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Understanding and Promoting Self-Direction in Freshman and Master's Students: A Qualitative Approach

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This study investigates how the transition toward self-direction is experienced and facilitated in 2 semester-long courses in teacher education degree programs and the differences in such a transition for freshman and master's students. The thematic analysis of the written self-assessments of 8 illustrative examples enabled the detection of (a) students' initial upset in the face of demands for internal authority; (b) the support of the teacher and peers in managing that upset; and (c) the students' shift toward more complex conceptions of learning and teaching, including evidence of increasing self-direction. These findings shed light on the potential of intentionally designed learning contexts for promoting students' epistemological development. The similarities found between freshman and master's students' experiences when managing the demands of internal authority emphasize the underutilization of the most extended teaching practices in higher education.

Keywords: self-direction, higher education, epistemological development, teacher education, qualitative methods

In recent decades, major changes in Western societies have resulted in the demand for individuals to undergo qualitative changes in their ways of making sense of life. Globalization, interconnectedness, scientific and technological breakthroughs, and a knowledge-driven economy all require adults to develop complex competences such as being adaptable or being able to manage uncertainty. What underlies this is the need for increasingly complex ways of meaning making (Kegan, 1994; Taylor & Cran-

ton, 2013) or epistemological development—a phenomenon widely studied from a constructivist–developmental perspective (for a review, see Van Rossum & Hamer, 2010).

What society today demands of adults is a shift from an uncritical reliance on external sources of authority to the internal authorship of their identities, relationships, and beliefs (Baxter Magolda, 2001; Kegan, 1994) or, in Kegan and Lahey's (2009) terms, a shift from a socialized mind toward a self-authoring mind. While the socialized mind is shaped by the definitions and expectations of our social environment, the self-authoring mind is able to take a step back from that environment in order to generate an internal authority that evaluates and makes choices about external expectations. A self-authoring developmental stage is related to the possibility of self-directing one's learning, which involves the development of critical thinking and individual initiative, the setting of one's own goals and standards, the use of resources to pursue these goals, the assumption of responsibility for one's learning, and the acquisition of the competence of self-evaluation (Grow, 1991).

When facilitating the transition toward self-direction, higher education can play an essential role by providing students with learning expe-

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riences that require them to go beyond a socialized developmental stage (Baxter Magolda, King, Taylor, & Wakefield, 2012; King & Siddiqui, 2011). For students accustomed to relying on external authority, however, these demands can initially make them feel “in over their heads” (Kegan, 1994). In this respect, it is worth noting that the movement toward internal ways of meaning making does not imply a mere increase in individuals’ behavioral repertoire but rather a qualitative change in their way of knowing (Kegan, 2000). This kind of change, inherent to the so-called transformative learning, involves examining and questioning one’s current assumptions in the light of new experiences and then creating more accurate assumptions in order to understand the world from a more complex perspective (Mezirow, 2000). One case in point is the need for students to cast aside the conceptions of learning and teaching that they have built on the basis of previous experiences and usually taken for granted. In this regard, Van Rossum and Hamer (2010) highlight the fact that the greatest challenge for students is to shift from conceiving learning in terms of quantity and knowledge reproduction toward conceiving it in terms of quality and collaborative knowledge construction.

Although there are still many higher education environments that do not provide learners support in order to enhance their progressive internal meaning making (for this argument, see Barber, King, & Baxter Magolda, 2013), there is also evidence of an increasing interest in identifying models to guide educational practice in the promotion of such a transition (see, e.g., Baxter Magolda, 2012; Cranton & Wright, 2008; Pizzolato, 2008). As for empirical research on this topic, well-known studies have been carried out by Baxter Magolda (for recent examples, see Barber et al., 2013 and Baxter Magolda et al., 2012) and by Pizzolato (see, e.g., Pizzolato, Nguyen, Johnston, & Wang, 2012). Most often, studies have approached the shift of university students toward internal authority as a result of merely taking higher education courses over a period of 4 to 5 years. However, as far as we are concerned, only a few studies have attempted to study the transition toward self-direction in the context of specific learning experiences that sought to deliber-

ately facilitate it (for a related example, see Sze-Yeng & Hussain, 2010).

As higher education teachers, we are deeply committed to promoting students’ self-direction in the developmental and educational psychology courses that we teach at different levels of teacher education degree programs. Within this context, in the present study, we aim (a) to investigate how the transition toward increasing self-direction occurs throughout a semester-long course and how that transition may be different for freshman and master’s students and (b) to investigate how the teaching methodology proposed can facilitate this kind of epistemological transition.

Method

Research Context: Participants and Training Methodology

This study focuses on two courses in two teacher education degree programs: a course on developmental psychology for freshman students earning a degree in primary education and a course on developmental and educational psychology for postgraduate students earning a master’s degree in secondary education. Both courses were taught at a Spanish university during the first semester of the 2011–2012 academic year. They were taught by the second author of this paper. The first author was a participating observer at the face-to-face sessions. The undergraduate course was attended by 59 students and taught over 42 hr in 28 sessions; the master’s course was attended by 56 students and taught over 21 hr in 14 sessions.

The two courses had many common traits, not only with regard to their field of study but also with regard to their underlying epistemology, the teaching methodology adopted, and the competences they aimed to develop. The courses adopted a constructivist epistemology based on the active role of learners (Piaget, 1975/1985; Vygotsky, 1930/1978). Within this framework, of particular relevance for our purpose in promoting students’ self-direction are the ideas of participatory appropriation (Rogoff, 1995) and dialogical inquiry contexts (Anderson, 1997). The former encompasses the process of the learner’s transformation through his or her involvement in activities where a greater sense of autonomy, reflection, and appropria-

tion is achieved. The latter highlights the need for collaborative relationships between learners and teachers when undergoing such a transformation.

These ideas were embodied in the teaching methodology of the courses, which was based on collaborative learning (Iborra, García, Margalef, & Pérez, 2009) and experiential learning focused on the process (McWhirter, 2002) approaches. The face-to-face classes consisted of exercises dealing with the analysis of different contents, such as case studies, brief texts or videos, and with participants' own experiences, such as analyzing students' transitions as they took place during a class, creating an emotional bond with a new object, exploring how one's teaching differs in accordance with one's familiarity with the content taught, and so forth. These collaborative and experiential exercises were interspersed with teacher dialogue and discussion with the whole group of students when theoretical concepts were introduced in order to encourage students to make connections with their own personal experiences. In addition to this, a variety of materials, such as texts, videos, presentations, or links to web pages, were available for the students to explore. Moreover, at the beginning of the course, it was suggested to students that they created an optional personal blog where they might write about whatever they deemed appropriate as the course progressed, with a view to encouraging their engagement in reflection and self-assessment processes.

As for the structure of the sessions and the courses themselves, it should be stressed that this was not made explicit to the students at the beginning. Rather, this structure was conceived as something that the students had the opportunity to construct actively in the light of the connections that they were able to make as the sessions progressed. In this respect, the courses had a marked optional component that permitted the students to decide how to get involved in the activities, the sessions, or the whole course.

The competences that the courses sought to develop were the analysis and the interpretation of cases from a developmental and educational perspective and, in this respect, the analysis of students' own learning and development throughout the courses by making use of theoretical concepts such as trajectory, transition, turning point, variational and

transformational change, orthogenetic principle, epigenesis, accommodation and assimilation processes, feedforward and feedback, critical incidents, implicit conceptions, zone of proximal development, and so forth. Ultimately, the courses sought quite intentionally to generate different contexts of exploration in which students could become more sensitive to human developmental processes and better disposed to reviewing and challenging their current forms of meaning making.

Data Collection

In qualitative research, individuals' meanings are fundamental for understanding how they make sense of their own experiences (Denzin & Giardina, 2015). In order to gain knowledge of those experiences, textual data are optimal in that they contain the expression of individuals' thoughts and the explanation of their actions in their own words (Avis, 2005). Accordingly, at the end of the courses, we asked the students to complete written self-assessments. For our purposes, self-assessment provided a context for the students to reflect on their own learning processes over a period of around five months and at the same time gave them the opportunity to practice and supply evidence of their degree of self-direction (for further details, see Nogueiras, Herrero, & Iborra, in press). In this sense, we expected the theoretical and processual distinctions learned throughout the courses to equip students to put into more effective practice the competence of self-analysis from a developmental perspective. In line with our courses' optional component, we asked the students to elaborate on their self-assessments as they deemed most appropriate. Nonetheless, it was suggested that they refer to issue such as: what they had learned in terms of concepts, competences, or ways of learning; their experience of peer activities; and the quality of and the reasons for the degree of their engagement throughout the course.

Sample

Our aim in comparing freshman and master's students' experiences was to explore whether they responded differently to a similar learning context in light of their distinct experiences of prior academic socialization and their expected different developmental features and needs. In this regard, while freshman students at the start

of their university studies are transitioning toward a new stage in their lives, master's students are preparing themselves for entering the professional world and leaving behind formal training. Thus, master's students were expected to be more prepared than freshman students to make use of their own personal resources in order to face demanding learning situations; in other words, master's students were expected to self-direct themselves in more complex ways than freshman students.

For this study, we selected four freshman students (three women; age range of 19–23; average age of 20) and four master's students (two women; age range of 28–30; average age of 29.75) who were considered to be optimal examples of the transition toward increasing self-direction at the end of the courses under research. The greatest evidence of this consisted of the degree of complexity and elaboration of their final self-assessments. Additional evidence was the quality of these students' participation throughout the courses, both in the face-to-face classes and in virtual environments such as the blog. The students were informed of the purpose of this research and given guarantees regarding the confidentiality of the information gathered. In the following sections, we use pseudonyms when referring to them in order to ensure their anonymity.

Data Analysis

The qualitative approach to making sense of students' self-assessments was operationalized through a thematic analysis performed with the aid of NVivo software, Melbourne, Australia (QSR International Pty Ltd., 2008). The analysis was run by the first author of this article. The second author played the role of a *critical friend* (Foulger, 2009) who took part in the ongoing process of analysis and in the definition and discussion of the themes identified. The thematic analysis was carried out by taking as guidelines the phases proposed by Braun and Clarke (2006). To begin, the students' self-assessments were read thoroughly in order to make an initial appraisal of significant patterns of meaning. Then, initial codes were generated inductively from the students' texts in such a way that, rather than imposing themes on them, the texts were explored in search of the themes that were important for the students. Next, in order to facilitate the sorting of the dif-

ferent codes into tentative themes—a process requiring a more deductive approach to our data—conceptual maps were created. The refinement of the conceptual maps made it much easier to identify the main themes progressively and to subsequently review, define, and name them. Finally, the analysis was refined in the process of drafting the findings report, which is presented in the next section.

Findings

The analysis of the students' self-assessments enabled three themes to be identified: (a) the experience of some initial upset when faced with the demands of internal authority underlying the courses under research; (b) the support of the teacher and peers in managing that upset; and (c) the students' transition toward more complex conceptions of learning and teaching, including evidence of increasing self-direction. In the following sections, these themes are presented and illustrated with excerpts taken from the students' self-assessments.

Initial Upset: Why Doesn't the Teacher Tell Me Clearly What I Am Expected to Do?

The courses' methodology proved to clash with the students' expectations founded on transmissive teaching models where the emphasis was on knowledge reproduction and closed guidelines were provided by teachers. This is noticeable in the following excerpts:

- *The teacher no longer explains the lesson or expects us to memorize it. Now he wants us to find and form that lesson for ourselves, to make it ours, to build it on our own (Sally, freshman student).*
- *Everything is very different from what we were used to. It seems that no one is assessing us, that everything is in our hands (Nadia, freshman student).*
- *I expected that the teacher, the expert, would come onto the stage and transfer his knowledge to us, simplifying it so that we swallowed and digested it (Lana, master's student).*
- *I expected to understand very well what I had to do, that the teachers would spell out the objectives and the activities so that we*

did them as well as possible in order to get a good degree (Jake, master's student).

Thus, when first immersed in a constructivist and open-structured learning context that put demands of internal authority on them, both freshman and master's students experienced some upset characterized by the sense of feeling lost, the impression that they were wasting their time instead of learning, or a concern about the appropriateness of their performance in relation to the expected external assessment. Upset was accompanied by puzzling emotions, such as disorientation, insecurity, or frustration. The following excerpts exemplify this:

- *The first few days we felt quite lost. There weren't exams or deadlines, but we were free to look for information and learn on our own* (Sally, freshman student).
- *At the beginning I felt frustrated. I felt that reflecting on the blog, reading texts or attending classes was useless. It was useful for me, but not for the teacher. I believed that it wouldn't help me to get a good degree* (Nadia, freshman student).
- *The "non-master class" sessions disoriented me, without the pressure of assignments or exams, without a syllabus with delimited topics to be learnt in order to pass, without knowing how you [the teacher] were going to evaluate us* (Edith, master's student).

Supportive Resources: New Ways of Taking Advantage of Learning Companions

In the process of facing the new demands arising from the courses, students referred to both the teacher and their peers as supportive resources. As far as the teacher was concerned, the students highlighted his facilitating attitude, as shown by his ability to generate a context of confidence, empathy, and symmetry and by his respect for individual differences. The following excerpts refer to these qualities:

- *He made the effort to get to know us and to find out what we wanted. He understood that all this was new for us and never forced us to go quicker. He adopted a close position and made us feel comfortable* (Sally, freshman student).
- *By accepting our way of understanding without feeling compassion, he set the*

foundations for our initial mental stage. In this way we could establish a dialogue at the same level as well as bases for building further (Lana, master's student).

As for peer work, both freshman and master's students highlighted its value in helping them consider others' ways of thinking, which in turn enabled them to question and revise their own. This is illustrated in these excerpts:

- *The contrasts between peers' opinions allowed you to take other points of view that you might have not taken into account before and that led you to broad knowledge* (Aaron, freshman student).
- *The different ways of thinking of every student made me reconsider my own points of view, accept the arguments of others' points of view and change some of my preconceptions* (Edith, master's student).

Unlike freshman students, master's students were able to generate an informal learning community initiated by the network of their personal blogs. We regard this as evidence that they derive greater benefit from peer groups as a resource for learning in greater autonomy without the teacher. The following excerpts refer to the potential of this learning community:

- *Little by little, we formed a network of tools, interchange, complicities and concerns which was very positive for creating the conditions for good learning, and collective responsibility* (Adam, master's student).
- *Everyone contributes what they think may favor their peers. We progress very quickly. There is a leap in quality in a process which doesn't require the constant presence of the teacher and which is supported by individual and collective inquiry* (Jake, master's student).

Increasingly Complex Conceptions of Learning and Teaching: Seeing the Former Landscape From a Vantage Point

In their interaction with the new teaching methodology, the students' initial conceptions of learning and teaching were questioned and evolved over the courses. In contrast to learning conceptions based on knowledge reproduction, students furnished evidence of a new under-

standing of learning as the application of knowledge. In this regard, freshman students stressed the value of making connections between theoretical content and reality: *Seeing theory reflected in a practical event is what makes us understand it. Theoretical knowledge is useless if we don't know to apply it* (Sally, freshman student). For their part, master's students were more subjective when describing the application of theory in relation to specific personal experiences, as is clear from this excerpt: *My switch turned on one Saturday afternoon, when I was in front of the TV watching a film. It was the application of what I had learnt in an everyday situation that caused it. I had learnt things and I was using them outside classroom, in my daily life* (Lana, master's student). Further evidence of students' modifying their initial conceptions of learning and teaching was their awareness that learning was not simply an externally imposed activity to be assessed by quantifiable products:

- *If I learnt something on this course it is that the product is not as important as the process itself* (Nadia, freshman student).
- *The most important thing in this course has been to learn that it is not grades which matters, but learning for pleasure and not because you have to* (Anne, freshman student).
- *Learning because you have to is not the same as choosing what you want to learn. As I discovered in this semester, it is not "what" but "how"* (Lana, master's student).

These excerpts provide evidence of the students' transition toward more complex conceptions of learning and teaching, a transition that was directly connected to our deliberate efforts to generate a context for enhancing their self-direction. The following excerpts, which highlight a greater sense of agency, a tendency toward self-examination, and an engagement in self-assessment processes, show how, over the course, the students came increasingly to author their own learning processes:

- *I've been a part of my learning process, knowing where I was, my doubts, what I knew, making choices, asking when I did not understand and reflecting when sharing ideas with peers* (Aaron, freshman student).

- *The embodiment of knowledge in my personal life led me to ask myself questions about myself, about the "whys" in my life* (Anne, freshman student).
- *I started to sense that I was expected to develop personal initiative, a commitment not to the teacher or the course, but to myself and my own learning process* (Jake, master's student).
- *The self-assessment is meaningful in itself as a reflection for and about oneself, as a dialogue with our "inner self" and this aim has been attained. Taking this course has meant a redefinition of my personal goals and achievements* (Lana, master's student).
- *The activities that I have got involved in have given me the capacity to generate my own criteria and my own learning preferences* (Adam, master's student).

Overview of Findings

The themes identified shed light on the experiences of freshman and master's students when successfully managing a learning context that encouraged them to develop more complex ways of meaning making than they initially had. Both freshman and master's students experienced some initial upset as a result of the mismatch between their learning and teaching conceptions and the demands of a collaborative and experiential learning methodology that required increasing self-direction of them. A horizontal relationship with the teacher and peer work became key resources when facing these new demands. The students responded actively to the initial upset by revising their initial understanding of learning and teaching and thus moving toward more complex conceptions. One instance of this transition was that the students became aware of the fact that the courses were intended to enhance their self-direction and acted accordingly. When comparing freshman and master's students' experiences, we did not find as many differences as expected. However, master's students seemed to have reached a more consolidated stage in their conception of learning as application, as demonstrated in their more autonomous recourse to peer work.

Discussion

Intended as it was to promote self-direction, the methodology of the courses under research entailed new demands for students whose conceptions of learning and teaching had, for the most part, been built in transmissive, hierarchical, and content-based learning settings. Learning contexts that lead students to question their accepted ways of knowing tend to be unsettling (Apte, 2009; Cranton, 2002; McEwen, Strachan, & Lynch, 2010) and tend to elicit emotions such as fear, grief, loss, regret, or anger (Dirkx, Mezirow, & Cranton, 2006). In this line, Cranton (2002) and Devís-Devís and Sparkes (1999) offer the example of two students, Andrew and Guillem, whose ways of understanding learning were deeply challenged in the context of educational programs aimed at enhancing their internal meaning making. As an initial response, they felt frustrated and angry and regarded the learning context as useless. This kind of reaction is similar to our own students' initial upset, characterized by disorientation, insecurity, frustration, and doubts about their performance when faced with a learning context where, unexpectedly, no delimited topics, deadlines, or exams were provided by teachers.

An upsetting experience like the one described by our students might, however, be desirable in that it provides them with an opportunity to review their current ways of making meaning. Piaget (1975/1985) described development as a combination of assimilation and accommodation processes in response to conflicting contextual demands that destabilize individuals' ways of understanding. In this regard, our participants were examples of students who underwent accommodation processes in response to the initial upset associated with the teaching methodology. From a dynamic systems view, the initial upset experienced by the students could be understood as the trigger for a transition (Kunnen & Van Geert, 2012) in that it offered students room for exploration and adaptation to the new demands arising from the learning context.

The students' transition toward internally driven ways of meaning making appeared to not be trouble free. In this sense, although we cannot teach self-direction directly, we can create conditions that facilitate the development of

such a competence by providing students with an ever-changing balance of challenge and support (Cranton, 2002; Taylor, 2008). Our students acknowledged this when they stressed the role of the teacher and their peer group as supportive resources in their progressive transition toward internal authority (Pizzolato, 2003).

As for the teacher, the students valued the fact that he acknowledged their initial ways of meaning making, which is in line with a developmentally tiered approach where effective challenges involve taking as a starting point students' current developmental capacities (Baxter Magolda & King, 2004; Kegan, 1994). Similarly, the students reported that the teacher was willing to provide them with support when necessary. In this regard, Cranton and Wright (2008) define transformative educators as *learning companions* who deliberately create a safe environment by developing a sense of trust and possibility that enables students to overcome their initial fears. Our students reported also the generation of a climate of trust, which emphasizes the importance of taking care of the quality of the relationship generated between teachers and learners (Brady, 2014).

As for their peers, both freshman and master's students highlighted the value of working in teams due to the possibility of exchanging different perspectives with others. Students with a socialized mind make meaning of their experiences through contact with different perspectives from those around them. In this regard, peer relationships might serve as a "transitional object, both part of the old way of knowing and part of the new" (Kegan, 1994, p. 44). This happens because young adults do believe that other individuals are like themselves, when in fact these others hold different perspectives from the young adults themselves. Thus, the likely dissonance between others' and one's own perspectives opens the door to the revision and critical questioning of one's own perspectives, which enhances an internal move toward internally grounded decision making (Apte, 2009; Baxter Magolda, 2000; King & Siddiqui, 2011). In the case of master's students, their creation of a community of learners is a good example of the use of a peer group as a resource for autonomous learning (Baxter Magolda, 2000). The collaborative dynamics generated in the group were at the service of further knowledge elaboration. We consider this to be evi-

dence of how these students responded with greater complexity than freshman students to a methodology underpinned by the demand for increasing personal initiative and decreasing teacher dependence.

The process of creating a developmental response to the demands of the learning context, which was supported by both the teacher and their peers, led students to experience qualitative changes in their initial way of understanding learning and teaching. What the students understood as learning at the beginning of the semester came from their previous learning experiences, mainly based on the reproduction of factual knowledge. Conceptions of learning from such environments are usually related to simplistic conceptions according to which learning is *increasing knowledge* and *memorizing*, in line with Van Rossum and Hamer's (2010) six-stage theoretical model of ways of learning and knowing. Similarly, acting according to these learning conceptions is connected to a socialized mind (Kegan & Lahey, 2009). From this developmental stage, what one thinks is influenced by what one believes that others expect from oneself. In a learning context, this translates into learners believing in right and wrong answers and relying on an expert who is in possession of the truth.

The move beyond this stage was evidenced by our students at the end of the course when they described learning as a process engaged in for internally generated reasons instead of in response to external demands. In comparison with the students' initial expectations of having clear protocols to follow and their initial concerns about external assessment, this amounted to a significant change. In this regard, going beyond a learning conception based on content leads the way to more complex conceptions related to application and to the possibility of thinking for oneself (Van Rossum & Hamer, 2010). These conceptions involve a qualitative change toward an active student role and emphasize the processes of learning versus the contents of learning.

At the end of the courses, both freshman and master's students highlighted the possibility of applying what they had learned to everyday situations, which is evidence of a conception of learning as *application* (Van Rossum & Hamer, 2010). The ability to use theoretical concepts to understand real-life cases was noticeable in both groups of students. However, it was slightly less

consolidated in freshman students than in master's students. For the former, application was an objective realization at a more intellectual level insofar as they made connections between theory and reality—but as something “out there.” For the latter, application was a more subjective experience that involved a greater internalization and an inclusion of themselves as something to make connections with (Nogueiras et al., in press). Students also gave evidence of characteristic features of a *thinking for oneself* learning conception (Van Rossum & Hamer, 2010) related to self-direction. They showed individual initiative, use of resources to pursue their goals, an increasing responsibility for their learning, and the competence of self-evaluation (Grow, 1991). In this regard, they started to move from a simplistic reliance on authority toward a greater responsibility that led them to become active authors of their learning (Baxter Magolda, 2004), to consider themselves as an object of change, and to be the authors of their reality (Kegan, 1994).

Two interesting issues for discussion emerge from our findings. On the one hand, we admit that the courses under research are examples of deliberately developmental learning contexts (Kegan & Lahey, 2016). However, we wonder to what extent the changes undergone by the students may be no more than an example of an optimal level of performance connected to the high degree of social–contextual support. If this was the case, students would be expected to regress toward a functional level in learning contexts where such support was not provided (Fischer & Yan, 2002). In this regard, Apte (2009) highlights the challenge that students face when maintaining the epistemological progress experienced in specific contexts after returning to their usual social environments and, more precisely, to nondevelopmental educational settings, such as other courses in the same training program.

On the other hand—but still related to the previous point—another issue of interest has to do with the similar upset experienced by both freshman and master's students when faced with demands for internal authority and with their similar shift beyond conceptions of reproductive learning. This leads us to wonder to what extent many higher education settings may simply be perpetuating students' dependence on external authority and unsophisticated concep-

tions of learning and teaching developed in their school years. Once the role that higher education can play in students' epistemological development is admitted, our findings stress the need to adopt teaching approaches that promote students' real autonomy. This is something that does not usually occur in many university courses, where students are externally directed and technical and informational learning is prioritized over transformational learning (Kegan, 2000).

We further wonder whether higher education teachers are epistemologically ready for considering the issues discussed herein. A large proportion of the adult population is located within a socialized developmental stage or in transition toward a self-authoring developmental stage (Kegan, 1994). Viewed this way, the questions arise: To what extent are higher education teachers able to reflect on and question their own learning and teaching conceptions? To what extent are they prepared to support students through their epistemological development? Or, at a more fundamental level, is students' epistemological development an issue for them? If Keeney's (1983, p. 27) idea regarding therapy is applied to the educational field, for teachers to support students' development, it is indispensable that they have an epistemology that is more abstract than that of their students. We find this issue particularly interesting from our perspective as educators of future teachers, a perspective that makes us more aware of the importance of continuously challenging our own assumptions and conceptions at the same time as we attempt to challenge those of our students.

Limitations

We would like to highlight two limitations to the present study. On the one hand, we specifically investigated the experience of students who were considered optimal examples of being in transition toward increasing self-direction at the end of our courses. In order to generate a more comprehensive understanding of the effect of learning contexts designed to promote epistemological development, the experience of students showing different degrees of performance and change should also be investigated. On the other hand, we acknowledge that the kind of epis-

temological change that we intended to facilitate in our students cannot be fully accomplished within the context of a semester-long course but instead needs to continue developing over time. In this sense, it would be useful to carry out longitudinal studies in order to follow up with those students who, like the participants of the present study, give evidence of epistemological transition at the end of a specific learning experience.

Directions for Future Research

The present study showed that students experienced some initial upset associated with puzzling emotions when faced with the challenging demands of internal authority underlying our courses. This is in line with previous findings that show how situations of cognitive conflict lead to emotional arousal in individuals (Arpiainen, Lackeus, Täks, & Tynjälä, 2013). In this sense, approaching students' emotional experiences throughout training programs aimed at facilitating self-direction can help us understand what the process of managing destabilizing demands is like (for this argument, see also King & Siddiqui, 2011). In doing so, in addition to students' texts, it would be interesting to gather time series data on the emotions that they experience and the degree of challenge and support that they perceive. A dynamic systems approach to these data would enhance the follow-up of students' changes over time (see, e.g., Nogueiras, Kunnen, & Iborra, 2013).

Conclusion

Beyond theoretical arguments for the role of higher education in promoting the transition toward self-direction in order to enhance adult development, exploring specific individuals' shift toward internal authority might provide valuable clues for educators, who are considered key resources in such transition. In this regard, we believe that the main achievements of this research lie in

- giving an account of the initial upset experienced by students when faced with the demands for internal authority made by two semester-long courses in teacher education programs: one for freshman students and the other for master's students;

- providing evidence of these students' shift toward more complex conceptions of learning and teaching over the courses, a shift illustrated by their increased final self-direction;
- pointing out many similarities between the experiences of freshman and master's students' in such courses, similarities that lead us to question the underutilization of current teaching practices in promoting students' epistemological development during their college years; and
- related to the above, acknowledging the key role of the constructivist methodology proposed and the value of both teacher and peer support in enhancing students' transition toward internal ways of authoring their lives.

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