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DOI: <https://doi.org/10.1080/13540602.2017.1379388>

To appear in Teachers and Teaching.

Please cite this article as: Ibis M. Alvarez, Crista Weise, Berta Vall, Montserrat González & Andy Morodo (2018) How do primary education trainee teachers perceive educational psychology?, Teachers and Teaching, 24:1, 81-94, DOI: 10.1080/13540602.2017.1379388

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How do Primary Education trainee teachers perceive Educational Psychology?

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ABSTRACT

Educational Psychology makes a significant contribution to the development of skills to research the effectivity of teacher practices in class. However, there is little agreement on what educational psychology concepts are most relevant for teacher training. This paper reports on trainee teachers' self-perceived mastery of, and attributed importance to, the syllabus content of the Learning & Development module taken as part of the BA Primary Education programme at a university in Barcelona (Spain). Data were collected through a questionnaire answered by all the participants ($N = 561$) and a focused interview conducted with a representative sample ($n = 24$). Results showed that students attributed greater importance to syllabus topics related to socio-emotional development and teaching roles in the classroom. Theoretical topics, such as conceptual frameworks for development and learning, were less rated. Students reported deficient mastery of the syllabus topics and significant gaps between attributed importance and self-perceived mastery of contents were confirmed. Implications of our study results for teaching psychology to primary school pre-service teachers are discussed.

Keywords: primary education trainee teachers; pre-service teachers; educational psychology; learning expectation

Introduction

Early positive approaches to the inclusion of psychology in education, such as Hume's (1879) and Thorndike's (1910), laid the basis for accepting psychology as part and parcel of teacher training. Since then the importance of psychological knowledge hasn't been challenged but sadly there has been little agreement on the psychological concepts that are most relevant for teacher training.

Learning and Development modules, which deal with the psychology of education, are expected to help pre-service teachers to understand how children develop and learn; what motivates them; why social context, interpersonal relationships and emotional well-being are all important factors in learning; how classroom can be best managed, and finally, how teachers can assess student progress (APA, 2015; Daniels & Shumow, 2003; Emmer & Stough, 2001; Slavin, 2009; Spencer, 2005). Additionally, educational psychology knowledge is expected to considerably foster the development of research skills to assess the effectivity of teaching practices (Santrock et al. 2010; Woolfolk, 2000).

Most of the studies published to date acknowledge the importance of this subject matter; however, they also highlight deficiencies in its teaching, pointing out that syllabi are usually too theoretical and too focused on concepts (Asay & Orgill, 2010; Balson, 1974). Traditionally, educational psychology syllabi comprise a variety of theoretical perspectives to explain main concepts, instead of teaching general ideas that share a common basis. Thus, students are forced to deal with theoretical complexities that are more relevant for researchers than for trainee teachers (De Corte, 2000).

Moreover, several studies have shown that trainee teachers struggle to learn psychological concepts adequately, and they attribute this deficiency to the way in which they are being taught; namely, using instructive models that do not promote

communication between students and the teachers (Spector y Strong, 2001; Tan, 2006).

Students report that comprehending content is difficult and that they are not sufficiently motivated to learn; therefore, long term application of the knowledge in educational contexts becomes less feasible (Hofer, 2001).

Students come to classrooms with knowledge based on their everyday experiences, social interactions and intuitions, and with what they have been taught in other settings in the past. This prior knowledge affects how they will incorporate new learning because what students already know interacts with the material being taught (Johnson & Sinatra, 2014).

Educational psychologists frequently ignore the fact that teachers worry more about the usefulness and efficacy of their teaching practices than about the comprehension of research and/or psychological theory (Emmer & Stough, 2001; McCaslin & Hickey, 2001). Therefore, trainee teachers are interested in transferring acquired knowledge to their practice (Barnett & Hodson, 2001; De Corte, 2000; Hanich & Deemer, 2005).

Teachers can be instrumental in developing both conceptual growth and conceptual change in their students. “Accordingly, learning consists of either adding to existing student knowledge, known as conceptual growth, or transforming or revising student knowledge, known as conceptual change” (APA, 2015, p.7). As Woolfolk-Hoy (1996) states, what trainee teachers need from educational psychology modules is the means to understand, value, and apply the knowledge acquired through a teaching process that somehow involves teaching practices.

Consequently, educational psychology modules shouldn't be limited to “equipping” future teachers with theoretical knowledge (Anderman, 2011; Francis, 1996). In order to effectively contribute to professional development, the teaching of

educational psychology should be reframed through the re-construction of trainee teachers' previous beliefs about the teaching process, reflexive practice, and the promotion of self-efficacy (Schön, 1983). Trainee teachers are thus able to gain a wider re-conceptualization of their own practice which doesn't overlook the requirements and the vertiginous changes that currently take place in social and multicultural contexts, in which future teachers will practice (Polou, 2005).

With the above considerations in mind, this study sought to explore the importance that pre-service teachers attributed to the knowledge acquired in the modules Learning and Development (I) and (II). Moreover, previous knowledge (self-perceived mastery) and learning expectations on these modules were also explored. The study aimed to answer these research questions: (1) What knowledge do pre-service teachers at the Autonomous University of Barcelona expect to gain from the Psychology modules? (2) What previous self-perceived mastery do pre-service teachers report on the knowledge and skills which will presumably be developed on these modules? (3) What learnings expectations do these students have on Educational Psychology modules?

Method

Participants

This study was conducted over the span of one academic year at the Faculty of Educational Sciences of the Autonomous University of Barcelona. The participants were 561 students of the BA Primary Education degree, who were enrolled in the Learning and Development (I) and (II) modules. These semester-long modules are worth 10 ECTS credits each, and are taken in the second and third year of the BA respectively. The sample represents 90% of the total number of students in these

modules, with 50.3% (n=252) from the second year, and 49.7% (n=249) from the third. In terms of gender, most of the sample consisted of women (88% from the second year, and 90% from the third; the mean age is 21 years old (age range from 18 to 42 years old). A survey was administered to the n=561 students and then a randomly chosen sample of students was selected (n=24), and was invited to participate in a semi-structured interview to explore their learning expectations of these modules and to analyse in depth the main survey points.

Techniques and procedures

Questionnaire: to assess the importance attributed to Learning and Development (LD) modules and the students' self-perceived mastery of the module contents. The questionnaire was adapted from the survey instrument proposed by Tan (2006). It includes 66 items out of which 33 refer to conceptual knowledge (e.g. Understand pupils' language development), and 33 refer to skill (e.g. Promote pupils' language development). These items are linked to the syllabi of the LD courses, 28 items refer to Developmental Psychology contents (LDI) (topics related to conceptual basis of development; and physical, cognitive, and socio-affective development), 31 refer to content of Educational Psychology (LDII) (topics related to teachers' role, knowledge of pupils' development, interpersonal relationships and communication, and classroom management) and 7 items refer to research skills, which are a common topic for both modules (sample item: Reading and understanding scientific papers published in psychology or education journals). Answers were placed on a 5 points Likert-scale (5: very important; 1: not important at all). Both items were answered twice; one answer referred to the importance attributed and the other to self-perceived mastery. For the 66 items referring to importance attribute, the Alpha Cronbach coefficient was .95 and for the items referring to self-perceived mastery the coefficient was .98. Questionnaires

were administered by the teachers of each group on the first session. Participation was voluntary, and students had the option to use a nickname if they preferred to keep their identity secret. See Annex for a detailed review of the questions.

Semi-structured interview: The interview protocol was divided into three different aspects:

What should a future teacher know about Psychology: the a priori attributed importance to the contents, knowledge, and skills included in the module syllabus was explored. Questions aimed to promote reflection on the value of syllabus contents for future teachers. Additionally, self-perceived mastery on the knowledge and skills was also explored.

Module learning expectations: expectations on the knowledge, both conceptual (e.g. what do you expect to learn?) and procedural (e.g. what activities do you expect to undertake? How do expect learn?) , were explored.

Research related competences: students' previous knowledge and ideas about learning through research and inquiry-based learning were explored. Questions focused on the usefulness of research methods for both the students' learning process and their future work.

To avoid biased answers, the interviews were not conducted by the module teachers but by a research assistant. Participation in the interview was voluntary; interviews were recorded and transcribed for their subsequent analysis using Atlas Ti V6. Two members of the research team read the transcribed interviews in detail, and structured the analysis in terms of the research topics (importance of the contents, self-reported mastery, and expectations). These two research members analysed 25% of the data independently (6 interviews independently chosen). Coding was discussed and repeated until agreement of 82% was reached between the two researchers.

Results

Importance attributed to the knowledge acquired in Educational Psychology modules

As shown in Table 1, the topic that students attributed more importance to is Pupils' Socio-Affective Development. In second place was Teachers' Role, followed by Knowledge of Pupils' development. The ANOVA test for group comparison (second and third years) didn't show any significant difference on the less rated topics: Conceptual Basis of Development; Conceptual Basis of Learning, and Physical Development. Finally, in the topic related to Teachers' Role the difference found among both groups was marginal.

Table 1. Attributed Importance to contents of the syllabus of the Psychology course (LD)

Topic	Module	2 nd year (LDI) (n=252)	3 rd year (LDI) (n=249)	<i>p</i>
Socio-Affective Development	LDI	61.25 (6.9)	62.93 (6.3)	.008
Teachers' Role	LDII	55.49 (5.15)	56.37 (4.74)	.051
Knowledge of Pupils' Development	LDII	35.11 (2.77)	36.02 (2.65)	.000
Cognitive Development	LDI	28.31 (3.58)	29.16 (3.47)	.006
Interpersonal Relationships and Communication	LDII	25.48 (2.59)	26.19 (3.47)	.002
Classroom Management	LDII	21.98 (2.22)	22.75(1.84)	.000
Research Skills		20.25 (3.74)	21.37 (3.19)	.000
Conceptual Basis of Development	LDI	18.94 (2.75)	19.06 (2.74)	.634
Physical Development	LDI	14.43 (2.9)	14.15 (2.73)	.283
Conceptual Basis of Learning	LDII	11.4 (1.89)	11.66 (1.83)	.117

Note: The table shows average scores for the items in each topic, arranged from higher to lower. Standard deviation is indicated in brackets. The data in the last column refer to a comparison between second and third year students' answers via an ANOVA test. (LDI: Developmental Psychology contents, LDII: Educational Psychology contents)

A more detailed analysis of the results shows the topics that were more rated in each of the dimensions. We will now briefly review the most relevant ones; firstly, the most rated dimensions and then, the least rated ones.

The three most rated topics were:

- a) Socio-Affective Development: the most rated topics were learning to identify problems related to prejudices and discrimination; knowing the influence of the family's educational style on students' psychological development; understanding the development and functioning of young pupils and adolescents. The mean score of these items (for both modules) was higher than 4 (scores ranged from 1 to 5). All these items were categorized as conceptual knowledge (Know).
- b) Teachers' Role: the most rated items in this topic were helping students to enjoy learning; assessing/helping students with serious learning difficulties; understanding students' attitudes, and helping students overcome simple psychological problems. Mean of these items scored more than 4.5 (very important). The majority of these items were categorized as skills (Know to do).
- c) Pupils' Learning and Development: in this topic the most rated items were motivating pupils and promoting creative and critical thinking. The mean score of these items was higher than 4.5. The majority of these items were categorized as skills (Know to do).

The less rated topic was Conceptual Framework of Psychological Development. Students considered it was rather important to learn about pupils' development. However, learning about theoretical perspectives on psychological development or on the education was rated as non-important. The Research Skills dimension was not

highly rated; however, in a more detailed analysis, results show that the item “Doing research to assess the efficacy of our own teaching methods” was the only one rated as important in this dimension.

Pre-service teachers’ self-perceived mastery of psychology content of

As shown in Table 2, it is worth noting that students reported little mastery of syllabus content. Significant differences between second- and third-year groups were found in all the dimensions. Third-year students had taken the first module (LD I) in their second year; therefore, they reported higher self-perceived mastery on some contents.

Moreover, those students rated research skills higher.

This result, contrasted with the high mean values of the attributed importance, may be considered as learning needs reported by the students. Thus, for example, when comparing a low score on self-perceived knowledge on a specific content with the highly attributed importance to it, that topic is understood as a student learning need. The highest learning needs identified in both groups relate to the topics Socio-Affective Development and Teachers’ Role.

Moreover, maximum and minimum values and the standard deviation highlight differences among students in terms of previous knowledge and interests. Such student diversity is not surprising but it is something that needs to be taken into account when designing any syllabus. Bearing this in mind, and as the last step in the data analysis, semi-structured interviews were conducted with a representative sample. Below, the most significant results are presented, together with some representative comments by the interviews.

Table 2. Self-perceived mastery on the syllabus contents

Topics	Module	2 nd year (n=252)	3 rd year (n=249)
Socio-Affective Development	LDI	38.97 (8.23)	43.05 (6.75)
Teachers' Role	LDII	28.59 (7.58)	31.22 (6.56)
Knowledge of Pupils' Development	LDII	22.53 (4.73)	25.31 (4.06)
Interpersonal Relationships and Communication	LDII	15.71 (4.1)	17.93 (3.66)
Classroom Management	LDII	12.73 (3.37)	14.74 (2.88)
Cognitive Development	LDI	11.98 (3.74)	14.35 (2.93)
Research Skills		11.19 (4.06)	14.09 (3.36)
Conceptual Basis of Development	LDI	10.05 (3.62)	12.57 (3.34)
Physical Development	LDI	8.15 (3.08)	9.28 (2.71)
Conceptual Basis of Learning	LDII	6.45 (2.28)	7.73 (1.83)

Note: The table shows mean scores for the items in each topic, arranged from higher to lower. Standard deviation is indicated in brackets. (LDI: Developmental Psychology contents, LDII: Educational Psychology contents)

Students' learning expectations

Students reported a high level of expectation about learning psychology, whereas their level of previous knowledge of the syllabus content, the importance attributed to it, and their self-perceived mastery, presented divergent results.

Probably due to their little previous experience and knowledge, second-year students' expectations focused on general aspects of psychology. In some cases, for example, they referred to brain functioning, regulation of pupils' behaviour or getting to know the child. Therefore, these students had less concrete expectations than third-year students. Below are some examples of students' answers:

"I would like to learn about children's emotional development. I don't know...it is something that has always caught my attention."

“I have expectations to learn, to learn just about this topic. I think that sometimes we lack information. Teachers should make us do research in order to gain deeper knowledge of psychology.”

Third-year students' expectations concern expanding their knowledge they already have, learning more about emotions and socio-affective development, and learning more about developmental stages. It seems important for them to be able to link that knowledge to their future practice. Below are examples of third-year students' answers:

“...based on theory, (I expect to learn) how to treat different students, how to deal with them when there is a problem. (I expect) to be able to perform well, learn some strategies and teach better depending on pupils' age”.

“I am interested mainly in expanding the knowledge we already have, but also on applying this knowledge to real situations, so that we are then able to transfer these skills to what we will be required to do on a daily basis in our future jobs”.

Attributed Importance of Syllabus Contents

In relation with the attributed importance to the syllabus contents of psychology modules, most of the students state that socio-affective development and understanding emotions are a fundamental factor for effective teaching. In addition, they consider that being able to regulate students' emotions and behaviour is also very important.

Students' answers highlight their willingness to get to know their pupils, understand how they learn, and provide them with a meaningful learning experience which is differently shaped depending on pupils' age. Along these lines, students point out that developmental and learning theories are crucial tools for their future practice.

From their point of view, educational psychology allows them to have basic knowledge of pupils' development and their developmental stages, thus enabling them to tend to pupils' needs, taking into account their individual differences and the characteristics of each learning stage. Furthermore, educational psychology allows them to better understand pupils' behaviour, their motivations, and possible causes of their learning difficulties, most of which usually arise from discrepancies between the teacher's educational actions and students' needs.

All the interviewed students highly rated the importance of psychology and have great learning expectations; however, it seems difficult for them to point out what concrete elements psychology can offer for their future work. This is more evident among second-year students, who obviously have a less precise representation of the modules. Some of their comments exemplify these perceptions:

“(the teacher)...has to learn to empathise with the pupils; therefore, he/she has to have some idea about what happens with emotions, for example. He/she has to have some ideas on how pupils learn. So basically, these two aspects.”

“(...) apart from transmitting knowledge and all that, it's all about treating people; he/she (the teacher) has to know about psychology so as to regulate each pupil's behaviour”.

Third-year students are better at describing the importance of connecting educational psychology input (theories and approaches) and their future practice as teachers.

“The basic theories regarding education and educational psychology are important because you can apply them in different ways and they can influence your teaching. You have to know your students' needs and to select which theory or approach is better, be it a more constructivist or a more cognitivist approach depending on the class”.

"I believe that a teacher should know how to interpret his/her pupils' attitudes, taking into account, for instance, the family context; learning how this can affect the child psychologically. Also, a teacher should know about children's learning stages, such as Piaget's stages, so as to know what to expect and not demand more than children can give."

"...learning theories are important; I consider them interesting and it's important to know about them (...) Taking these theories as a starting point, we teachers draw ideas from them and we come up with new ideas and devise better ways to teach and understand how pupils learn. This is all very useful"

Self-perceived Mastery

In general, second-year students consider that they have low mastery of psychology contents. They report very little previous experience, which is mainly based on personal therapeutic experiences or contents studied at High School, which they can't remember or master. Below are some examples of their comments:

"I remember very little; I remember some of the authors. I kind of recall something but I could not tell you what exactly".

"I don't think I master much of the contents. I don't know exactly what the focus of the module is but I think it is about language development and that it focuses on children at different ages, but I don't know much about this at the moment".

"(I know) very little about psychology; just some self-help books and not much more".

Third-year students' interviews showed significant progress. Many of them are able to use psychology-specific terminology to define their mastery level. They clearly point to the second-year module (LDI) as the basis of their knowledge, the module that

gave them the basic notions, and they are able to remember concrete topics and discuss them with the appropriate terminology.

“Above all I learned about the process of learning about emotional development, in the sense that, firstly, I must be able to identify emotions, and then I must communicate them and finally regulate them. We also learned about development theories from a social perspective; we then focused on Vygotsky, and then, with all the other modules we have also learned about constructivism.”

“Above all, I now know about Vygotsky, the zone of proximal development, the different learning/teaching contexts, such as formal, informal and non-formal. Mainly the topic of emotions, the various phases to understand emotions. Well, also about the different levels: cognitive, psychomotor, affective and well, all about the development of an individual, from when he/she is born until he/she gets older.”

The aspects that students highlighted the most are the emotional dimension and developmental theories, establishing a link to their own future work.

Students state that learning psychology is something new to them, but it is also motivating, and useful for their training. As they progress through the modules, they gain a clearer understanding of the benefits of learning psychology for teaching and they rate this as a positive and relevant experience for their future practice.

Discussion and conclusions

Firstly, regarding the syllabus content included in the Psychology modules, results indicate that the most important topic for pre-service students is socio-affective development. Secondly, content related to teachers' role and the learning and developmental process of students also seemed to be rated as important. Learning how

to manage the class, understanding pupils' behaviour, organising cooperative activities, integrating students with special education needs, are all key concerns for these students, which match their learning expectations on Educational Psychology modules. This result confirms other studies' results (Emmer, y Stough, 2001, Slavin, 2009; Spencer, 2005; Tan, 2006), and it highlights the need to teach psychology in a way that enables pre-service teachers to understand, value, and use the knowledge through a teaching process that is closely linked to the context of their future professional practices (Woolfolk-Hoy, 1996).

On the other hand, it is worth noting that the conceptual basis of both the developmental and the learning process are less appealing topics for these students. This result confirms findings from other studies (Asay y Orgill, 2010; Balson, 1974), and it seems to suggest that pre-service teachers don't rate the theoretical-conceptual content that is usually abundant in modules such as Developmental Psychology and Educational Psychology. This is probably linked to a perceived resistance by lecturers to renounce traditional academic discourses, which focus on theoretical approaches and pay little attention to the needs of future professionals (Johnson & Sinatra, 2014; Quinn, 2012). Thus, lecturers are encouraged to reflect about their own practices, so that academic discourses may be replaced by more dialogical discourses, focused on the professional context and tending to pre-service teachers' learning needs and expectations (Mälkki, & Lindblom-Ylänne, 2012).

With regards to self-mastery on syllabus content of psychology modules, results show that students have low mastery. This should be taken into account in the teaching process, as it is important that students go through a process of progressive and gradual appropriation (Francis, 1996).

In relation to learning needs, there is a significant correlation between learning needs and attributed importance to topics, especially with regards socio-affective development and teachers' role, especially among third-year students.

Lastly, learning expectations also coincide with attributed importance. Moreover, students highlighted the need to learn psychology in a contextualized manner, focusing on professional practice.

In sum, our results support the need to renew Psychology teaching programs for pre-service teachers, as Letamendia (1989) had stressed long ago in his study about initial teacher training in Spain. Psychology for teachers shouldn't focus on teaching concepts but on helping students to establish links between theoretical approaches and the concrete challenges of their future practice. In this regard, learning through research is an appealing strategy for expanding on the theory but also for learning about the contexts of practice. In line with Anderman's (2011) and APA's (2015) proposals, more emphasis should be placed on situated learning, as it is important that students understand the value and meaning of the conceptual basis for their future practice.

Thus, the study of psychology should allow pre-service teachers to acquire a solid basis that allows them to understand, from the perspective of psychology, the diverse reality of the class, and to develop competencies to face the real challenges in their practice (Barnett y Hodson, 2001; De Corte, 2000; Hanich y Deemer, S. 2005; Woolfolk-Hoy, 1996). It is thus important to implement teaching methods that would allow pre-service teachers to learn about the main concepts of Educational Psychology, but that would also motivate them to continue learning throughout their professional life (either through quality information sources, or by analysing real cases of their classes) (Dolye y Carter, 1996; Santrock, 2007; Patrick, Anderman, Bruening y Duffin, 2011).

These results are useful in improving the design of psychology modules in teacher training programmes. They demonstrate that pre-service teachers' specific needs must be taken into account in order to better connect theory with practice and to increase their awareness of the importance of psychology contents for their educations as future teachers. Thus, pre-service-teacher training in psychology will be more adjusted to their expectations and their future context of professional practice. Teaching processes centred on learning needs involve paying attention to individual differences and thus pre-service teachers are able to expand their individual set of professional competencies.

Previous evaluation of the knowledge that students are meant to acquire throughout the course, as well as their perception of their initial command of such knowledge, are useful indicators that help steer the teaching and learning process towards content that links in with the students' previous knowledge and their expectations, thus increasing their motivation for learning. Furthermore, having this information allows teachers to make informed decisions about the support needed by students so as to facilitate their completion of authentic learning activities. Teachers are also able to identify the issues that are causing students more difficulties or that may have a greater impact on their achievement of significant and progressive learning in the two Learning and Development modules.

In future research, it will be worth ascertaining true mastery based on learning results and contrasting it to self-perceived competence. Learning about discrepancies between the two would offer valuable information that would enable trainers to foster students' conscious involvement in authentic learning activities. These activities will also allow for progressive development of the students' competencies, and their continued evaluation and self-evaluation.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Agència de Gestió d'Ajuts Universitaris i de Recerca under Grant [2014 ARMIF 00019].

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