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For the proceedings

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6.2. The importance of teachers' mastery goal orientation and autonomous motivations for their professional development and educational innovation

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Abstract

Teacher motivation quality is essential for in-service training success and the implementation of innovative teaching practices. Recent theory-driven research supports that achievement goals and self-determination theories can credibly reflect teacher motivation quality and jointly provide a reliable framework to effectively design professional training programs/interventions to promote innovative curricula. This approach focuses on the formation of the optimum educational/work environment in which teachers' mastery goal orientation is cultivated and their autonomous motivation is enhanced. Theoretical and empirical evidence suggests that for sustained and effective educational innovations school/work climate should support teachers' personal improvement and fulfill their innate psychological needs for autonomy, competence and relatedness.

Key-words: Achievement goals theory, self-determination theory, in-service teacher training, innovative curricula

1. Introduction

Teacher motivation is an integral part of their work-related behavior and influences student achievement (Richardson & Watt, 2010). During the last decade research addressing not only quantity but also quality of teacher motivation has gained momentum (e.g., Butler, 2007; Papaioannou & Christodoulidis, 2007), while scholars point out the need for more systematic theory-driven research (Richardson & Watt, 2010). Recent evidence supports that teacher motivational qualities exhibit variation across work tasks (Fernet, Senecal, Guay, Marsh, & Dowson, 2008), and/or occasions (Praetorius et al., 2014), emphasizing the need for research investigating motivation at the situational level. Indeed, it seems plausible that a teacher who is optimally motivated towards teaching with traditional methods may be less motivated towards other work tasks, such as in-service training or innovative instruction.

Therefore, if policy aims to promote teacher professional development or innovative curricula implementation, it is prerequisite to understand and efficiently interpret teacher work motivation across these specific situations/tasks. Recent findings suggest that teachers' motivation quality is essential for in-service training success and the implementation process of innovative teaching practices (e.g., Abrami, Poulsen, & Chambers, 2004; Cave & Mulloy, 2010; Van Eekelen, Vermunt, & Boshuizen, 2006).

Following these propositions, we review recent theory-driven research examining teacher optimal motivational qualities and we present it in combination with our findings relative to teacher motivation and educational innovations in Greece.

1.1. Theoretical framework

Two well-established motivational theories, which can be used complementary (e.g., Butler, 1989; Ryan & Deci, 1989), were deemed appropriate to guide our work on teacher quality of motivation across situations. These are Achievement Goals Theory (AGT) (Elliot & Church, 1997; Nichols, 1984) and Self-Determination Theory (SDT) (Deci & Ryan, 1985, Ryan & Deci, 2002). According to these theories, only optimal motivation of high-quality can produce sustained favorable outcomes in human behavior, affect and cognition. AGT based research support that mastery/learning goal orientation (i.e., the pursuit of personal improvement) is the most beneficial individual predisposition across a variety of achievement situations, whereas, according to SDT research, the most optimum type of motivation across life domains and contexts is autonomous/self-determined motivation (i.e., intrinsic, integrated and identified regulations).

2. Theory-driven research findings on teacher motivational qualities

2.1. Teachers' mastery goal orientation

Educational research suggests that teacher mastery/learning goal orientation in contrast to performance goal orientations (approach and avoidance) has the most positive impact on various aspects of the educational procedure. More specifically, with regard to teacher-related variables, empirical findings suggest that mastery oriented teachers present higher levels of job satisfaction (Papaioanou & Christodoulidis, 2007; Skaalvik & Skaalvik, 2013), positive perceptions and behaviors of help seeking (Butler, 2007; Nitsche, Dickhäuser, Fasching, & Dresel, 2011), engagement (Parker, Martin, Colmar, & Liem, 2012; Skaalvik & Skaalvik, 2013), didactic, educational and subject-specific interest (Paulick, Retelsdorf, & Möller, 2013; Retelsdorf, Butler, Streblow, & Schiefele, 2010), adaptive coping strategies towards work threats-challenges and reduced burnout (Parker et al., 2012; Retelsdorf et al., 2010), reduced occupational strain, positive attitude towards further training and attended training workshops (Nitsche et al., 2013), and higher levels of self-efficacy (Cho & Shim, 2013; Hoffmann, Huff, Patterson, & Nietfeld, 2009; Nitsche et al., 2011). Additionally, with regard to instruction-related variables, mastery oriented teachers provide higher levels of support for students' question asking, help seeking and reduced inhibition (Butler & Shibaz, 2008), use more mastery-oriented practices and cognitive stimulating instruction (Butler & Shibaz, 2014; Retelsdorf et al., 2010), provide higher school mastery goal structure (Cho & Shim, 2013) and lower performance goal structures (approach-avoidance)(Dresel, Fasching, Steuer, Nitsche, & Dickhäuser, 2013), utilize more individual and less social reference norms (Retelsdorf & Günther 2011), have students with higher levels of interest and lower levels of cheating (Butler & Shibaz, 2008; 2014). Accordingly, in the Greek school it has been found that teachers' mastery goal orientation is positively associated with their involvement in extracurricular activities (e.g., reading, training, preparation), higher levels of self-efficacy and self-determination at work (Christodoulidis, 2004; Gorozidis, 2009).

2.2. Teachers' autonomous motivation

In a similar vein, SDT based research shows that teacher autonomous versus controlled motivation is positively connected to a better psychological functioning, a host of positive cognitions and behaviors influencing educational process. More specifically, with regard to teachers' psychological well-being, it has been found that autonomous motivation is positively related to job satisfaction (Christodoulidis, 2004; Gorozidis, 2009), job control and personal accomplishment, reduced emotional

exhaustion and depersonalization (Fernet, Guay, & Senecal, 2004; Roth, Assor, Kanat-Maymon, & Kaplan, 2007), better adjustment to job demands and coping with burnout (Fernet et al., 2004). Moreover, it has been found that teachers' self-determined types of motivation were positively associated with students' achievement and engagement (Demir, 2011), students' autonomous motivation to learn (Pelletier, Séguin-Lévesque, & Legault, 2002; Roth et al., 2007), the promotion and support of students' autonomy (Pelletier et al., 2002), the use of student-centered teaching styles (Hein et al. 2012), higher level of confidence in teaching the national curriculum (Lam, Cheng, & Choy, 2010; Wang & Liu, 2008), more positive-less negative attitudes towards innovative teaching (Lam et al., 2010). Similarly, in the Greek context, teachers' self-determined behavioral regulations were positively linked to higher degree of implementation of a newly introduced curriculum and positive intentions to implement it in the future, higher involvement in extracurricular activities (e.g., reading, training, preparation), higher levels of teachers' self-efficacy and mastery/learning goal orientation (Christodoulidis, 2004; Gorozidis, 2009).

3. Theoretical & empirical suggestions

The broad theoretical framework together with empirical evidence mentioned above, imply that when an educational/work environment cultivates teachers' mastery goal orientation and supports their autonomous motivation, eventually it will promote teacher professional development (e.g., training participation) and the adoption of educational innovations in the most optimum level (Figure 1).

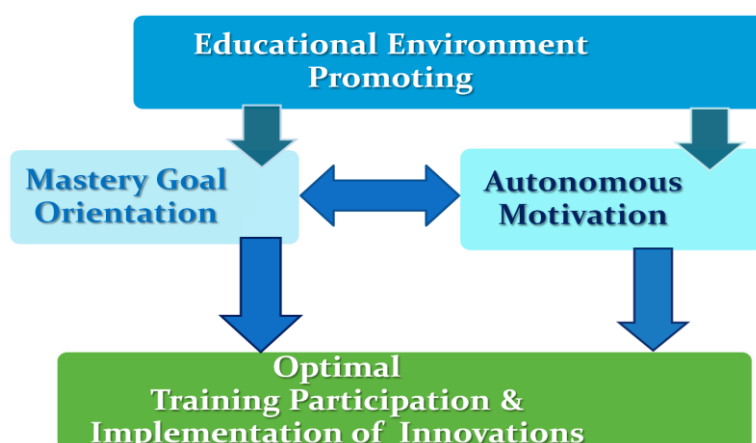


Figure 1. Theoretical & empirical suggestions

To investigate whether these assumptions apply to the Greek context during recent educational reform efforts, we have conducted four studies (see Gorozidis & Papaioannou, 2011, 2014, 2016). More specifically, our studies focused on two main questions:

- a. What motivates teachers to participate in training promoting educational innovations?
- b. What factors are associated with the implementation and continuation of educational innovations?

By efficiently answering these questions founded on a solid theoretical ground, one can generate suggestions/guidelines for policy makers on how to effectively improve current practices.

4. Teacher motivation across educational innovation relevant tasks

4.1 Teacher motivation to participate in training

Teacher motivation to participate in training promoting innovative curricula was investigated both qualitatively and quantitatively. In a study with 218 participants, it was found that teachers took part in an optional training program, primarily for autonomous reasons (intrinsic, identified regulations) and in a much smaller extent for controlled reasons (introjected, external regulations). This finding was evident both in teachers' personal statements and their responses in valid questionnaires. In addition, the analysis of longitudinal data of 71 participants from this study revealed that autonomous contrary to controlled motivation predicts positively teachers' future intention to participate in similar training (Gorozidis & Papaioannou, 2014). Further evidence from two cross-sectional studies with three independent samples of educators (191 secondary school, 85 Physical Education, PE, and 52 pre-service PE teachers) showed that mastery oriented teachers present higher levels of autonomous motivation while performance approach and avoidance oriented teachers present higher levels of controlled motivation (Gorozidis & Papaioannou, 2012, 2016)(see Figure 2).

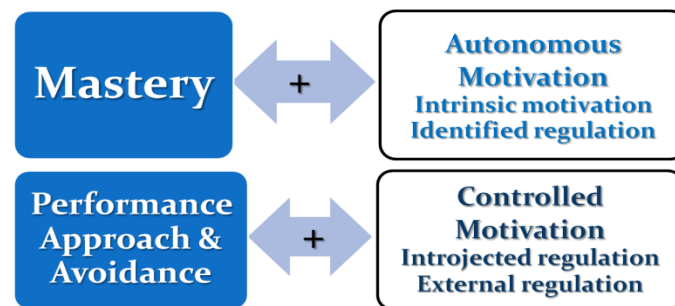


Figure 2. Achievement goals ↔ Motivation to participate in training (Teachers, n=191; PE teachers, n=85; pre-service PE teachers, n=52) (Correlations; $p < .05$)

In light of these associations, multi-group structural equation modeling, across different conditions of teacher recruitment (optional vs. mandatory), revealed that mastery goal orientation can predict autonomous motivation while performance avoidance goal orientation can predict controlled motivation to participate in training invariantly (Gorozidis & Papaioannou, 2016, Study 1).

4.2. Teacher motivation to implement innovations

Teacher motivation to implement innovative curricula was examined quantitatively (in three cross-sectional studies) with teachers having implemented innovation in their schools. Firstly, path analyses were conducted on data collected from 290 PE teachers. The results of these analyses supported that only mastery goal orientation consistently and positively predicts both higher level of innovative curriculum implementation during last year and teachers' intentions to implement it next year through mediating variables of self-efficacy. On the other hand, while performance approach goal orientation was found to predict previous years' curriculum implementation through self-efficacy variables, it had no connection with teachers' intentions to implement innovation in the future (Gorozidis & Papaioannou, 2011). Secondly, it was found that only autonomous motivation to teach (in contrast to controlled motivation) can predict teacher intentions to future implement innovation (n=71; Gorozidis & Papaioannou, 2014). Thirdly, it was evident that only mastery goal orientation positively predicts (indirectly) teacher intention to implement innovation next year through the mediating variable of autonomous motivation; whereas only performance approach goal

positively predicts controlled motivation to teach innovation but not intention to continue implementing innovation in the future (n=140; Gorozidis & Papaioannou, 2016, Study 2).

3. Discussion

All this evidence supports the notion that the success of the educational procedure depends on the presence of highly mastery oriented and autonomous motivated teachers. These high-quality optimally motivated teachers have the potential to thrive in a variety of situations relevant to educational innovations. Consequently, the main focus of policy makers should be the formation/creation of the appropriate educational work environments that cultivate teachers' mastery goal orientation and enhance their autonomous motivations. Literature review in joint consideration with our findings suggest that the motivational theories of achievement goals and self-determination may provide a solid framework to optimally design professional training aiming to promote teacher learning and innovative curricula implementation. Ideally, this environment must foster teacher goal for personal development and must fulfill teacher innate psychological needs for autonomy, competence, relatedness to lead to higher levels of self-determination (Cho & Shim, 2013; Janke, Nitsche, & Dickhäuser, 2015; Lam et al., 2010; Nitsche, et al., 2013; Schellenbach-Zell & Gräsel, 2010; Gorozidis & Papaioannou, 2011, 2014, 2016).

Mastery goal orientation can be fostered through the formation of a general educational philosophy reflecting a mastery motivational climate (a) emphasizing personal improvement, effort, and persistence with revised teaching practices, (b) delivering opportunities for constant experimentation accompanied by corrective non-threatening feedback, and (c) promoting autonomous motivation (Janke et al., 2015). In addition, the need for autonomy can be satisfied in school contexts which provide (a) meaningful rationale and convincing explanations for the need to reform/change old pedagogies, (b) choices to the teachers to actively shape reforms, and (c) options to customize their training programs according to their needs (Armour & Yelling, 2004; O'Sullivan & Deglau, 2006). Competence need can be fulfilled through fostering teacher self-efficacy (Bandura, 1997), which can be achieved by (a) observing other teachers implementing innovations (vicarious experiences), (b) having successful teaching experiences by implementing and testing innovative practices (mastery experiences), and (c) receiving appropriate feedback, guidance and support from experts, officials and colleagues (verbal persuasion) (Deglau & O'Sullivan, 2006; Kulinna et al, 2008; Martin et al., 2008, 2009). Finally, relatedness need satisfaction can be achieved through cooperation–collaborations with experts, officials and colleagues. It seems that a wise and effective strategy is the formation of teacher networks or professional communities of practice/learning, where sustained reciprocal communication is supported with frequent exchange of ideas, solutions and experiences between participants (Cochran-Smith & Lytle, 1999; Deglau & O'Sullivan, 2006; Lieberman & Miller, 1999).

Interestingly, these practices are quite different from the most frequently implemented policies worldwide. For instance, top-down reforms and one-shot teacher training is a common tradition to introduce educational innovation. In many educational systems, innovation and training are promoted in a controlling manner with the provision of external incentives and coercion (Eurydice, 2013). Accountability systems and high stakes policies are implemented globally in ways that induce social comparison and promote teachers' performance goal orientations. However, according to our theoretically and empirically supported reasoning, it is likely that all these

practices/strategies lead to decreases in teachers' quality of motivation resulting in superficial and temporary educational outcomes.

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