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Mentoring and building professional competences of pre-service teachers: theoretical proposals and empirical illustrations

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Mentoring and building professional competences of pre-service teachers: theoretical proposals and empirical illustrations

1. Introduction

In 2013, the French Minister of National Education established a national framework for teacher training, making training the centerpiece of the national pre-service teacher (PT) education program (Master's degree in Teaching, Education and Training). Although not completely original compared with earlier texts, this document set out two major priorities. First, the document clearly states that the aim of teacher training is to enable PTs to “acquire the necessary competences for their practice” in the teaching profession (Minister of National Education, Bulletin Officiel du 27 août 2013), and this is in no way an isolated institutional priority. It is part of a European and indeed worldwide (OECD 2018, European Commission 2004, 2005) movement to put the concept of competence at the heart of policies for teacher training. Second, the document further specifies that training programs should be based on the principle of “integrative” alternation, with school practicums integrated into university education. This principle emphasizes the importance of practicums as they provide a valuable opportunity for PTs to connect theoretical knowledge from the university with workplace practices (Mena et al. 2017).

It should nevertheless be noted that in practice these two priorities have never really been put into relationship. Moreover, a review of the research literature yields the same conclusion. Many studies have sought to optimize the implementation of the alternation principle in PT training. The findings to date suggest that the success of an integrative alternation principle would require an alternative model that “redefine[s] the school–university partnership” (Darling-Hammond 2006, Haymore Sandholtz 2002, Wilson 2006). The assumption here is that training by alternation can be optimized only if a “new form of professional learning” is instituted so that university supervisors (USs) and school cooperating teachers (CTs) are able to collaborate more closely (Mullen 2000), thus ensuring continuous support for the professional development of PTs. To achieve this, many proposals have been advanced and evaluated (For a summary, see for example: Authors 2009a). Some of the proposals have called for a complete transformation of the training model by removing the barriers traditionally erected between the universities and schools (Furlong et al. 1996, Johnston and Kirschner 1996, Johnston et al. 1996). This was the case, for example, with the professional development schools movement in North America. The primary objective of this movement...
was to build organic collaborations between several schools and one or more universities in
order to create a new institution that could be deemed a true learning organization (Harrys and
Van Tassell 2005). In Europe, the initiatives have undoubtedly been more modest and
localized, usually calling for a shift in the “center of gravity in PT training” (Zeichner 2006)
from the schools to the universities and/or vice versa. Programs have nevertheless multiplied,
with CTs able to contextualize the knowledge delivered at the university (Davis 2006) and/or
USs able to integrate PTs’ professional classroom experiences into their theoretical teaching
(Tigchelaar and Korthagen 2004).
Paradoxically, although the concept of professional competence is the centerpiece of teacher
training programs, few studies have sought to determine the conditions that enable PTs to
build these competences. Among them, the most notable studies have investigated how PTs
build competence through their interactions with CTs (see for example: Clarke et al. 2014,
Rodrigues et al. 2018). Despite the finding that CTs have a significant impact on PT
competence building, what seems to be missing from the literature is the description of a clear
and explicit connection between the CT activities and the growth in new teachers’
competences. As noted by Moussay et al. (2010), how the support of CTs to PTs contributes
to increasing competence has remained vague and unclear. Although researchers have studied
the conditions for CT support to improve PT competences (Klug et al. 2015), they have not
given sufficient attention to the mentoring situation that underpins the mentoring activities
and have not proposed adjustments that might optimize the traditional mentoring situation to
facilitate competence building. Insufficient consideration of the dynamic relationship between
CT activities and the mentoring situations in which they are embedded is problematic,
because competence is fundamentally shaped by the real-life situations in which people learn
and practice (for a review: Avalos 2011). A nuanced understanding of mentoring activities to
make the most effective use of mentoring situations is therefore urgently needed. According
to Aspfors and Fransson (2015), untrained CTs often supervise PTs in traditional support
situations that do not prompt competence building.
The main purpose of this theoretical article is therefore to conceptualize the articulation of the
two priorities, which are (i) training organized according to the principle of alternation
between training sequences and professional classroom practice and (ii) the construction of
professional skills. To achieve this, the article is structured into three main parts. First, we
present an original theoretical framework for understanding the dynamics of PT competence
building as it relates to CT mentoring activities. Second, we present an illustration of this
theoretical framework based on empirical evidence. Third, we discuss the future possibilities
of applying this theoretical framework to arrange mentoring activities that might more effectively build PT competences. To conclude, we present proposals to support the work arrangements of CTs and USs to better train PTs.

2. Theoretical framework

This study was conducted as part of a much larger research program investigating professional training from a cultural anthropology perspective (for more details see: Authors 2010, 2012, 2017). The main postulates that underpin this program and the theoretical hypothesis tested in this study are presented below.

2.1. Construction of the subject in training: an experiential reading

Within this program, the construction of the subject in training is considered to be a process of “subjectivization” (Butler 1997) by and in the use of experiences that are holistic (with motor, sensory and emotional components) and situated (experiences always come up against situations and their complexity). In addition, these experiences are theoretically considered as normative because they are necessarily learned and socially intelligible within a professional community (Searle 1998). In other words, the process of subjectivization for a subject in training is an experiential flow (Theureau 2015) that is partially enriched by certain situated normative experiences. Always coupled with the situations in which it takes shape, this experiential flow is by nature complex because it is enriched by diverse situated normative experiences and more or less continuous in its development. Situated normative experiences lived in training and developing even in other training and/or work experiences. Situated normative experiences that are lived in situations other than training (e.g., professional or social) may also potentially enrich this experiential flow. These experiences are essential to facilitate the experiential flow within which trainees’ subjectivization develops. Hence, it is critical that CTs support PTs as they develop a better understanding of specific situations (Thompson et al. 2015) and, if necessary, that the CTs adjust these situations to make it favorable for the PTs to develop from the situated normative experiences. In other words, individuals always grapple with situations and their complexity. At the heart of this process is the idea that trainees are “active learners” who exercise and develop reflexivity through constant interactions with dynamic experiences in a situated context (Lave and Wenger 1991). This conception is in opposition to the behavioral approach in which the focus is exclusively on teachers’ classroom behavior rather than their thinking processes (Brophy and Good 1986). This latter approach prescribes standard and “a”situated behaviors to improve teacher
competence, although this is problematic because teaching competence cannot be simplified to a fixed descriptive standard (Roegiers 2007).

Despite the intrinsic complexity of each subject’s experiential flow in training, especially because of the diversity of factors that influence it (e.g., the training sequences at the university), we have chosen to center our conceptualization on the three fundamental stages in which CTs need to contribute to PTs’ experiential flow and provide support. The ambition here is to conceptualize how school-based CTs can implement the principle of alternation between training sequences and classroom work in order to assist PTs in constructing professional competence.

### 2.2. Constructing the subject in training: CT activities

The first of these stages is “ostensive teaching” (Wittgenstein 1996) whereby the CTs establish the meaning of each experience. During this activity, CTs explain the “meaningful links” (Wittgenstein 1996) in which “work rules” are generated and then serve as “yardsticks” for PTs to judge, interpret, and act correctly in their practice. For each meaningful link, three necessary experiential components are theoretically associated (Authors 2009b):

- (i) Labeling: this component assigns the meaning to SNEs;
- (ii) Exampling: this component establishes the exemplary practice;
- (iii) Resulting: this component generates the expected results.

All three components are essential in mentoring activity because they constitute the first stage in which PTs become acquainted with the professional “grammar” and are cautiously introduced to a system wherein all actors share the same meanings and rules (Wittgenstein 1996).

However, PTs will not become maximally competent if CT support ends with this first stage of ostensive teaching of the situated normative experiences (Authors 2012). Therefore, “accompaniment” is developed in the second stage. In this stage, the CTs engage in a new activity of accompanying PTs as they practice the SNEs they have just learned in new training situations or “arranged” experiential situations. During the process, CT accompaniment is vital to ensure that (i) PTs follow the “rules” learned from the situated normative experiences of the “ostensive teaching” stage so that they can progressively and cumulatively inform their practices, and that (ii) these practices are associated with the expected results (Authors 2013, 2017). For PTs, by applying the “meaning” they initially constructed with their CTs from an situated normative experience as a “standard yardstick” experience (William 2002), they will be able to successively develop their normative capacities (Cometti 2004), including:

- (i) Signifying new experiences by linking to the original situated normative experience;
(ii) Analyzing new experiences by comparing them with the original situated normative experience;

(ii) Simulating the taught situated normative experience by performing it in an “arranged” work situation;

(iii) Carrying out the taught situated normative experience in the context of “real work.”

Whether PTs practice the rules they learned from situated normative experiences in experimental or real situations, CTs seek to ensure that these practices lead to the expected, exemplified results. Only through the complete comprehension of these results can the PTs perform in tune with the professional intentions of the situated normative experiences (Cash 2009). Only by correctly carrying out the situated normative experiences and understanding the expected results can they gain insight from the original situated normative experiences and continue to develop. This process thus leads to the third theoretical stage of “self-development” after “ostensive teaching” and “accompaniment.” It is in this stage that PTs completely grasp the rules taught by the situated normative experiences. At this point, they can then stop imitating their CTs and establish their own systems for using the rules (Winch 2003) outside of the original situations (Authors 2017). During this process, CTs may engage in “ostensive explanations” if necessary (Davis 2009) to resolve any misinterpretations about the original situated normative experiences so that PTs can carry on the practices of the situated normative experiences independently and acceptably for the professional community.

It may be argued that this supplementary guidance is not always necessary, but this indicates that the process of building PT competence is not linear (Kiss 2012). Instead, the activities around situated normative experiences are interrelated, and CT participation in support of PT self-development can run through the entire process depending on the real-life needs.

On the other hand, PTs’ successful learning of situated normative experiences does not have an "absolute negative sense" (Le Blanc 2002). SNEs cannot be simplified as demonstrations of “rules” that trainees have to follow. They open the way for PTs to become subjectivized. PTs are not passive learners – in contrast, they are transformative intellectuals (Kubanyiova 2012). They act cautiously and critically to negotiate, transform and harmonize what they have gained from the situated normative experience with their self-constructed experiences. Hence, instead of blindly following the “rules” of the learned situated normative experiences, they are able to deviate from them to finally engage in the “excellent act of subjectivization” (Butler 1997). In these developmental situations, CTs are again needed to accompany them so that they are ultimately able to engage their normative capacity for interpretation. CTs may thus help them to identify “familiar resemblances” (Wittgenstein 1996) between the
constitutive circumstances of the current situation and those that constitute the original
situations in which the rules were learned. With the support of CTs, PTs then gradually
recognize a complex network of similarities, understand new situations in progress, and
ultimately manage to produce activities that meet the expectations of the profession, while
they grow from what they were initially taught.

2.3. Theoretical hypotheses
On the basis of the postulates presented above, we present the following two-part hypothesis
that is examined in this theoretical study:

(i) Professional competence is part of PTs’ experiential flow that has been enriched by the
situated normative experiences lived during training;

(ii) This complex and discontinuous flow is supported by a continuous series of training
situations that enable PTs to gradually and cumulatively implement their normative capacities
for meaning, analysis, simulated and real realization, and interpretation, starting from the
initially taught situated normative experience.

This two-part hypothesis is empirically tested by a transformative training research design set
up as follows.

3. Methodology

3.1. Research design
This study adopts the same methods that are used for all the studies in this research program
(Authors 2015a). The overall research is conducted as follows:

(i) Establishing the research conditions: The researchers determine a new auxiliary
hypothesis, which is derived from the principal hypotheses already formed and presented in
the section above.

(ii) Establishing fieldwork conditions: The researchers identify the fieldwork location and
the teachers (CTs and/or PTs) who might participate in the study. In meetings with the
teachers, the researchers first present the object of the potential study. They then listen to and
collect the teachers’ concerns and co-construct with them a way to transform the field in
which their work takes place such that it will be possible to validate or invalidate the auxiliary
hypotheses that have been defined in advance. At the end of this step, transformative
fieldwork is adopted.

(iii) Data collection and analysis: Audio and video data are collected via a video camera
and wireless microphone. These data are the “extrinsic data” that will be further processed for
the self-confrontation interviews, in which “intrinsic data” are collected. The interviews are
semi-structured, and the researchers encourage participants to reflect on their actions as they watch the video and make judgments on their own (see 3.4. for more details).

(iv) *Scientific and technological progression of the research program:* The core postulates serve as the theoretical framework to guide the analysis of the overall result. If the new hypothesis is validated, it is incorporated into the principal theoretical hypotheses; otherwise, it is rejected. More detail regarding these steps will be presented in the following section. As a complement, the transformation of the professional field for the study is discussed with PTs and CTs to consider disseminating the research findings to the community of practice. Depending on the results, their arrangement is more precisely envisaged so that they can be disseminated in an optimal form with both scientific and professional validation.

3.2. *Teacher training in France and fieldwork*

Teacher training in France comprises two distinct steps, in contrast to the training practices in a number of other European countries. The first step for future teachers is to obtain a Bachelor’s degree. Once this degree has been obtained, national competitive exams are taken. Those who succeed are accepted into a University Institute of Teacher Training for one year of specialized training, during which time they have the status of pre-service teacher (PT). As this pre-service training is limited to just one year, the training programs try to optimize this time. They are organized according to the principle of alternating work/study based on the assumption that there is a reciprocal impact between (i) training sequences for PTs, with CTs in the public schools and/or with USs at the teacher training institute, and (ii) sequences of practical work experience in the classroom. The latest reform (2013) gave greater importance to classroom experience for PTs—which was defined as the “structuring element of training”—and proposed a reorganization. For 50% of the time, the PTs’ classroom work is organized exclusively as a placement “with responsibility” for a class for a whole academic year. They work only with their pupils. The CTs make regular visits (an average of 6 to 8 visits) to the classroom and engage in mentoring activities with the PT. Twice a year these visits are conducted with the US. The other days of the week are devoted to training at the university institute under the direction of USs.

The transformation of the field put into place to test the hypotheses (Authors 2015a) consisted of ensuring that in each CT/PT dyad the CT would be able to engage in the activities theoretically necessary to enable the PT to learn new situated normative experiences and develop professionally. Each dyad thus implemented a five-step training sequence three times a year (October, December, February) as follows.
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- Step 1: The CTs observed their PT’s lesson. On the basis of the observed needs, they then responded with ostensive teaching of a situated normative experience in the post-lesson conference;
- Step 2: The CTs invited the PTs to observe one of their lessons. The PTs had to identify the moments corresponding to the situated normative experience and give their analysis. A review with the CT took place in the post-lesson conference;
- Step 3: The CTs planned a lesson with the PTs, which was then co-taught to the CTs’ students. This was expected to provide the PTs with a “simulated” experience of the situated normative experience. CTs and PTs then reviewed the lesson in the post-lesson conference;
- Step 4: The PTs planned a lesson with the CTs, and the PTs taught the lesson to their own students. This was expected to provide the PTs with a “real” experience of the situated normative experience. CTs and PTs then reviewed the lesson in the post-lesson conference;
- Step 5: The CTs planned different ways to use the learned situated normative experiences with the PTs. If a PT requested it, he/she could be observed by the CT while implementing the situated normative experiences. CTs and PTs then reviewed the lesson in the post-lesson conference.

3.3. Participants

At the start of the new academic year, the researchers held an information meeting with the USs responsible for training and various PT/CT dyads. The transformative program we had envisaged was presented. After discussing the potential training benefits and constraints (e.g., in terms of time cost), a dozen PT/CT dyads volunteered to participate in this study. Of these twelve, the researchers selected three with the USs’ help. They were representative of most of the dyads. Their main characteristics were as follows.

The PTs were between 23 and 25 years old. They were in a Master’s program preparatory to teaching History-Geography and French. At the end of their first year of the Master’s, they had passed the national competitive exam that qualified them to teach in French middle schools (11 to 15 years). At the time of the study (second year of the Master’s), they were in charge of their own classes for the first time. They had already had 25 days of teaching experience (ten days in a “condensed” placement and 15 days in a “spun-out” placement of one day per week since the beginning of the school year).

The three CTs were experienced, with 13, 17 and 22 years of teaching experience, respectively. They had volunteered to become CTs and had been selected by their school principals. In the beginning of the school year, they had undergone training in the university, mainly to prepare for their placement during the spun-out placements. On the first two days,
they had also been prepared by experienced USs to welcome the PTs into their classrooms for the "condensed" placements and to work with them in preparing lessons and evaluating the experience. On the third day, the researchers introduced the transformative support program under study and detailed its theoretical underpinnings. On this occasion, video excerpts showing the main advisory activities (ostensive teaching of the situated normative experiences, accompanying the PTs in “arranged” experiential situations, and accompanying the PTs in their interpretation of the situated normative experiences) were used to support the explanations, illustrations and analyses preparatory to implementing the program.

3.4. Data collection

During each phase of the mentoring activities, audio and video recording data were collected with the camera and an RF microphone. These were the "extrinsic data" to be further processed for the self-confrontation interviews, in which the "intrinsic data" would be collected. The participants were invited to review their activity and critically reflect on it. A total of 22 interviews per dyad, lasting from 30 to 40 minutes, were conducted and recorded (Table 1).

During these self-confrontation interviews, the researcher’s objective was to access the intelligibility of the participant's activities "by being instructed" (Ogien 2007) by him or her as to their meaning. The self-confrontation interviews were therefore conducted to retrospectively reconstruct the taught, learned and even interpreted situated normative experiences through a method of formalizing rules that the participants followed (Authors 2008, 2010). Through structured questioning, the researcher encouraged each interviewed participant to explain the meanings that were attributed to the observed actions, in addition to any judgments that might have been associated with them. By asking for details or being controversial – confronting the interviewee with apparent contradictions – the researcher encouraged the participant to substantiate the judgments. Last, he invited the participant to specify the results that had been expected from the observed actions.

3.5. Data analysis

The data were processed so that each actor's activity, its evolution over time, and the articulation of all actors' activities (CT and/or PT) could be analyzed at each stage of the study. To achieve this, a four-step procedure was adopted. The scientific validity of this procedure has been tested and published (see: Authors 2008, 2010, 2017). The data processing steps are as follows.
(i) The extrinsic and intrinsic data are transcribed verbatim and then decomposed into units of interaction. These units are delimited by the meanings that the self-confronted actor attributes to the events being viewed. A new unit of interaction is created every time the object of the meaning attributed by the actor changes;

(ii) For each unit of interaction, the elements supporting the meaning attributed by the actor are then identified. By convention, these supporting elements correspond to all the circumstances mentioned by the actor to explain to the researcher how to arrive at the same meaning – that is, by following the same rule for the events of the viewed training situation;

(iii) For each unit of interaction, the rule followed by the actor to understand and judge his or her experience is then formalized. By convention, each rule is labeled from (a) the object of meaning attributed by the actor, (b) the set of circumstances evoked by the actor to support this meaning, and (c) the results that are observed and/or usually expected. Each rule is thus formalized as follows: [Object of meaning – is valid for or is equivalent to – set of elements that are exemplify the meaning – which obtains as a result – set of results observed and/or expected]. To minimize R’s interpretations, each rule is labeled using vocabulary close to that of the actors;

(iv) A double synchronic and diachronic grammatical inquiry is then conducted. The synchronic investigation compares the rules followed and/or learned by the actors during the same step and the diachronic inquiry traces the historicity of the rules followed and/or learned by every actor over the entire training program. By convention, two actors are assumed to be following the same rule if the object of judgment, some of the supporting elements and the associated results are identical;

(v) In the last step, the validity of the data processing is tested. Two researchers separately process the entire corpus. At the end of this process, they analyze the corpus together using their respective results. Successive comparisons are made and discussed until agreement is reached regarding: (i) the units of interaction, (ii) the objects of meaning and the set of circumstances used to standardize them, (iii) the formalization of the rules, and (iv) their categorization. In cases of disagreement, the result in question is rejected. Fewer than 5% of the corpus elements had to be rejected.

4. Results

The results indicate that our two-part hypothesis was enriching. They confirm that this hypothesis is theoretically valid for characterizing the competences built by PTs and the dynamics of this building through analysis of the CTs’ accompaniment. As the results were
obtained in an exploratory case study, they will need to be validated by studies with larger samples. However, with the necessary precautions, we present here one of these results, selected because it is representative of the most frequently encountered dynamics of competence building, as well as of the activities undertaken by the CTs to support it. This is indeed the case for rules n°2 for Dyad 1, n°7 for Dyad 2 and n°6 for Dyad 3 (Table 2).

At a moment in a History-Geography lesson (February; Sequence 3 of training; Step 4) for Dyad 2, the PT’s 5th-grade students are working in groups of four. The excerpt shows that they were asked to schematize the spatial organization of a seigneur in the Middle Ages. The PT moves from group to group aiding the students in their work. In her self-confrontation interview, she says she is satisfied with the way she was helping the students to learn (Excerpt 1 - Excerpt of self-confrontation interview about the lesson in Step 4):

Excerpt 1

PT: There, I’m helping them. It turns out well and I focus on learning.

Researcher (R): What do you think?

PT: That’s why I was looking so it’s not bad ...

R: Looking for?

PT: Not immediately answering their questions and not stepping in before they’ve had time to think.

We had worked on it with F (CT). The problem is that they’re waiting ... for me to do it for them. So helping them but only once they’ve already done something on their own.

R: So not too early?

PT: Yes, that’s been the hard part so far. From the beginning, F and I have worked on it.

The analysis of this self-confrontation interview excerpt identifies the rule that the PT followed to signify what she did: “[Help students learn]” is valid for or is equivalent to “don’t immediately answer their questions” and “help them but once they’ve already done something on their own” which obtains as a result “getting them to think for themselves”.

Unfortunately, the analysis does not allow us to determine exactly when the situated normative experience formalized by this rule was actually learned. Yet it does indicate that learning this had been difficult (“it’s been the hard part”) and required a lot of time (“From the beginning, F and I have worked on it”). A review of the stages prior to the sequence illustrates how the CT supported the PT in overcoming these difficulties and situates the circumstances that led to PT’s learning this new situated normative experience.

During the co-teaching lesson of Step 3 in the same training sequence, the CT challenges the PT by observing that the students “are not thinking” because they “sitting back” and “waiting
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for” her to do the work for them (Excerpt 2 - excerpt from CT to PT during the co-teaching lesson in Step 3).

Excerpt 2
CT: E. (PT)! Be careful, they (the students) are sitting back, they’re not thinking ...
They’re waiting. It’s normal, you’re doing the work. They’re asking you questions ... Don’t answer right away. This doesn’t mean that we’re not going to make them work.
PT: But we said we had to help them, get involved...
CT: So that they think ...

In her self-confrontation interview, the CT states that she’s “uncomfortable” because she has noticed that her advice to the PT “in fact, hasn’t been understood correctly”. She therefore “has to go back over her advice” even though they have been working “for a while” (Excerpt 3 - Excerpt of CT’s self-confrontation interview on the co-taught lesson in Step 3).

Excerpt 3
CT: There I’m uncomfortable. We had assigned groups and I see that they’re waiting for her to ...
R: Uncomfortable?
CT: What I asked her to do hasn’t been understood correctly.
R: Did you tell her?
CT: We said, once it was working, we have to get involved, really, to get them to learn. So here she does that. But at the same time the students don’t have to think for themselves ...
R: And so ...
CT: I have to go back over the advice we’ve been working on for a while.
We organized things so she could follow it. We co-taught the class so she’d have the time ... It should have been simpler ... And no, it’s not working out. But there I tell her so she can try again right away.
R: So you insist?
CT: Yes, to get involved but so that they think. So we don’t answer questions, we make them work together ... Because they have to think first.

The analysis of this excerpt raises questions about the relevance of this situation to help the PT to "simulate" the situated normative experience. The CT indeed emphasizes the paradoxical nature of this training moment in the work situation. On the one hand, the situation seems interesting because the co-intervention makes it possible to arrange the working situation (“We co-taught the class so she’d have the time”) in order to facilitate it (“It should have been simpler”). It also optimized training by closing the time gaps between the observation time, advice giving, and its implementation (“I tell her so she can try again right away”). Yet the CT also highlights the difficulty of arranging the work situation so that the PT can engage in an appropriate "simulated" realization of the situated normative experience and achieve the results that are usually associated with it. She has indeed tried to “organize” the situation so that the PT “could follow it” but “it’s not working out” because the students...
take advantage of the PT by letting her do the work for them. The analysis also reveals how
the CT supports the PT, which can be described as ostensive explanation. During the co-
teaching, the CT actually “monitored” the PT’s capacity to carry out the "simulated" situation
following the situated normative experience. Detecting a misinterpretation, the CT has to “go
back over the advice” they have been working for “a while”. To do this, she “insists” on the
expected results of the situated normative experience while broadening the range of examples
that can be associated with it. Finally, the situated normative experience explained by the CT
can be formalized by the following rule: [“Help the students to learn” is valid for or is
equivalent to “get involved in their activity to get them working together” and “do not
immediately answer their questions” which obtains as a result “make them think”].
Although each stage of the training sequence was implemented to help the PT to
progressively and cumulatively engage – through the situated normative experience she’d
been taught – in the various normative capacities that ultimately constitute a competence,
misinterpretations were still noted during Step 3 questioning. A review of the two prior steps,
with an analysis of the teaching and the CT’s accompaniment, provided elements of an
explanation. A return to the post-lesson interview following the observation of the PT’s lesson
(Stage 1 of Sequence 3) situated the moment when the CT ostensively taught the situated
normative experience, which was then the training object of Sequence 3 (Excerpt 4 - Excerpt
of the post-lesson conference conducted in Step 1).

Excerpt 4
CT: What I also wanted to tell you is that you should help the students more in learning. Once you get
them working, you have to go see the groups. Presenting and starting the work, that's not enough.
PT: OK.
CT: Really get involved with them in the work. Be there with them and don’t stay on the periphery ...
The goal is that they think, with your help.

The analysis of this excerpt lets us situate the situated normative experience, which can be
formalized by the following rule: [“Help the students learn” is valid for or is equivalent to
“get involved with them in the work” which obtains as a result “help them to think”]. It also
situates this teaching as engaged following an observation during the PT’s lesson ("Be there
with them and don’t stay on the periphery"). When self-confronted with this excerpt, the PT
confirmed that the CT’s advice was especially “interesting” because it was “there to help her
out of this difficulty” and that she herself “felt” it during the lesson (Excerpt 5 - Excerpt of the
PT’s self-confrontation interview about her lesson).

Excerpt 5
PT: It's interesting. It goes back to what I felt. It's started and you have to help them. This advice is to help me out of this difficulty.

R: And you there?

PT: There I note it. I write down the most important thing to think about and then use it.

R: The most important?

PT: Get involved and don’t stay on the periphery.

The analysis of this excerpt shows that the PT signifies her activity by following the rule: [“Note the advice” is valid for or is equivalent to “write down the most important thing” which obtains the result “think about it and use it”]. It also makes it possible to spot the origin of the misinterpretation observed later in the PT’s uses of the situated normative experience. It appears that she signified only a part of the situated normative experience, in this case the example constituting it. She specifies that she noted only “the most important thing: get involved and don’t stay on the periphery.” In other words, the PT signified only one component of the situated normative experience after the CT’s ostensive teaching and left aside the expected result (“help them to think”), which constitutes it as such.

An analysis of the next step (Step 2 of Sequence 3) reveals that the CT’s support to the PT does not completely correct this misinterpretation. In the post-lesson interview, the CT engages in help that apparently does not involve ostensive explanations, according to the PT’s observations (Excerpt 6 - Excerpt of the post-lesson conference in Step 2).

Excerpt 6

PT: It was interesting because from one group to another you changed your way of doing things. You didn’t go right away. As you told me, first they got organized and then you went over.

CT: This lets you see if they’re working and it encourages them to think ...

PT: And you ask questions ...

CT: Yes, targeting those who are going to enrich the thinking.

The CT’s SCI for this excerpt confirms that the main intention was to have the PT “give an account of what she was able to observe” so that they could “sort out what might or might not be able to be exploited” in class with her students (Excerpt 7 - Excerpt of the CT’s self-confrontation interview about her post-lesson conference with the PT in Step 2).

Excerpt 7:

CT: There the goal is to sort out what can and cannot be exploited. So I analyze with her ...

R: But it's not up to her to analyze?

CT: Yes, she tells me what she’s observed and I help her. I say OK or not, based on what she tells me ...

and then if it's worth keeping it ...

The analysis of the self-confrontation interview excerpt shows that the CT follows the rule: [“Analyze with the PT what's been done in the lesson” is valid for or is equivalent to “let her
gave an account of what she was able to observe” and “confirm whether or not it is worth keeping” which obtains the result “sort out what can and cannot be exploited”). She therefore does not try to ensure that the PT relies on the situated normative experience to use her capacities to signify and analyze what she was able to observe. She does not take the opportunity to monitor the PT’s uses of the situated normative experience and offer, if necessary, ostensive explanations to correct any misinterpretations.

5. Discussion

This study was conducted within the framework of a research program (Lakatos 1994) in cultural anthropology. It explored the validity of a new “auxiliary hypothesis” in order to further stabilize the hard core of this program. The discussion thus does not seek to generalize the results. Nevertheless, these results validate the fruitfulness of the auxiliary hypothesis and, in this sense, open on two several directions for discussion: theoretical progress and practical implications.

5.1 Theoretical progress

5.1.1. An experiential flow supports the process of competence building

Consistent with most of the institutional literature that considers teachers’ competence to be part of a developmental process (e.g., European Commission 2005, OECD 2018, UNESCO 2006), the results illustrate that building PTs’ competence is situated in their experiential flow. This finding is original because it suggests a distinction between the experiential flow, which is by nature situated and complex because it is always anchored in the training situations in which the PTs’ activities unfold, and the processes of building professional competences, which require that these situations be arranged and implemented in a hierarchical and continuous manner. They thus point to the usefulness of the hypothesis according to which PT competence can theoretically be equated to a part of the experiential flow supported by a series of training situations: the situated normative experiences that are taught and the gradual and cumulative reliance on one’s normative capacities for meaning, analysis, “simulated and real” realization, and interpretation.

Two theoretical reasons can be advanced to justify the contention that PTs’ professional competences cover only part of their experiential flow or, in other words, their process of subjectivization. First, other situated normative experiences, experienced in situations other than those of training (e.g., academic, social or professional), also necessarily contribute to this process. An example might be the PTs’ situated normative experiences lived in the distant past as students, with their teachers’ practices back then now supporting their own
professional activity. This was shown in a recent study by Rodrigues et al. (2018), who demonstrated that student teachers tend to look back to their past school experiences to make sense of their current situations in fieldwork practice. This is especially the case for the normative experiences lived by PTs as students at the University Institute of Teacher Training during US practice. Although many works have highlighted PTs’ inability to build links between the theoretical contributions delivered to the university and the practical experiences lived in the schools (Darling-Hammond 2006, Korthagen et al., 2006), these normative experiences enrich PTs’ experiential flow without them being fully aware of it. This brings us to the second theoretical reason for justifying the observation that PTs’ professional competence covers only part of their experiential flow.

Reflexivity characterized as “the apprehension of inherence” (Searle 1998) – which for PTs means training in practical skills and learning to “follow the rules” (Ogien 2007) in a conscious and say-able way – is not the only regime of reflexivity engaged in training. In many other circumstances, learners are engaged in an “inherent” reflexive system (Searle 1998) of "rule-governed" actions and meanings implicitly learned at work or in the classroom through nonverbal interactions and/or informal alignments with the practices of other actors (Billett 2009). The experiential flow of the PT is thus also enriched by situated normative experiences that are not conscious or say-able because they have been learned incidentally.

5.1.2. Competence as a dynamic process

This conception of competence, which is only partial given the complexity of each PT’s professional development process, is nevertheless heuristic as it is “processual” and “dynamic” (Bulea Bronkart and Bronckart 2005). It is in this sense similar to other theoretical readings in the fields of work analysis and teacher training that equate competence with a complex, dynamic and always contextualized process (Ericsson 2002, Nicolaou and Constantinou 2014). It differs from readings that equate competence with a state: the result of the more or less synchronous mobilization of various resources acquired in isolation and then stored until needed, depending on the professional situation (Koster and Dengerink 2008).

This difference is all the more significant as this conception of competence is still dominant in the field of teacher training (Willegems et al. 2017). For example, it explains the adoption and implementation of the principle of alternation that is structured around the reiteration of acquiring unique resources (knowledge, skills and/or attitudes) in a training situation and then using them in a work situation. Yet, separating the notion of competence from the traditional sense of a set of prescribed resources (Smith 2005) and framing it as a dynamic experiential flow are considerable challenges. Separation makes it theoretically possible to complement
the long accepted “integrative alternation principle” in PT training with greater emphasis on
“continuity.” This would open new training possibilities for addressing the many difficulties
associated with the principle of alternation in teacher training. For example, a number of
researchers have pointed to the reality shock that PTs experience because of the discontinuity
between what they learn at the university and what they actually experience in the schools
(Allen 2009, Mai and Baldauf 2010, Zeichner, 2010). Although the principle of alternation is
extensively applied in teacher education across the world, the problem of this discontinuity
between practical work and training situations (Borko et al. 2008) or, more broadly, between
the schools and the university (Haymore Sandholtz 2002, Wang and Odell 2007), is also
widespread. The resources that PTs acquire in each of these situations require different types
of effort and ultimately they remain fragmented and situated alone either in the university or
the professional context (Hahn 2007).

5.2. Practical implications

5.2.1. Rethinking mentoring activities in PT training

This conceptualization suggests that PT mentoring needs to be thought about in a more
specific and subtle manner. It is, for example, paradoxical that CT activity is still mostly
limited to the post-lesson conferences following classroom practice, whereas CTs might best
serve in the actual work situations in which competences are built (Delgoulet and Vidal
Gomel 2013). As knowledge about teaching is tacit and not readily accessible, CTs would
therefore serve as bridges, enabling PTs to access professional experience in real work
(Feiman-Nemser 2001, Mena et al. 2017). Other studies have certainly suggested other kinds
of mentoring situations in which CTs and PTs observe each other, co-teach, and/or co-analyze
their own classroom practice or those of other experienced or novice teachers (Aderibigbe et
al. 2018, Guise et al. 2017, Korhonen et al. 2017, Lu 2010). However, these situations have
never been arranged within the framework of structured training scenarios that initiate and
support the dynamic process of competence building, although this is where the main
practical implication for CTs can be found. The conception of competence that we advance is
in this respect heuristic. It opens up new possibilities for arranging mentoring situations that
can be theoretically justified, as was the case, for example, for the training program that
served as a support for this study. The results highlight the value of CT commitment to a
range of mentoring situations that enable PTs to progressively engage normative capacities
(Cometti, 2004) (i) to signify the ongoing training or work experiences on the basis of
previously taught situated normative experiences, (ii) to analyze these experiences in
comparison with the situated normative experiences, followed by the "simulated" realization
of the situated normative experiences in a context of training and/or classroom work, and last
(iv) to realize the situated normative experiences in a work context that has not been arranged.
In concrete terms, our results make it possible to formalize the practical implications so that
CTs can optimize the process of alternation between training and professional practice and
contribute more effectively to the construction of PTs’ professional competences. First, they
need to be equipped with a "professional frame of reference" (Authors, 2010) that is built with
the USs and that formalizes the main situated normative experiences to share with the PTs.
On the basis of this professional culture shared with the USs, who can also refer to this
framework in their university training sessions, the CTs can then engage in implementing
mentoring situations along a continuum to progressively build professional competences. In
general terms, a training progression like the following might be considered and reiterated for
each situated normative experience. Depending on the local circumstances (e.g., difficulties
encountered by PTs), each situation could be considered over a shorter or longer period:
- Situation 1: After observing the actual needs during PT classroom practice, the CTs
respond by ostensive teaching of the situated normative experiences during the post-lesson
interview;
- Sequence 2: Based on the situated normative experiences that were taught, the PTs are
invited to observe and analyze the classroom practices of their CTs or peers. This
observational work is then discussed in a post-lesson interview with the CTs;
- Situation 3: In the CTs’ classrooms and with their in situ assistance, PTs engage in an
"arranged" realization of the previously taught situated normative experiences. This
"adjusted" professional practice time is the completed with a post-lesson interview with the
CTs;
- Situation 4: The PTs engage in carrying out situated normative experiences in their own
classroom without being assisted. This "unarranged" professional practice time is observed by
the CTs and is concluded with a post-lesson interview;
- Situation 5: After the PTs have learned the situated normative experiences, the CTs then
accompany them in their interpretations as a support for their professional development. This
training work is accomplished during the post-lesson interview.
5.2.2. Rethinking articulation between the university and the schools
The empirical findings provide original insight into the process of competence building in PT
training. We conceptualized it as an experiential flow, and our findings reinforce mentoring
activities and CTs’ role in supporting this flow to build competence. Yet despite these
findings, significant questions remain not only about the role of CT support within the
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schools, but also about the overall training process, especially the issue of strengthening university support to CTs. From the perspective of the “accompaniment” proposed within this framework, a constant mentoring presence to give PTs full-time support from both the school (CTs) and the university (USs) is utopian. However, the findings of this study emphasize the importance of articulating training situations whether at the university or in the schools, with CTs and USs closely accompanying PTs, alone or together. The results also underline the need for articulation between the university and the schools (Jones et al. 2016). Partnerships between CTs and USs are crucial to ensure effective and cooperative training situations (Cartaut and Bertone 2009, Gardiner and Lorch 2015), as these partnerships will go a long way in ensuring the “continuity” of competence building during the overall training process. Technology offers other means to explore new possibilities for training situations (e.g., video), compensate for the absence of mentors, and/or collect data on their activities, thus providing them with opportunities for future feedback and analysis (Authors 2015b).

In concrete terms, within the framework of a stronger articulation between the university and the schools, the training program presented above could be optimized. For example, the CTs could inform the USs of difficulties experienced by the PTs via an eportfolio. The USs would then be able to proceed themselves to the ostensive teaching of the situated normative experiences. This would bring about the construction of a culture common to all PTs. Using video excerpts of classroom practices, the USs could also immediately engage the PTs in observing and analyzing the contents on the basis of the situated normative experiences that were taught. In addition, the USs could facilitate the "arranged" realization of these situated normative experiences in the CTs’ classrooms. They could do this, for example, by having the PTs carry out role plays at the university of what they will be asked to realize in the schools. Last, based on the CTs’ observations of what the PTs have learned, the USs could accompany the PTs in their interpretations of the situated normative experiences, again with the support of video extracts. New solutions, which are sources of professional development, would then be built collectively. These solutions could then be concretely tested by the PTs in their classrooms with the help of the CTs.

6. Conclusion

This study tested the theoretical hypothesis that PT competence building is an experiential flow that is enriched by a series of progressive training situations. Through a case study, it reveals that PT competences are indeed gradually and cumulatively developed throughout these training situations. Most significantly, the findings highlight the “dynamic” and “processual” nature of competence building in teacher training, although this needs to be
confirmed in future studies. They also suggest that a shift in focus to building “continuity”
would enhance the current “alternation training model” by connecting each training situation
within the overall teacher training process. The scope of this study was limited because USs
were not engaged in this fieldwork. Yet clearly, in order to rethink how CTs can better
support PTs, structured support at the university level is vital. Therefore, further research is
needed with the engagement of mentors from different culture systems working together to
find new ways of optimizing training activities in the clear goal of supporting PT competence
building.

In addition to these contributions to teacher education theory, this article offers food for
thought and guidance for policymakers as they devise ways to optimize teacher training.
Three areas for reflection appear particularly worthy of consideration: how to build a common
professional culture for CTs and USs; how to encourage the construction of real training
collectives by ensuring that CTs and USs are trained for the specific activities they carry out
in these collectives; and how to ensure that schools truly become spaces for professional
training, at the heart of which arrangements for the classroom work are conceived and
organized. Only by responding to these concerns can policy decisions be made in the direction
of creating "collaborative" and "interactive" training environments (Paris and Gespass 2001)
that offer PTs, as well as CTs and USs, the conditions to develop professionally (Haymore

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