

4 From institutional policies to teaching practices: Analysis of a curricular design to promote research in education

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Abstract:

This chapter aims to analyse the relationship between the institutional policies at the University of Teacher Education BEJUNE and the actual teaching practices in the field of research education for pre-service teachers. More particularly, we will focus on the following aspects: firstly, we refer to an institutional document (the "Charte fondatrice de la HEP", hereafter the "Charter"), written in 2001 at the creation of the University of Teacher Education BEJUNE, which establishes the principles and general foundations of teacher education. These principles (which aim to define the ways to conceive different programmes offered by the institution in terms of types of training for future teachers) are then considered as a general framework to analyse the actual design of research and methodological courses. Thirdly, a comparison between the Charter and the actual teaching activities performed in the field of education to and through research is made. This step represents an opportunity to identify the extent to which current practices to foster research in education are in alignment with the principles established 20 years ago as relevant issues and as the foundations of the institution. 'Research education' refers to how research at a university is practised as a means to educate students. This chapter highlights the ways to implement the institutional principles and develop meaningful curricular designs for improving teaching methodology in research education. We discuss this process of adaptation in sustaining a research culture and propose a reflection on the appropriateness of the Charter and its role in the current teaching methods at the University of Teacher Education BEJUNE.

Keywords:

- institutional policies
- curricular design
- research in education
- pre-service teacher education

1. Introduction

Challenges in schools, political and social change and the need for the renewal of teacher education to comply with standards at a tertiary level have given rise, in different contexts, to extended reflections, accompanied by a certain number of reforms concerning teaching curricula, especially in primary education. The plurality of models for the professionalisation of teachers has been highlighted on several occasions at an international level (Menter *et al.*, 2010), referring to specific representations of teaching anchored in different socio-political and cultural contexts. Within this complexity, the process of the professionalisation of teaching has become increasingly difficult and has required training institutions to reflect upon the issue and adopt positions.

In our case, Swiss universities of teacher education have undergone significant changes over the past decades in establishing curricula that promote the role of research in education (Wentzel, 2010, 2012; Dirks & Hansmann, 2002; Tremp, 2005). The idea of integrating research practices into teacher education is not a recent issue (Beckman, 1957) and has been widely adopted in most training programmes in Switzerland and elsewhere. However, the study of the potential effects of such integration is more recent and involves training challenges (Wentzel & Pagnossin, 2012).

The integration of research into teacher education highlights the question of the forms that training in and through research can take, but also that of the criteria according to which it is made. These theoretical questions refer to social choices and political issues. Indeed, the regulatory framework for teacher professionalisation requires the integration of research into teacher education. In this context, research would serve to support “the transition from occupations to professions, the transition from empirical knowledge to scientific knowledge” (Wittorski, 2005, 15–16, translated by FA & JV).

To consider these elements and to regulate how they work at an institutional level, the University of Teacher Education BEJUNE (in French *Haute école pédagogique* BEJUNE; hereafter, HEP-BEJUNE) has adopted a guide document, the “Charte fondatrice de la HEP” (hereafter, the Charter), published in its first institutional information bulletin dated March 1, 1997. The Charter sets out the values of the institution and its mission to launch a program of teacher education at the tertiary level by including a part of training to and through research.

The instrumentation of research in professional teacher education raises the question of the role given to research by the future teachers in order to reduce pres-

criptive use of empirical investigation and to favour the application of its results for educational purposes (e.g. intervention based on professional experiences). The institutional view of research underlines the importance of promoting existing forms of professionalism among our students (future teachers): in fact, through an education to and through research, the HEP-BEJUNE intends to help them to recognise their skills, provide them with the tools to disseminate and share these skills with other colleagues, and to frame these competences as an object of discussion and debate within a scientific framework. The establishment of a collaborative way of working around challenges and resources in the teaching profession is decisive for the construction of a professional micro-culture which is oriented towards teamwork and continuous improvement. Teacher education to and through research that is promoted at the HEP-BEJUNE is therefore not reduced simply to the objectives of professionalisation or to the encouragement of practices, but rather constitutes an opportunity for students to adopt a scientific posture while acting as professionals. This is in line with principles that have been highlighted in research literature, such as the capacity of considering the situated nature of a phenomenon, or the development of an attitude invoking multiple and complementary views to analyse a situation (Mialaret, 2011). However, we are aware of the difficulties and resistance from students that can emerge when trying to propose this idea to pre-service teachers. In fact, the role and suitability of different courses of methodology within their curricula, and the relevance of research education activities (e.g. the writing of a scientific and empirical dissertation) are often questioned and underestimated among students.

The goal of this chapter is to consider the place of education to and through research within the HEP-BEJUNE by comparing two documentary sources that are intended to present the principles governing the relevance of research within the teacher training curricula. In particular, we intend to analyse the Charter of the HEP-BEJUNE and the course's plans for actual teaching practices in the field of research education for pre-service teachers. Our idea is to contribute to revising the existing institutional policies and teaching curricula in the field of research education, by potentially re-considering the suitability of the existing design and the theoretical principles that were established twenty years ago when the institution was originally founded.

2. Institutional frameworks and their development

2.1 The Charter and the educational principles at the institution

The HEP-BEJUNE was created in 2001 as a fusion of 11 schools and centres in charge of teacher education within the area of Bern, Jura and Neuchâtel in the French-speaking part of Switzerland. Due to its tri-cantonal nature, this amalgamation required a curriculum which took into account the needs of the three sites and the changing social requirements associated with the teaching profession (and the process of professionalisation). As suggested by Mellouki (2010), it has been a question of "improving the cultural and knowledge level of the teachers," by re-thinking the training content according to the development of different disciplines, pedagogies, teaching and learning strategies, as well as by favouring "the integration of the research results [...] and the critical reflection on teaching practice" (ibid., 165, translated by FA & JV). It is within this framework that the Charter was established 20 years ago.

Based on the recommendations of the international UNESCO commission (Delors *et al.*, 1999), the Charter highlights the notion that teacher training is part of a general educational process; it is a learning path which must accompany future teachers throughout their lives. Four principles are indicated as a basis to guide this process:

- learning to know
- learning to do
- learning to live together
- learning to be

In this chapter, we intend to focus on the first two of these principles, focussing our attention on the idea that teacher education should be designed in such a way that students can acquire a solid theoretical and conceptual basis in line with their professional practice. A particular emphasis is also placed on the role of research as a way to favour the development of critical thinking, as well as a tool favouring to acquire the capacity of observation, to understand a situation and to implement problem solving processes.

Among the aspects considered fundamental for the teaching curricula, the Charter indicates the intention to train teachers to be able to cope with the challenges and needs of society, to build a contextual vision of

knowledge and make teachers able to handle various educational devices. With this document, the HEP-BEJUNE also announces its intention to be a provider of life-long learning, as well as to value the "updating of knowledge, the acquisition of new didactic approaches, the reflective practice, a systemic and contextual view and personal knowledge" (Haute école pédagogique – BEJUNE, 1997, 2, translated by FA & JV). In addition, it states that education should favour the acquisition of new competences and the constitution of a teachers' interdisciplinary repertoire to think, act and position themselves within the educational context. The reflection on teaching practice is considered a crucial experience that should allow students to articulate theory and practice, and to overcome any potential difficulties they will encounter during their professional lives.

With regard to the principles we selected for this study (*Learning to know and Learning to do*), the Charter considers them fundamental elements of an education which prepares teachers for a complex profession and which constantly requires teachers to bring together theoretical reflections, teaching practices and research skills. This latter aspect highlights again the relevance of scientific knowledge and experience within the teaching curricula. Throughout the evolution of our institution over the last twenty years, the curricular design of the research courses offered to pre-service teachers has been revised many times. For example, different reflections involving members of the academic staff and students have delivered a new concept of the role of research in which the scientific aspects of teacher education have been improved, especially secondary education level. For this reason, in the following section we propose a reflection on the current curricular design for educational courses to and through research and the process of its recent implementation (Kohler *et al.*, 2017) within the curriculum for future teachers at secondary school level.

2.2 Curricular design of teacher education to and through research

Current education to and through research in the curriculum for training future teachers at a secondary level has been set up to offer students the opportunity to adopt a scientific approach in their professional experience. The curricular design has been conceived to allow pre-service teachers to investigate problems, ideas, resources or situations encountered in their everyday practice at school through the lens of a practice-based approach (Willemse, Boei & Pillen, 2016). In this sense, the aim of education to and through research should be, for instance, the integration of scientific dimensions

into teaching activities, as well as the adoption of critical and constructive attitudes while working with pupils and other professionals.

The curricular design currently adopted at the HEP-BE-JUNE within the study programme for secondary education is organised into three phases. Firstly, students are introduced to the main constitutive elements of scientific research in education. They are provided with support to help them understand their own (mis-)conceptions or personal intuition at a theoretical and practical level, as well as the relevance of such knowledge for their everyday professional activities. Students are invited to research a large range of scientific and professional publications to help them learn to differentiate between the different sources of information available and to select those that are considered useful for their profession. A critical mindset towards scientific literature is also developed in order to promote reflection on the activities of researchers and scientific communities. The development of these competences requires analytical work based on the rhetorical construction of scientific texts. Students are asked to consider different pieces of scientific information and to organise and present them as reasonable discourse, allowing the identification of a research question that they should develop for their final dissertation. This design intends to highlight the relevant role played by a process of problematisation: students are invited to consider it an essential reflective activity that opens the space needed for adequate research practice, allowing future teachers to enrich their personal experiences and to build a mea-

ningful process. In order to do so, students are asked to engage in scientific activities, according to the idea that the process of problematisation is understandable by practising research (Rey, 2005).

The second step requires students to become familiar with different logics in empirical investigation. Various methodological resources and techniques are then proposed in order to make future teachers able to collect and analyse data. Students become aware of the existing typologies of research in education (Astolfi, 1993; Van der Maren, 2003) and they are invited to learn how to share their conceptions and ideas toward innovative models.

The third step consists of personal tutoring by a trainer assigned to each student with a research topic selected by the future teacher. This phase is intended to expose students to various postures that should be differentiated according to how their dissertations advance. This is done in order to promote further possibilities of discovering new, interdisciplinary and complementary ways to study a given phenomenon.

Table 1 summarises the aforementioned elements and indicates how the methodological training of future secondary teachers is organised. For each semester (Autumn and Spring) in the two-year programme, students are invited to attend classes intended to introduce them to different forms of research in education, methodology courses and tutoring sessions that allow them to complete their final dissertations.

	1 st year		2 nd year	
	Autumn	Spring	Autumn	Spring
Secondary 1		Introduction to research in education	Research in education	
			Competences for writing a dissertation	
			Dissertation tutoring (MA)	
Secondary 1 and 2		Introduction to research in education	Research in education	
			Research essay tutoring	
Secondary 2	Introduction to research in education			
	Research essay tutoring			

Table 1: Organisation of the training units in the context of the module on Education to and through research according to the levels of secondary education and the training year (Kohler et al., 2017, 107).

3. Research design

This study considers the two aforementioned principles (Learning to know and Learning to do) as the main components considered useful for identifying the role of education to and through research within the selected document sources (the Charter and the curricular design of research courses). For this reason, we focus on a comparison between these two sources with respect to these principles. More specifically, we intend to observe whether the principles of the Charter have contributed to the creation of the current design, and vice versa to analyse whether the research courses really translate the aforementioned principles from a prescriptive model into professional educational training to and through research.

The two sources of data that are considered are the Charter text and the course syllabus for the current teaching curriculum for pre-service teachers at secondary level.

4. Data analysis

Our analytical approach is inductive and aims at highlighting the factors that emerge when comparing the two aforementioned documentary sources. In relation to the main topic of the study – namely the institutional principles of Learning to know and Learning to do in research education – each set of documents (the Charter and the plans for methodological courses) has been coded according to three phases: the first step consisted in applying labels to each text by dividing it into segments and grouping them into a family of similar codes concerning the aforementioned principles (open coding); the second stage involved drawing connections between the code families and their relation to the topic of education to and through research (axial coding); the third stage consisted in selective processing of the data (selective coding).

For the analysis, we combined the treatment of the two sets of documents by comparing sections of text sharing similarities and showing differences with respect to the two principles and the field of teacher education to and through research. The sections of text that constituted the data source for each principle are shown below in tables 2 and 3.

Charter	Curricular design of research courses
La formation à la profession d'enseignante doit passer, entre autres, par une formation scientifique centrée sur l'élaboration et la vérification de concepts et de théories mis à l'épreuve de la réalité par des activités de recherche constamment reliées aux situations vécues dans la pratique quotidienne.	Objectif : connaître les spécificités de la recherche scientifique dans le domaine des sciences de l'éducation.
Face à des situations nouvelles, inattendues et souvent complexes, les enseignantes doivent être capables de mobiliser toute une série de ressources constituées et accumulées au cours de la formation.	Objectifs : D'une part, présenter des démarches scientifiques en éducation et outiller les étudiants pour leur permettre de comprendre les principes de la recherche en lien avec la pratique professionnelle ; d'autre part, permettre des espaces de réflexion sur les aspects méthodologiques dans le champ de l'éducation et d'analyse de situations pédagogiques pour faire évoluer sa pratique. Il s'agit de faire interagir des pratiques de recherche (comme lieu de construction d'une pensée critique et créative) et d'enseignement.

Table 2: Original data for the comparative analysis of the "Learning to know" principle

Charter	Curricular design of research courses
L'articulation dynamique de la pratique et de la théorie postule un aller et retour régulier entre la pratique attendue puis observée et les concepts élaborés ou présentés par les savoirs théoriques	Compétences visées : Agir de façon éthique et responsable ; Communiquer de manière claire et approprié dans les divers contextes liés à la profession enseignante ; agir en tant que professionnel, interprète critique d'objets de savoirs et/ou de culture (Introduction à la recherche en éducation)
La pratique de la recherche exige la suspension du jugement jusqu'à l'issue du questionnement. Elle permet aux enseignantes qui se sont affrontées à ses exigences de nuancer leurs propos, d'éviter les emportements, de suspendre les avis téméraires. Outre cette formation personnelle, la recherche appliquée à la pratique quotidienne de la classe produit certes des connaissances nouvelles. L'essentiel est cependant qu'elle induise puis entraîne des attitudes pédagogiques, relationnelles ou didactiques. Elle est une école de rigueur et de modestie	Thématiques : Il s'agit de comprendre et s'approprier différentes démarches de recherche, les avantages et limites d'une palette d'outils de recherche ; de concevoir une démarche de recherche adaptée à une problématique d'étude ; de savoir définir des composantes méthodologiques et d'analyse de données ; de pouvoir expliciter et justifier une démarche de recherche en adoptant une posture d'auteur

Table 3: Original data for the comparative analysis of the "Learning to do" principle

5. Results

Comparing the two sets of documents with respect to the selected principles (Learning to know and Learning to do) within the field of research education resulted in different findings reported below. The results are organised around the main elements of similarities and differences concerning each principle.

5.1 Learning to know

As already indicated, the Charter wished to achieve new challenges and reflections related to teacher education and professionalisation. It established the principle that the "training for the teaching profession, [...], must pass, among other things, through a scientific education centred on the development and verification of concepts and theories based on reality, through research activities constantly linked to situations experienced in daily practice" (ibid., 1, translated by FA & JV). Within this perspective, teacher education should allow students to learn theoretical notions that can be reinvested in an empirical reality promoting professional and educational activities. In other words, it is understood that the research sup-

ports empirical practice because it favours the understanding of its reality. Education must be at the service of teachers, who will be draw on their acquired knowledge and use it to face the various realities of their profession: "faced with new, unexpected and often complex situations, teachers must be able to mobilise a whole series of resources created and accumulated during their education" (ibid., 2, translated by FA & JV).

Through its Charter, the institution considers that Learning to know, in particular, involves an initiation into conceptual and theoretical reflections that are questioned and reinvested in practice via an investigative process. The principle is also present in the curricula of methodological courses given at the institution. The "Introduction to research in education" is offered to students of secondary level during their first year of education. Its objective is follows: "to know the specificities of scientific research in the field of Educational Sciences." In the case of the "Research in education" course offered during the second year of education, we find two types of objectives: "On the one hand, to present scientific approaches to education and to enable students to understand the principles of research in relation to professional practice; on the other hand, to offer space for reflection upon methodological aspects in the field of

education and to analyse pedagogical situations to develop each teacher's practice. It is a question of making research practice interactive – as places to build critical and creative thinking – and teaching practice" (ibid., translated by FA & JV). The methodological part of teacher education, which aims to build scientific knowledge through research, is conceived as a process: firstly, as an introductory course which aims to propose a variety of aspects and peculiarities of research in educational sciences to the students; then, as a practical course which attempts to overlap the scientific theoretical framework with the practical teaching context, through the concrete experimentation of a research process.

5.2 Learning to do

With the intention of presenting itself as an institution that will train future teachers by adopting scientific standards, the Charter specifies that new education processes must consider the mutual connection between theory and practice. In this sense, 'learning to do' means being trained to move back and forth between observations in the field and the acquisition of a conceptual framework acquired during the training: "the dynamic articulation of practice and theory assumes a regular back and forth between expected and observed practice and the concepts developed or presented by theoretical knowledge" (ibid., 3, translated by FA & JV). Being initiated and trained in educational research makes it possible to train future teachers to be able to solve practical problems whilst on the job: not only does this experience enrich the students' knowledge, but it will generate reflection, criticism of teaching practices, and reasoning. Furthermore, the Charter specifies that "the practice of research requires the suspension of judgment until the end of the study. It allows teachers needing to justify their positions to prevent or delay making rash decisions. In addition to personal training, research applied to the classroom practice produces new knowledge. However, research induces and entails pedagogical, relational or didactic attitudes. It is a school of rigour and modesty" (ibid., 3, translated by FA & JV).

Learning to do begins with initial training, which offers concrete tools for questioning the teaching practice (namely, the concepts through a reflective approach). This learning is then reinvested throughout the teacher's career (as long-life learning), as they know how to question their diverse and varied everyday practices.

The courses devoted to methodological learning aim to impart various skills or objectives. The 'Introduction to research in education' course intends to introduce future teachers to reflect and develop skills allowing them

to be part of a professional process. Competences such as 'acting ethically and responsibly', 'communicating clearly and appropriately in the various contexts related to the teaching profession' or 'acting as a professional, critical interpreter of knowledge, objects and/or culture' are part of the training process provided by this educational unit. In the case of the 'Research in education' course, the principles pursued are as follows: it is a question of understanding and appropriating different research approaches, the advantages and limitations of a range of research tools; to design a research approach adapted to a study problem; to know how to define methodological and data analysis components; to be able to explain and justify a research process by adopting a posture of author. Accordingly, the two courses seem to correspond. The first one introduces students to questions provided to favour a critical posture, to then subsequently develop a professional competence. The other course focuses on the practice of research from the point of view of theoretical reflection and the problem-solving and analytical process. Therefore, Learning to do is conceived – through these methodological courses – as a journey (firstly a theoretical/reflective one, and then a practical/restitutive one) which aims to develop the scientific attitude of students to favour their professional attitudes.

6. Conclusion

In this chapter, we have observed a correlation between the principles of Learning to know and Learning to do, which are intended as models to be implemented over successive stages. The Charter postulates that research represents a support or tool that teachers can use to question their own practices. In this sense, it is necessary to be initiated into the theoretical notions of research (according to the principle of Learning to know) which can be used by each teacher in a concrete way in order to distance themselves and to be able to question the exercise of the profession (according to the principle of Learning to do). We have observed the same correlation within the perspective concerning the methodological courses offered at the HEP-BEJUNE. The first one introduces students to the specific aspects of research in educational sciences and accounts for the principle of Learning to know. It is an initiation into research that leads students to question what reality represents and to assume a critical posture by a process of Learning to do. The second course deepens a reflective approach while reinvesting it in the field. It highlights the relevance of the different scientific approaches connected to the teachers' professional practice, as well as the methodological aspects and the specific types of analysis that are used within the educational field (according to the principle of Learning to know). In addition, the course intends to relate these questions and the theoretical framework with the practice of research, by seeking critical reflections, the process of problematisation and the interest in analysis and scientific writing (according to the principle of Learning to do).

In conclusion, we underline the effort of Swiss universities of teacher education in proposing numerous changes over the last decades to design study programmes and curricula that promote education to and through research. In this sense, they have operated within the aim of encouraging connections between the empirical and scientific sides of knowledge (Wittorski, 2005). According to the idea that students, through their education, can build a scientific attitude as part of their future professional activity, the Charter of the HEP-BEJUNE established the foundations for a training to and through research in order to promote the application of evidence-based results for educational purposes. The comparison of this concept with the principles set out in the considered methodological courses suggests that the integration of this model of teacher education has concrete implications within the curriculum itself and highlights the need to ensure a specific quality of educational research for future teachers.

In addition, we should consider the concrete effects this methodological approach will take – both at the theoretical and empirical levels – with respect to the reflexive and professional attitudes of students who are trained within the framework of the aforementioned curriculum once they have entered the labour market. In fact, it would be useful to understand to what extent they really reinvest the skills and attitudes acquired and developed during the training in their teaching practices. How do the methodological courses designed in such a way as to build scientific knowledge which will be useful for their professional activities enable them to become aware of their scientific skills and reinvest them with their colleagues and within their classrooms? If the question of the potential effects of the integration of these research practices on teacher training remains open (Wentzel & Pagnossin, 2012), at least we can consider that the principles expressed by the Charter – principles which attempt to broaden cultural knowledge and critical reflection among teachers (Mellouki, 2010) – have an effect on the conceptualisation of courses and training curricula. They constitute the foundations for an approach aimed at favouring the acquisition of capacities of observing, understanding a situation and implementing problem-solving processes. In this sense, the HEP-BEJUNE should assume its training mission, by offering the tools that can enable students to continue their learning processes throughout their lives.

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Teaching philosophy:

- ▶ Teaching research in education for future teachers requires adaptation to the heterogeneous public of my courses. On the one hand, it is a question of inviting students to use the available scientific knowledge to improve their practices in schools. This point should be resolved by presenting the results of already completed studies and evidence-based practices to them. However, this is not sufficient. On the other hand, I think that it is necessary to overcome this prescriptive use of research in education. Namely, the goal is to contribute to the development of teachers' reflexive competences about different research objects in order to build or reinforce their awareness and favour scientific discussion and the professional use of research. For these reasons, my teaching activities are student-based, focused on their needs and step-by-step. This process of appropriation of a research culture is not always evident or visible: in this sense, the design needs to be constantly adapted to the students.

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