

# PROFESSIONAL DEVELOPMENT PROGRAMS IN HIGHER EDUCATION: SATISFYING THE BASIC PSYCHOLOGICAL NEEDS OF TEACHERS TO FOSTER TRANSFER OF LEARNING

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## Abstract

The main goal of professional development programs in higher education is to transfer what has been learned to the workplace. "Transfer" is a key obstacle to the success of PDP. To reduce the transfer gap, it seems necessary to study the PDP design process. Little is known about this process carried out by centralized units in institutions of higher education. Therefore, we analyzed the PDP design process in 12 Ecuadorian universities (5 private and 7 public) and focused on the extent to which these designs took into account the Basic Psychological Needs of autonomy, competence, and relatedness of teachers that determine their motivation and motivation to transfer. Our findings suggest a strong emphasis on teachers' need of competence, neglecting other essential areas that influence transfer, particularly the need of relatedness. The results help repositioning the PDP design approach based on Self-determination theory (SDT) in view of promoting transfer of learning.

Keywords: Professional Development, Transfer of learning, Self-determination theory, Higher Education.

## 1 INTRODUCTION

There is extensive research about the impact of professional development in primary and secondary school teachers to improve the quality of teaching and transfer of learning [1], [2]. Though there is plenty of research regarding the innovation of teaching at higher education (HE) level, the literature about design and impact of HE professional development programs (PDP) remains scarce [3], [4].

Research suggests that motivation to transfer is a key element in transfer of learning [5], [6]. However, there is a lack of studies that incorporate a focus on motivation in PDP models. Current PDP research models focus on a variety of individual teacher variables, such as their beliefs, mission and identity (see e.g., the 'onion model' of Korthagen [7]) This "onion model" takes into account the following dimensions in a teacher: environment, behavior, competencies, beliefs, identity, and mission. Though this model is helpful to understand individual teacher behavior, it neglects motivational processes (e.g., motivation to transfer) and how these are influenced by external variables. Other models, such as the Practice-Based Professional Development model of Loewenberg Ball & Cohen, (1999) present a framework that stresses the need to link PDP to current teachers' practices in order to be effective. Though relevant, these models do also not provide a framework, explaining what external design characteristics of PDP are critical in higher education. A more comprehensive framework is needed.

To improve transfer of learning, we need to understand the design process of PDP in higher education, particularly how these processes address motivational aspects of teachers to foster transfer. This introduces a discussion about the link between these design processes and the way they meet the BPN of autonomy, competence, and relatedness in the faculty. In other words, we want to know whether the BPN are taken into consideration by centralized units when designing PDP.

## 2 PROFESSIONAL DEVELOPMENT AND TRANSFER OF LEARNING

In the present study, the concept of PDP is defined as the activities directed to achieve positive outcomes in the education of the faculty in knowledge and skills, with the intention to improve behavior and way of thinking; with the ultimate purpose of improving student learning [4], [9]. We consider in the

context of the present study only PDP formally organized by the institution of higher education and offered to their faculty members.

Transfer of learning is the application of new knowledge, skills, or behavior, to the workplace and it is the desired goal when implementing PDP in higher education [10] “The transfer problem” is the gap between what has been learned during a PDP and its actual implementation in the workplace. The “transfer problem” review of Baldwin and Ford [11] set forward a research trajectory to reduce this gap. Available related reviews agree on three main clusters of variables that play a role in the transfer process: learner characteristics, intervention design, and work environment [6].

## **2.1 Variables affecting transfer of learning: PDP design and motivation to transfer**

In a PDP context, faculty members are learners. This implies personal characteristics play a key role; e.g., their career perspective, their perceived instructional strengths and weaknesses, their actual skills, their years of experience, and educational qualifications, their attitudes and cognitive abilities, etc. The latter incorporates motivational variables such as: motivation to transfer, motivation to participate in PDP, motivation to learn, etc. The study of De Rijdt et. al. [6] suggests that motivation to transfer and motivation to learn influence actual transfer of learning in PDP of higher education. In the present study we examine the extent to which these motivational variables have been considered in the PDP design process.

Research points at the following critical PDP design decisions. For instance, research suggests peer support influences transfer of learning [12]. Other studies shows how PDP design choices, such as incorporating practice and feedback impact transfer of learning [13]. PDP building on active learning methods – incorporating practice and feedback – results in positive transfer of learning [1]. Others point at linking the selection of learning goals, methods, environment, and content to the results of a proper analysis of needs of faculty members [6].

## **3 SELF-DETERMINATION THEORY (SDT)**

Motivation to transfer depends on the extent to which the learner has been satisfied in their psychological needs. According to SDT, motivation depends on the satisfaction of BPN that are innate, and considered universal: autonomy, competence, and relatedness [9].

### **3.1 Autonomy**

It refers to the individual’s faculty of volition. Autonomy highlights a person’s need to give opportunities for personal choices [9]. In our context, it refers to activities that promote direct involvement of faculty members in the design and implementation process, aiming at internalizing new learning presented through organizational initiatives such as PDP. Research suggests the way PDP is presented to teachers influences how they internalize new learning [10]. Consequently, PDP initiatives should aim at promoting autonomy support of faculty members.

### **3.2 Competence**

Reveals the inner desire to influence our surroundings, to feel being effective. It includes the inner desire to conquer and successfully meet challenges in the professional setting. Satisfying competence provides a sense of security and stability [11]. In PDP, teachers need to feel confident before introducing new learning to their work-settings. What has been learned will only be applied when teachers feel up to the task [12]. Feedback, practice, hands-on workshops, active learning, contribute to the need for competence satisfaction in PDP.

### **3.3 Relatedness**

Refers to the person’s desire to relate to others. It does not only refer to the natural need to feel bonded, loved and cared for, but it extends to the organizational climate supporting personal growth. [9], [13]. In terms of PDP faculty members should not to feel alone and isolated when tackling the challenge of implementing new learning. This calls for applying PDP ingredients such as peer assessment, supervisory support, feedback, and accompaniment.



Autonomy Frustration	10	4	2	8	1	0	10	0	2	7	2	0	46
Autonomy Satisfaction	7	4	8	7	4	8	3	4	1	1	2	1	50
<b>Competence</b>													
Competence Frustration	1	0	0	0	0	0	0	0	0	1	1	0	3
Competence Satisfaction	1	5	6	1	3	1	1	5	3	10	12	1	49
<b>Relatedness</b>													
Relatedness Frustration	0	0	0	1	0	0	0	0	0	0	0	0	1
Relatedness Satisfaction	0	0	1	0	0	0	0	0	0	0	0	0	1

UX = universities. Bold indicates more than one respondent interviewed.

## 9.1 Autonomy

### 9.1.1 Autonomy Frustration

We found a large number of indicators suggesting frustrating the need of autonomy in the faculty. These related mainly to the structure and organization of the PDP.

The indicators stressed a top-down structure in the design process of PDP. Decisions about content, methodologies, and other areas of PDP were done by centralized units. We found no indicators of involvement of faculty in the design process.

Institutions make most courses mandatory, especially for new staff on areas of pedagogy.

U3: "There are cases when we do make a very formal invitation in which we say that you must attend".

U4: "Teachers with low results for the interests of the university have the obligation, it is not elective, but it is mandatory to follow a course...in pedagogical improvement".

U7: "By disposition of the authorities, we organize a cycle of continuous formation for new teachers. This course is mandatory".

### 9.1.2 9.1.2 Autonomy Satisfaction

A comparable number of indicators related to autonomy support were observed in the PDP design process. These focus mainly on a) needs analysis usually performed at the end of a PDP, where faculty members are able to describe further needs for training.

U11: "We have, in the questionnaire that measures the needs that the teachers selected about what they want...then we start to build (PDP)".

We found one university that switched the modality of participation to a completely voluntary system supporting the need of autonomy.

U6: "This is an important point because we know that there are some universities that make it mandatory for their faculty to participate in entrance courses. We do not do that. We do not do it today. We did that during a couple of semesters but it did not work".

Another university presents no PDP for their faculty members. Instead, each individual staff member is required to find their own PDP.

## 9.2 Competence

### 9.2.1 9.2.1 Competence Frustration

Very few elements directly fit this category. However, the need of competence may be hindered if faculty is not allowed to put into practice what they learned. In this sense, theory over practice, and lack of feedback may hinder the need of competence in the learner.

U3: "In some cases, it (PDP) may be too theoretical and that may not work out in practice".

### **9.2.2 9.2.2 Competence Satisfaction**

Centralized units make substantial efforts to facilitate teaching new learning to faculty members. Efforts include: providing competent facilitators, proper infrastructure, financial accessibility for faculty (discounts), time slots, etc.

Pedagogy and research are the two dominant areas where competence is sought to be satisfied. Universities provide their faculty with the necessary tools to improve their teaching and research skills. We found the content area of pedagogy of great concern to centralized units. Pedagogy includes: ICT, teaching methodologies, educational theories, etc. next to a focus on scientific research.

### **9.2.3 9.2.3 Pedagogy**

Centralized units prioritize PDP on pedagogy due to the lack of teaching formation in their faculty.

U1: "What we try to do is to provide them with all the teaching methodologies...how teaching methodology works, how to bring about the portfolio... the preparation of the syllabus ...all this so that they can perform their activities".

U2: "We mainly worry about the pedagogical area. Because it is true that we have engineers, psychologists, etc., but they do not come out as teachers".

### **9.2.4 9.2.4 Research**

Research is considered to be a form of PDP in itself. There are great expectations for teachers to improve their research skills to directly benefit the institution.

U3: "If you are a professor, you have to constantly update...that is why we emphasize research because it is the way that you get an external update".

Centralized units seem to put a lot of effort providing their faculty with the necessary knowledge and skills for professionalization in the areas of teaching and research.

## **9.3 Relatedness**

### **9.3.1 9.3.1 Relatedness Frustration**

Few indicators of frustrating the need for relatedness were found; all related to a lack of accompaniment after the conclusion of PDP.

U2: "The course finishes, we give them the certificate and we go ahead".

U1: "We give them a certificate, and then it becomes the teacher's problem".

### **9.3.2 9.3.2 Relatedness Satisfaction**

But one institution mentioned an element suggesting PDP is a communal process.

U3: "It makes no sense for the training to remain only with the one who received it. We are forming one person to become the nexus, the way, so that he can also train others and multiply the knowledge. That is one of the missions that we seek in the process of training".

## **10 CONCLUSIONS AND DISCUSSION**

The purpose of this study was to investigate PDP in higher education by looking at its design processes. Our analysis focused on characteristics of PDP design that might motivate teachers to transfer learning. The SDT framework facilitated the research approach when looking at indicators pointing at the satisfaction of BPN during the design process. This could help providing insight to reduce the often criticized transfer gap in higher education PDP [15].

When it comes to the need of autonomy, we found no evidence of systematic procedures to actively involve faculty members in the design process of PDP. Design choices were mainly made by centralized units. This is in line with other research criticizing how PDP models are being controlled by centralized units [16]. We suggest the promotion of initiatives that allow faculty to internalize their new knowledge by getting involved in the design process. Research shows that initiatives such as

involvement in the needs analysis, explication of reasons behind the presentation of new knowledge, comprehension of how new approaches could affect their careers, ... are some examples of how autonomy can be fostered in PDP design [17]. It is essential for faculty members to perceive that the new knowledge is presented to them for professional growth. Regarding autonomy satisfaction, we observed a large amount of indicators. Most were linked to PDP needs analysis and modality of participation. Often, centralized units present PDP as a way to secure tenure. In the Ecuadorian context, educational policies require faculty to participate in a total of 480 hours of training to be considered for full professorship. This significantly influenced participation of faculty. Centralized units use this as a framework to design PDP and fulfill governmental requirements.

We found emphasis on the satisfaction of the need of competence, through activities that promote new skills development in content areas about teaching and research. The need of competence is not limited to acquiring new knowledge. It should also stress a positive perception on the learner to be able to handle the complex academic environment, allowing an adequate application of what was learned [18]. This is in line with research signaling that it is critical for the staff to feel they can effectively apply their knowledge in a new setting [19]. In view of effective transfer of learning and satisfaction of the need of competence, academic staff need extra reinforcement from the institution. This is in line with previous research pointing out the importance of institutional support in PDP [20]. SDT contemplates the BPN to be interrelated, that is, the BPN need to be fostered in relation to one another. In the present study, we did not find evidence of an interrelation among the three needs. PDP should include elements that promote the participant's sense of volition, as well as support processes to allow academic staff to successfully transfer new learning.

As to satisfying the need of relatedness we found no evidence of PDP design elements starting or sustaining a communal environment through PDP. We found no evidence of a systematic approach to accompaniment after the conclusion of a PDP. There is an immediate separation between the trainers/unit and academic staff as soon as a PDP finishes. In our view, PDP should not end with the conclusion of the course. PDP should continue until transfer of learning has taken place. This principle is reinforced by available research [21]. But PDP – in these Ecuadorian universities is still conceived not as a shared and collaborative activity, but rather as an individual task and responsibility. Little is done to satisfy the need of autonomy in faculty members. In line with previous research [22], it is suggested that centralized units start developing the need of relatedness of academic staff. Initiatives such as group work, feedback, peer assessment, positive reinforcement, and others are in this context essential elements when designing PDP [23].

For transfer of learning to occur, faculty members need to appropriate themselves of the new learning (autonomy), be confident to apply the new learning (competence), and receive the necessary support from the members of the institution (relatedness). This requires centralized units to adopt a holistic approach when designing PDP. The authors propose a model based on SDT to assist in this design process to improve transfer of learning in higher education. The model is shown in Fig. 1.

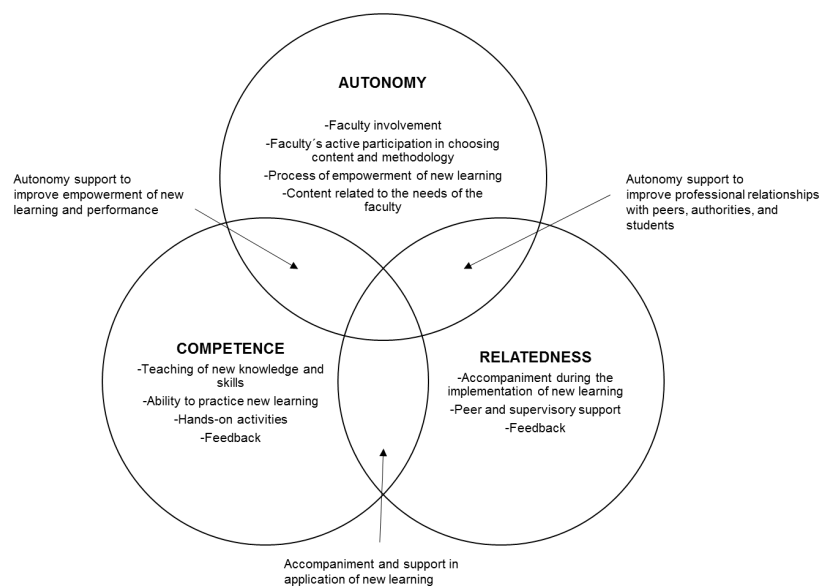


Figure 1. Theoretical framework based on Self-determination theory to analyze the design process of PDP in higher education.

## ACKNOWLEDGEMENTS

This research was supported by the Research Fund of Universidad Andina Simón Bolívar - Ecuador

## REFERENCES

- [1] G. Gibbs and M. Coffey, "The Impact Of Training Of University Teachers on their Teaching Skills, their Approach to Teaching and the Approach to Learning of their Students," *Act. Learn. High. Educ.*, vol. 5, no. 1, pp. 87–100, 2004.
- [2] L. Postareff, S. Lindblom-Ylänne, and A. Nevgi, "The effect of pedagogical training on teaching in higher education," *Teach. Teach. Educ.*, vol. 23, no. 5, pp. 557–571, Jul. 2007.
- [3] A. Stes, L. Coertjens, and P. van Petegem, "Instructional development for teachers in higher education: Impact on teaching approach," *High. Educ.*, vol. 60, no. 2, pp. 187–204, 2010.
- [4] M. Stewart, "Making sense of a teaching programme for university academics: Exploring the longer-term effects," *Teach. Teach. Educ.*, vol. 38, pp. 89–98, 2014.
- [5] B. D. Blume, J. K. Ford, T. T. Baldwin, and J. L. Huang, "Transfer of Training: A Meta-Analytic Review," *J. Manage.*, vol. 36, no. 4, pp. 1065–1105, Jul. 2010.
- [6] C. De Rijdt, A. Stes, C. van der Vleuten, and F. Dochy, "Influencing variables and moderators of transfer of learning to the workplace within the area of staff development in higher education: Research review," *Educ. Res. Rev.*, vol. 8, pp. 48–74, 2013.
- [7] F. A. J. Korthagen, "In search of the essence of a good teacher: Towards a more holistic approach in teacher education," *Teach. Teach. Educ.*, vol. 20, no. 1, pp. 77–97, 2004.
- [8] D. Loewenberg Ball and D. K. Cohen, "Developing Practice, Developing Practitioners Toward a Practice-Based Theory of Professional Education," in *Teaching as the learning profession: Handbook of policy and practice*, G. S. and L. Darling-Hammond, Ed. San Francisco: Jossey Bass, 1999, pp. 3–32.
- [9] R. Ryan and E. Deci, "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being," *Am. Psychol.*, vol. 55, no. 1, pp. 68–78, 2000.
- [10] N. Aelterman, M. Vansteenkiste, H. Van Keer, and L. Haerens, "Changing teachers' beliefs regarding autonomy support and structure: The role of experienced psychological need satisfaction in teacher training," *Psychol. Sport Exerc.*, vol. 23, no. July, pp. 64–72, 2016.
- [11] B. Chen, M. Vansteenkiste, W. Beyers, L. Boone, E. L. Deci, J. Van der Kaap-Deeder, B. Duriez, W. Lens, L. Matos, A. Mouratidis, R. M. Ryan, K. M. Sheldon, B. Soenens, S. Van Petegem, and J. Verstuyf, "Basic psychological need satisfaction, need frustration, and need strength across four cultures," *Motiv. Emot.*, vol. 39, no. 2, pp. 216–236, 2015.
- [12] A. Van Den Broeck, M. Vansteenkiste, H. Witte, B. Soenens, and W. Lens, "Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale," *J. Occup. Organ. Psychol.*, vol. 83, pp. 981–1002, 2010.
- [13] M. Vansteenkiste, "Vansteenkiste, M., Ryan, RM, & Deci, EL (2008). Self-determination theory and the explanatory role of psychological needs in human well-being. In L. Bruni, F. Comim, & M. Pugno (Eds.), *Capabilities and happiness* (pp. 187-223). Oxford, UK: Oxford Universit," 2008.
- [14] J. W. Cresswell, *Qualitative, Quantitative, and Mixed Methods Approaches*, 3. ed., [N. Los Angeles: SAGE Publ, 2003.
- [15] K. Schneider, *Transfer of learning in organizations*. 2014.
- [16] A. Kennedy, "Models of continuing professional development: a framework for analysis," *J. in-service Educ.*, vol. 31, no. 2, pp. 235–250, 2005.
- [17] A. Webster-Wright, "Reframing Professional Development Through Understanding Authentic Professional Learning," *Rev. Educ. Res.*, vol. 79, no. 2, pp. 702–739, 2009.
- [18] E. L. Deci and R. M. Ryan, "The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior," *Psychol. Inq.*, vol. 11, no. 4, pp. 227–268, Oct. 2000.

- [19] O. Ten Cate, R. Kusurkar, and G. Williams, "How self-determination theory can assist our understanding of the teaching and learning processes in medical education. AMEE guide No. 59," *Med. Teach.*, vol. 33, no. 12, pp. 961–973, 2011.
- [20] T. Stenfors-Hayes, M. Weurlander, L. Owe Dahlgren, and H. Hult, "Medical teachers' professional development – perceived barriers and opportunities," *Teach. High. Educ.*, vol. 15, no. 4, pp. 399–408, Aug. 2010.
- [21] S. O'Hara and R. H. Pritchard, "Meeting the challenge of diversity: Professional development for teacher educators," *Teach. Educ. Q.*, vol. 35, pp. 43–61, 2008.
- [22] L. Archambault, K. Wetzel, T. S. Foulger, and M. K. Williams, "Professional Development 2.0: Transforming Teacher Education Pedagogy with 21st Century Tools.," *J. Digit. Learn. Teach. Educ.*, vol. 27, no. 1, pp. 4–11, 2010.
- [23] A. S. Webb, T. J. Wong, and H. T. Hubball, "Professional Development for Adjunct Teaching Faculty in a Research-Intensive University: Engagement in Scholarly Approaches to Teaching and Learning," *Int. J. Teach. Learn. High. Educ.*, vol. 25, no. 2, pp. 231–238, 2013.