, which had already participated in the school programme development, a comprehensive new QA/QS initiative was developed (QIBB) in line with the European CQAF structure (Timischl 2006). It combines goals and quality dimensions in a top-down/bottom-up approach and gives schools great freedom of choice in their activities. A set of priority areas has been established at a central level, and schools are free to choose which actions they want to take towards improvement. Documentation also plays a strong role in the system. This concept has

deliberately adopted an approach that combines input, processes and results, the latter being added by the inclusion of subject standards. QIBB follows the broad, qualitative OO approach illustrated above (see www.qibb.at/de/home.html).

Another major change has taken place in the university sector by a reform that marks a move from a highly regulated state system towards radical autonomy (Kehm/Lanzendorf 2007). OO has been established here through performance contracts, with a small number of additional performance indicators – LOs do not really play a role at this level of negotiation between the Federal Ministry and the universities; they fall under the jurisdiction of the universities themselves. Austria is one of the early adopters of the Bologna process, although the initial changes were more structural and formal in nature. Attention was drawn to LOs in a second or third phase through the launch of the EQF and the examination of the potential consequences of an Austrian NQF on universities (Lassnigg/Unger 2008, Lassnigg et al. 2006, see also Cendon et al. 2008).

The only sector largely unaffected by these developments is the apprenticeship element in VET. With its occupational profiles, training regulations and task-oriented external examinations, this sector already views itself as having an LO orientation, while quality assurance issues have long been in place and are a self-proclaimed goal of its training enterprises. However, quality assurance mechanisms to augment the examination system are rudimentary, and there has even been a tendency in the last few decades to relax quality criteria due to the lack or decline in the number of training places. A reform of the public subsidy regulations introduced in 2008, specifically included quality criteria for the first time. [7]

All in all, OO has played a decisive role in Austrian ET policies since the late 1980s, albeit with a fairly weak regard to LOs. Indeed, the issue of assessment remained particularly taboo until the publication of the PISA 2006 results.

3.2. The Austrian NQF process as a case for OO?

Activities for the launch of an Austrian NQF began with two “feasibility studies”: one exploring the implications for higher education (Lassnigg et al. 2006) and the other – which focused on the VET sector and included some comparative studies of experiences in other countries (Markowitsch et al. 2006) – exploring ET in general.

The first of these studies identifies different NQF development scenarios and strategic options, and distinguishes between two basic scenarios: (1) translation and (2) reform. The reform scenario is further sub-divided into three building blocks: (2a) access, transition and permeability with specific attention to competences acquired outside formal learning systems, (2b) learner orientation and (2c) learning outcomes. Due consideration of the organisation of the process was given to each of the reforms, emphasising different mechanisms and players for the different building blocks.
The "translation" scenario was presented as a simple procedure that established a formal relationship between the existing Austrian qualifications and the EQF. However, the overall strategy of the study was very much advocacy-based and sought to determine the consequences of the reform process in implementation terms.
The observations made in the course of the study showed that the university stakeholders did not object either to a comprehensive NQF or to using LOs as descriptors. But they were irritated by the fact that the "new" concept of LOs had superseded the prevailing concepts put forward in previous reforms. It also became apparent that the Bologna process had simply been formally implemented (thus changing the qualification structure to a Bachelor-Master-Doctorate progression and allocating ECTS points to programmes), without paying any great attention to course content and the study process (a case study in Cendon et al. 2008 illustrates this development at one particular university; since the reform, the individual universities have developed different strategies and practices for further implementing the Bologna process).
The EQF/NQF feasibility studies were driven greatly by the task of distributing information to the relevant players in the ET systems, information the researchers also had to familiarise themselves with before they could distribute it to others. It was a bit like the partially sighted leading the blind, while trying at the same time to determine expectations and positions regarding the "feasibility" of a poorly understood, highly complex artefact (which perhaps even its creators and promoters did not really fully understand). They were also under a great deal of time pressure, a factor that would remain an underlying issue throughout the entire process.
After the decision had been taken to start development of a comprehensive Austrian NQF, the researchers who had prepared the feasibility studies formed a research consortium. They were commissioned to prepare a draft NQF as a basis for the consultation process and to study some basic issues in some depth. One of these

issues was LOs, which was primarily analysed by looking at whether the existing curricula system included formulated LOs and then classifying them according to their degree of compliance with "correctly" formulated LOs based on a sample of curricula from various sectors of Austrian ET. Of the two basic approaches to LOs mentioned in the CEDEFOP 2009 study, only one was looked at; the other approach, whereby the development of LOs is started independently from existing curricula based on the societal needs for competencies (the PISA approach), was not considered. There was also no broader analysis of what OO would mean in LO terms, and no interest was expressed in this topic at this stage (Markowitsch 2009, Lassnigg/Vogtenhuber 2009).

It is worth mentioning that the Austrian response to the EQF draft proposal raised at least two key points: the possibility of sector NQFs (e.g. parallel frameworks for VET and HE) and the painstaking elimination of all references to research or higher education from the descriptors at levels 6 to 8, a change that was accepted by the Commission in the new version of the EQF. This move exemplifies what can be interpreted as the "main agenda" behind the NQF in Austria: namely to present the "real value" of its national ET system compared to others by giving "parity of esteem" to academic and non-academic qualifications ("equivalent but not equal"). In essence, this means that an excellent cook or bricklayer has the same level of knowledge, skills and competences as an excellent academic or manager, because there can be no "absolute measure" of competencies. A comprehensive QF can build a new knowledge architecture for this purpose. [8]

The NQF report submitted for discussion included an ingenious (and maybe "typically Austrian") strategy: an NQF *based on LOs* should be developed, but since time was of the essence and the vast majority of existing programmes did not use LOs, a "preliminary" classification (which could be rearranged later) should first be carried out *without reference to LOs*. A long-term process to implement LOs in all sectors could be launched later or in parallel. Consequently, the report included a table proposing a preliminary (non-LO-based) allocation of types of programmes to (LO-based) levels. A non-Austrian observer might conclude that this procedure would create a "preliminary" NQF that is definitely *not* LO-based. [9] Parallel feasibility studies also explored the applicability of the EQF in specific sectors, primarily by discussing how existing occupational and training profiles might fit the proposed levels with stakeholders and experts (see the resp. chapters in Markowitsch 2009).

Some Austrian observers noted this shortcoming during the consultation process: the industrialists (the main promoters of ET reform for some years and early-adopters of a competence-based approach; cf. Lassnigg/Mayer 2001) and the *Fachhochschule* stakeholders (who claim that only "fully LO-based" programmes – their own in particular – should be classified in the NQF).
As was to be expected, the table allocating programmes to levels proved to be the consultation document's most contentious proposal. One sector even "petitioned" for a specific allocation for some programmes, with some 60 individual players submitting a pre-prepared text (about one fifth of those submitting statements to the consultation process).

3.2.1. The basic research questions and Austrian practice

This section takes up the OO-related research questions discussed above and examines how they figure in the Austrian system. A summary of OO activities in Austria reveals the following:

- There have been some moves towards OO in recent years. However, these only place a low emphasis on LOs and accord more relevance to other aspects, in particular increasing retention and lowering dropout figures;
- LO activities mainly target compulsory schooling (following the mediocre TIMSS and PISA results), strengthening proposals for empowerment strategies and the development of weak versions of achievement standards (independent of the QF);
- Quality strategies include strong proposals for a combination of results/standards with inputs/processes in VET; quality assurance and quality development policies have not supported a "pure" LO-based strategy;
- The approach to LO concepts has concentrated on rewriting curricula; more independent demand-based approaches have not been explored;
- Assessment practices remain taboo and a long-standing area of conflict; new initiatives to standardise exams after the academic upper secondary school track and introduce more objective assessment procedures in VET are only recent developments; little interest has yet to be paid to apprenticeship assessment procedures.

(a) Qualification systems, certification, assessment

With respect to the questions of the state of qualification systems and the role of certification and assessment, there is a traditional QS in Austria that covers more or less all qualifications (from apprenticeship certificates at the lower level through VET certificates at an intermediate level to *Fachhochschule* and university degrees, with only the higher apprenticeship qualification (*Meister*) not clearly included in this range). However, this qualification system clearly reflects the institutional framework of ET and does not make reference to LOs. Students are assessed in the school sector by means of school and college exams (with external involvement on the part of the authorities). Apprentices are assessed by external bodies linked to the social partners (primarily the Employers' Chambers).
LOs based on informal or non-formal learning are strongly related to the formal system, primarily external admission to formal examinations based on some form of merit or experience (e.g. taking apprenticeship exams without completing a full apprenticeship or school leaving exams without participating in the whole school programme). One version of the vocational matriculation exam ("*Berufsreifeprüfung*"), recognises occupational experience in some (minor) subjects. Recognition procedures are thus mostly set within the formal assessment system and have been heavily criticised for their poor applicability to adults. The development of such procedures has been postponed to a later stage in the NQF process, partly on the basis that it would be too demanding a task and might impede the first stage.

(b) Bridging supply and demand

Bridging supply and demand is not a big issue in the Austrian system, as there is great trust in the supply of VET. However, just how well this supply actually matches demand has repeatedly been questioned. A study of anticipation procedures (Lassnigg/Markowitsch 2005; Lassnigg/Dietzen 2009) shows that practices to adapt VET supply to demand are currently fairly informal. There is almost a total lack of formal monitoring, as there is no database or classification system available to allow for a regular follow-up of the use of formal qualifications in an employment context. There is some discussion and uncertainty about medium and longer term demand for medium vs. higher level qualifications. The innovation research field periodically

laments the lack of science and technology graduates and emphasises the general need for more higher education graduates. However, there is not enough related evidence to provide any clear answers regarding the medium and long-term feasibility of the Austrian qualification structure.

(c) LO/QF as lever for reform

The process outline given in section 3.2. above already shows that the "translation" issue has quickly emerged as the main mission of the Austrian NQF. The NQF as a lever for reform scenario has been deliberately ignored in the initial set-up period to avoid a "reform overload". However, a number of statements by several actors have expressed hope that the NQF might in future serve as a lever for reform towards a stronger emphasis on LOs.

(d) Influencing core ET practices

Following on from the above, efforts to use the NQF to influence core teaching and assessment practices have also been postponed. In VET, the QIBB quality initiative is trying to influence practices from the bottom up. At a higher education level, the attempts of universities vary: some have developed master plans to establish LO-based initiatives, while others have made more formal changes which do little to reflect the spirit of the reform (Cendon et al. 2008). The apprenticeship system places little emphasis on training-teaching-learning practices (Stöger 2007). Only a few players are pressing for more emphasis on LOs as a lever for change in practices, with most of the support coming from industrialists (who were the first to promote a competence-oriented approach back in the 1990s and who also objected to the implementation of a non-LO-based NQF in the short period of time foreseen by the consultants).

(e) System building and convergence

Some observers (Schneeberger 2009) have pointed out that the EQF/NQF would be the first ever attempt to "officially" align existing qualifications in a single hierarchy in Austria. This can indeed be seen as a characteristic of the process, raising questions

of how links might be established between VET/HE and also pointing to the questions of the existing ET trajectories and their related permeability.
In addition to the largely non-LO-based qualification system, the Austrian system is also still characterised by the notion that completing upper secondary education entitles students to progress to HE. This "culture of entitlement" is a strong underlying theme in the NQF process, as the stakeholders (in particular in HE) tend to implicitly assume that the adherence of programmes to the NQF also somehow entitles access to programmes at subsequent levels – a direction they want to avoid. Overall, a "mild approach" to system building can be observed, primarily with an external focus on issues of "visibility" in the system architecture, uniting existing programmes into a single framework and trying to create more coherence in descriptions. There are clearly also fierce objections to any effective changes to the system architecture by the NQF.

3.3. OO and EBPP in Austria: more research involvement needed

A level of R&D involvement has been present in the different OO activities in Austria from the outset, firstly in the building of a quasi community of researchers and later in the creation of a non-academic agency for educational R&D – particularly for the (general) school sector – to work with this community.
The establishment of the *Fachhochschulen* was accompanied by an OECD review that included an Austria-wide research report exploring the different aspects of the new sector. The "reflective practitioner" paradigm was strongly advocated from the outset and subsequently complemented by a "community of practice" approach. In the school sector, the core R&D was initially carried out by practice-oriented academic researchers, who used an action research approach, yet also incorporated a broader perspective by looking at systemic issues and governance problems to establish room for development at a practice level in schools. The rise of LSAs later saw the emergence of a new group, which more or less assumed monopoly control and worked in close cooperation with the authorities but had only weak contacts to the research community (which was not very familiar with these kinds of data and methods). This has led to the emergence of a dual structure in which qualitative approaches dominate practical activities. More recently, some convergence has been

achieved (see NBB-II 2009, Gramlinger et al. 2007 and Gruber 2009 for a review of the current state of affairs in educational R&D in Austria).
Another research community has developed in the VET sector. This community mainly carries out commissioned research outside the academic system and has only weak links to the groups working on a school education level. Its research practices tend to be more a-theoretical and pragmatic, drawing on official data and surveys. There has recently been some integration among these research communities, visible in the recent Austrian "National Education Report" ("*Nationaler Bildungsbericht*"), which reflects the current status of R&D with a focus on the general school system (NBB II 2009). Overall, there is a division between a fairly small group of PP researchers and the rest of the (mainly academic) research community (which includes some determined "anti-LSA" protagonists).
In a bureaucratic system, policy is in a position to control the creation and use of "evidence" to a high degree, not only at the evidence-based policy level, but also at the (largely non-existent) evidence-based practice level and, in particular, by channelling evidence into policy to influence practice (examples here include the development of standards in a closed administrative context and the recent emergence of LSAs). Much of the R&D carried out in the last 20 years has produced policy and practice related ideas and artefacts, but their use has been limited, and rigorous evaluation is consequently non-existent.

3.3.1. The NQF as a case of EBPP?

Using the triangle of R&D, policy and practice as heuristic, the following section now examines how research has been utilised in evidence-based policy, evidence-based practice and the transformation of policy into practice.

(a) Evidence-based policy?

The launch of the EQF and the decisions to develop and implement an Austrian NQF are located at a policy level. As already pointed out, this level has already been the subject of several R&D activities (e.g. the feasibility studies and in-depth studies and proposals for the NQF in Austria, a set of pilot projects at EU and national levels, the preparation of a summary of the consultation process, etc.)

These activities have provided a limited exploration of ideas and artefacts, and have served more to provide information to the field than observations. Similarly, their mission lies more in advocating the new proposals than generating evidence. A descriptive summary of the consultation process detailed its initial conclusions.
The R&D results were put into pragmatic use by the steering group, which edited the consultation report. Subsequently to the consultation process, a predominantly negotiation-based approach was taken that is very much in line with Austrian political culture.

(b) Evidence-based practice?

At the practice level, we must first identify how the core processes of teaching-learning and assessment are (potentially) influenced by the EQF/NQF and ascertain whether R&D actually plays a role in these channels.
As outlined above, the overall NQF procedure has been shaped in a way that limits its influence on practice. In general, research activities as an evidence base for practice are limited in Austria, where pragmatic development activities prevail, supported in part by (commissioned) research. Examples include the VET quality system (QIBB: www.qibb.at), the formulation of LOs (VQTS: www.vocationalqualification.net), projects exploring the alignment of ET programmes and occupational profiles to EQF levels (see the contributions on construction, tourism and health occupations in Markowitsch 2009) and an exploration of RAPEL possibilities in Austria (Schneeberger et al. 2009). Practice-oriented development activities are found more at the institutional-regulatory than at the teaching-learning-practice level.

(c) Transformation of policy into practice?

The relationship between policy and practice concerns the governance mechanisms in the system. The question here is whether and how these are supported by R&D.
The NQF governance system set up by the Ministry of Education works very closely with the VET administration authorities and includes other Ministries responsible for some aspects of education as well as the social partners (i.e. the employee and employer federations). Several other stakeholders were also involved in the consultation process. These political activities, along with the final editing of the

consultation report, were carried out without R&D involvement. The system's mission is directed at aspects of European international visibility, and it has gained broad acceptance by external stakeholders. However, neither the other education subsectors nor the education institutions and practitioners have been involved in the governance system. Subsequently the process has got stuck in conflicts between the subsectors (VET supporting it, while GE and HE objecting) resulting in part from their different views of the EQF/NQF levels. Recently the government has taken the decision that two parallel QFs should be established at levels 6-8, one for HE and one for VET:

As noted above, the use of LOs to influence teaching/learning has been postponed. Major challenges here include the development of valid (external) assessment criteria and the access procedures to HE. It is questionable whether the policy-driven, voluntaristic approach will support future changes in the ET system. "An NQF that is owned by an administration and whose use is limited largely to official publications probably serves little purpose." (CEDEFOP 2009, 157).

4. Summary and conclusions

We would like to conclude by highlighting two general issues. Firstly, the shape and impact of EBPP must be expected to vary depending on the governance system that shapes the relationship between R&D, policy and practice. In a bureaucratic system (as is clearly the case in Austria), policy assumes a position of a central gatekeeper which determines research through commissioning, and determines the use of this research by trying to control practice. Direct relations between R&D and practice are basically avoided, thus limiting both the interest of practitioners in evidence and their ability to use it. Secondly, conducting R&D for use in evidence-based policy requires knowledge and competence not only of practice and the matter in hand, but also of policy and, moreover, the practice of policy-making. If the concept of use-inspired basic research is to prevail, researchers must be educated both in the basics of political science as well as in methodology and the philosophy of science.

In Austria, policy has drawn selective support from R&D in its endeavours towards OO, and has used this R&D in an even more selective manner. The main R&D impetus has been placed on the qualitative, empowerment oriented OO approach. With the exception of the – more or less separate – standards project, there had been

very little activity relating to LOs and competencies prior to their appearance on the agenda as a result of the EQF/NQF process. Indeed, OO had predominantly been assigned a meaning that did not include LOs.

With the start of the NQF project, the majority of stakeholders expressed a strong interest in the use of LOs. At the same time, it was clear that LOs did not play a major role in the Austrian system (except in the *Fachhochschulen*, as their stakeholders claim, and to some extent in the apprenticeship system). A partly research-based proposal has been made to establish a preliminary so-called "LO-based" allocation of programmes to levels without introducing LO-based programmes.

What does this indicate in terms of evidence-based policy? Should we see it as a case of *quod erat demonstrandum* of the impossibility of EBPP? Is it a case of exceptional *chutzpah*? Or is it simply a normal case, which demonstrates the rationality of policy making? We might also ask whether this is qualitatively different from practice at an EU level. Interestingly, it would seem that it is not. In fact, it is more a replication or mirror of EU practice. Let us briefly recall the development of the EQF as described by Bouder et al. (2008). Two research projects had been commissioned to provide information on basic issues (including competencies, descriptors, etc.). The EQF-proposal was then constructed at the policy level, prior to the final completion of the studies, which meant they had to be in part adapted to this proposal. A recommendation was then made to the member states to base the NQF-descriptors on LOs, and at the same time a very tight time frame for the development of NQFs and the classification of qualifications in these NQFs was established. While this meant that LOs were presupposed for this classification, a study was commissioned to analyse the use of LOs in Member States. This study detected some steps to a shift towards LOs, but also predominantly indicated a very mixed picture that clearly confirmed what had been already known from research, namely that the real implementation of LOs is a very complex process that takes time. But the autumn 2008 "Bordeaux Communiqué" had already stated that "the joint efforts to develop [an…EQF] based on learning outcomes are having a significant catalytic effect […] The principles on which it is based have significant consequences on the organisation of systems […] Emphasis has clearly shifted to learning outcomes" (BC, 2). This confirms that "politicians always want quick results" (Young 2005: 23) – whatever their substance might be.

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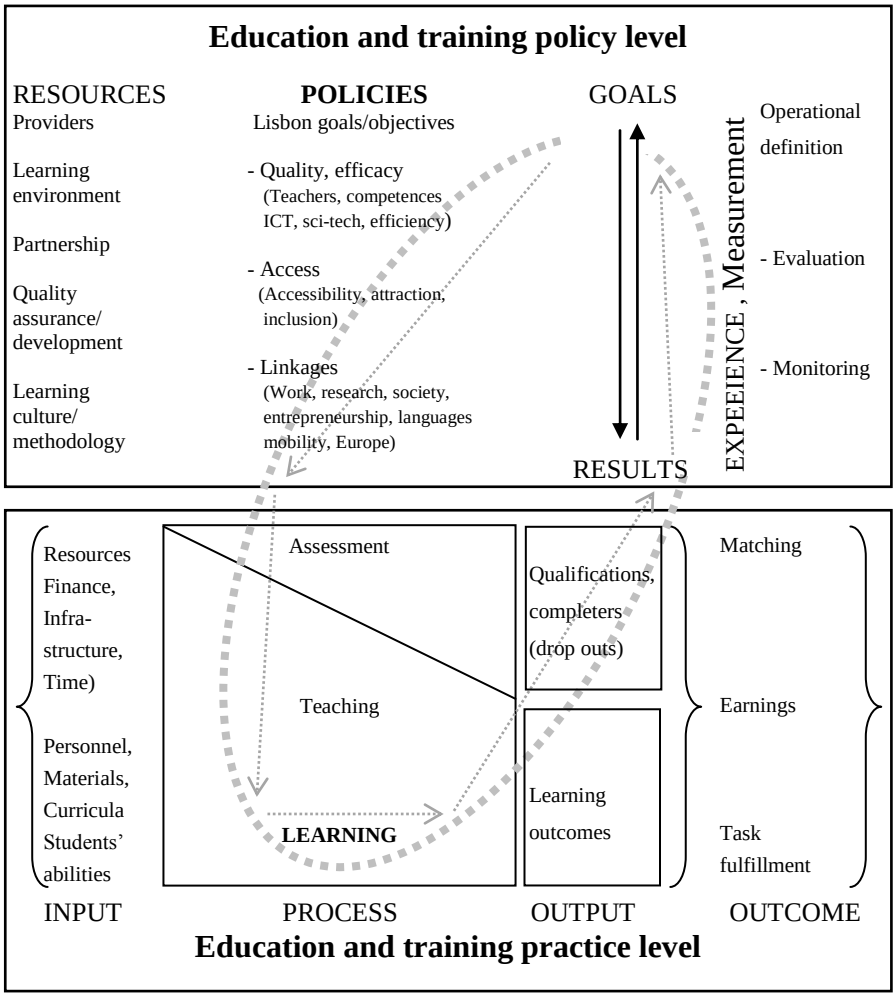
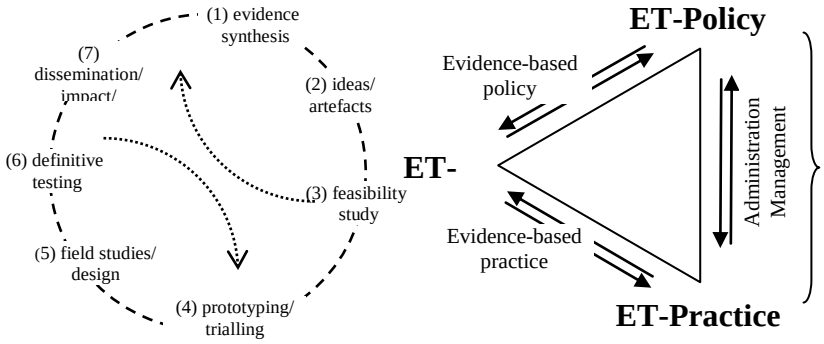
Annex

Figure 1: Conceptual framework of 'outcome orientation'



Source: Own compilation

Figure 2: Conceptual framework of 'evidence-based policy and practice'



Source: Own compilation, "production of evidence" based on OECD 2007 and Gorard/Taylor 2004.

Endnotes

[1] A previous version was delivered as a contribution to the Vocational education and training network-(VETNET)-Forum: "Outcome orientation – where is the evidence?" at the European Conference for educational research 2009 (ECER'09), 28-30 September 2009, in Vienna; see http://vetnet.mixxt.org/networks/files/download.7890.

[2] We could, of course, also regard their status as a policy paradigm, a hegemonic discourse, a rhetoric, etc., which in itself would have further consequences for any analysis.

[3] "Outcome" is an aspect of results, which are conventionally loosely defined by the partial overlapping of *output* (the immediate results of activities) and *outcome* (the more demanding and complex lasting and sustainable results of ET).

[4] In Austria, for example, there is no research at all that meets the requirements of the 2nd sub-cycle and very little – if any – research that fulfils the conditions of the 1st sub-cycle, i.e. includes a synthesis of evidence and a feasibility study; the main bulk comprises *ad hoc* and ex-post studies or the development of ideas/artefacts without any systematic application.

[5] This research includes studies by key "advocates" of the policies (CEDEFOP 2009; Werquin 2007; Coles/Werquin 2009) and researchers following these topics from a critical, independent academic standpoint over a longer period of time (cf. Journal of Education and Work September 2003; European Journal of Education December 2007; Bohlinger 2006, 2007/8; Clarke/Winch 2006, Bouder et al. 2008), as well as a review of the use of standards in general education (Oelkers/Reusser 2008).

[6] A similar move can be seen in the first EU White Paper on ET, which dismissed the debate on "*Bildung*" in a like manner. This, however, had strong repercussions and might well be a reason why (applied) policy discussions were dropped from the more fundamental, "serious" academic discussions.

[7] Whereas the key issues affecting apprenticeships (e.g. financing, contributory factors to training activities) have been researched at length in Germany (see http://www.bmbf.de/de/6201.php) and Switzerland (http://www.bbt.admin.ch/themen/berufsbildung/00405/index.html?lang=en), these efforts have not been reproduced in Austria.

[8] Interestingly, there has so far been no open, deliberate debate on the important issue of the relationship between different forms of knowledge (in particular practical and theoretical knowledge), and the relationship between VET and HE in this respect.

[9] One can only imagine the implications of a rearrangement for all concerned (including the observers).