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Initial Training Programs' Development in Physical Education through Video Viewing Courses of Exemplary Teaching Exercises

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Abstract

The present study examined the effect of integrating video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice on the Pre-service Teachers' perceptions towards the initial training programs' effectiveness in physical education. Two hundred thirty two Pre-service Teachers (92 females and 140 males) aged between 21 and 23 ($M_{age\pm SD} = 21 \pm 1.8$ years) were recruited. Participants were randomly allocated into a control group (46 females, 70 males) which received a Traditional Form of Initial Training Program (TF-ITP), and an experimental group (46 females, 70 males) which received the New Form of Initial Training Program (NF-ITP). Responses to the Q4TE questionnaire (Grohmann & Kauffeld, 2013) for the assessment of the initial training programs' effectiveness were obtained in the completion period of the initial training. The Pre-service Teachers' perceptions regarding the initial training programs' effectiveness were significantly higher during the NF-ITP in comparison with the TF-ITP ($p < 0.001$) without any difference between genders. Findings suggested that integrating video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice would lead to make the initial training programs more efficient for the Pre-service Teachers of physical education.

Keywords

Video Viewing, Exemplary Teaching Exercises, Teacher Education, Physical Education

1. Introduction

During the last decade, a sharp number of studies have examined the influence of video viewing on teacher education (Gaudin & Chaliès, 2015). Therefore, the literature reveals two different instructional approaches to video viewing in teacher education. The first one is designed from a developmental approach and its aim is to help Pre-service Teachers (P-sT) to elaborate action means by interpreting and reflecting on classroom practices (Sherin, 2004). The second one is designed from a normative approach and its aim is to make P-sT observe and learn what to do in the classroom (Brouwer, 2011). For example, by showing examples of good teaching practices (Marsh, Mitchell & Adamczyk, 2010; Seago, 2003) or typical classroom lessons (Clarke et al., 2008; Yung, Wong, Cheng, Lam, & Hodson, 2007), and guide/coach teaching (Fadde & Rich, 2010; Janík & al., 2009; Masats, Sormunen, Hacklin, & Ducos, 2007).

According to the two different instructional approaches to video viewing in teacher education, most studies underline many benefits of video viewing. Among the most significant benefits is heightened motivation, improved teaching activity, and optimized selective attention and knowledge-based reasoning (Gaudin & Chaliès, 2015). Concerning video viewing and pre-service teachers' motivation, studies showed the influence of video on teacher motivation (Barnett & Tyson, 1999; Moreno & Valdez, 2007). As Sherin (2004) pointed out, video tends to be similar to authentic experience in that it positively affects intrinsic motivation and interest. For instance, pre-service teachers' level of satisfaction was found to be higher when teacher education courses use video rather than textual support or narrations of experience (Choi & Johnson, 2007; Moreno, Abercrombie, & Hushman, 2009). Paradoxically, little empirical evidence has been presented on the benefits of video use on actual classroom practice (Seidel, Stürmer, Blomberg, Kobarg, & Schwindt, 2011). However, studies showed that the main effect of video use is to improve P-sT wittiness (Snoeyink, 2010) and prepare them emotionally and intellectually for the classroom (Koc, 2011; Wang, 2013). For example, Karsenti and Collin (2011) documented the impact of online teaching videos on the development of self-efficacy beliefs in P-sT. Generally, video use has been found to inspire habits of praxis (Hewitt, Pedretti, Bencze, Vaillancourt, & Yoon, 2003) in three broad areas: planning and preparation for differentiation, classroom management Overbaugh (1995), and teaching and learning (Harford, MacRuairc, & McCartan, 2010). In the other hand, numerous studies showed that using video enriches the ability to interpret observed events; it promotes the shift from partial, more or less detailed, descriptive analyses to more focused, specific, and interpretative analyses (Rosaen, Lundeberg, Cooper, Fritzen, & Terpstra, 2008; Star & Strickland, 2008). For example, Santagata and Guarino (2011) showed that, in training programs that use video, P-sT learnt to better interpret the reasons for and consequences of the decisions made by the videoed teacher. Other studies reported that video use enhances selective attention. By the video use, teacher educators can develop strategies to focus their

attention on the most relevant classroom events (Brunvand, 2010). P-sT develop and increase their ability to identify relevant events because, as they watch the video, they are not only able to focus on the teachers' activity, but also on the students' as well (Sherin & van Es, 2005; Yerrick, Ross & Molebash, 2005). Furthermore, Scott, Kucan, Correnti, & Miller (2013); Yadav & Koehler, (2007) showed that video viewing challenges P-sT assumptions and helps them to critically examine their beliefs and values about teaching and learning. Studies also showed the effectiveness of video self-analysis in helping P-sT to identify relevant classroom interactions and, more specifically, to take students' perspective and to become better able to identify how well they have understood (Snoeyink, 2010). In view of the above consideration, it seems that video has become a permanent element in teacher training (Sherin, 2004).

In Tunisia, High Institutes of Sports and Physical Education provide for future physical education teachers an initial training program includes two academic years based on human/biological sciences and physical activities, and a third academic year of teaching practice where the scientific and pedagogical subjects are distributed throughout the course (Rekik & Bali, 2017). During this last year, P-sT are integrated in a school and assume all the responsibilities of a regular teacher (Beck & Kosnik, 2000). Thus, among the twelve professional competences of teacher (MEQ, 2001), P-sT are asked during their internship to design teaching/learning situations for the contents to be learned, according to the pupils concerned and the development of the skills referred to in the training program. That is why it is necessary to push towards an improvement of our initial training program, particularly during the third academic year of teaching practice in order to develop this sort of competence as well in order to prepare well the future teachers to a successful professional life. To the best of our knowledge, no empirical evidence is available about the effect of integrating video viewing courses of exemplary teaching exercises on the Pre-service Teachers' perceptions towards the initial training programs' effectiveness in physical education. In this exploratory study, it was hypothesized that integrating this sort of courses during the start-up of the academic year of teaching practice would lead to make the initial training programs more efficient for the Pre-service Teachers.

2. Material & Methods

2.1. Participants

An opportunity sample of two hundred and thirty two Pre-service Teachers (92 females and 140 males) aged between 21 and 23 ($M_{age \pm SD}$ = 21 ± 1.8 years) was recruited from Tunisian High Institutes of Sports and Physical Education. All P-sT are registered in the training program as part of the preparatory internship for the professional life during their final academic year of studies, in which they are supposed to obtain their fundamental license in physical education. Participants were randomly allocated into a control group (46 female, 70 male) and an experimental group (46 female, 70 male). These groups of P-sT to compare the

effectiveness of two initial training programs' forms: Traditional Form vs. New Form. They were informed about the experimental procedures and they signed a written informed consent prior to participation. The experiment was conducted according to the Declaration of Helsinki and approval was obtained from the local Institutional Ethics Committee.

2.2. Experimental Design and Dependant Measures

Pre-service Teachers received two forms of initial training program: Participants of the control group received a Traditional Form of Initial Training Programs (TF-ITP = two academic years of human/biological sciences, physical activities and a third academic year of teaching practice where the scientific and pedagogical subjects are distributed throughout the course). Participants of the experimental group received a New Form of Initial Training Programs (NF-ITP = TF-ITP + integrating video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice) (Figure 1).

The integration of these lessons was done in collaboration with 4 educators from two institutes of sports and physical education. Eight conferences were organized successively for the experimental group during eight days at the rate of one conference per day which lasts 1 h 30 min. The experiment was conducted using a HP Pavilion Entertainment PC and the stimuli were presented on a 250 cm × 200 cm screen from a video projection system. The image on the screen was 200 cm × 160 cm, with a 45˚ viewing angle. In this phase, participants were asked to visualize the model clips of exemplary teaching exercises and to note and/or draw on a sheet of paper the (aim, schema, instructions and materiel used) of each exercise. The instructional content consisted of exemplary teaching exercises related to four types of physical and sports activities that must be taught during the preparatory internship for the professional life. Model clips were collected From YouTube, editing by Movavi Video Editor Software. In addition, three experienced college supervisors of physical education (mean age =
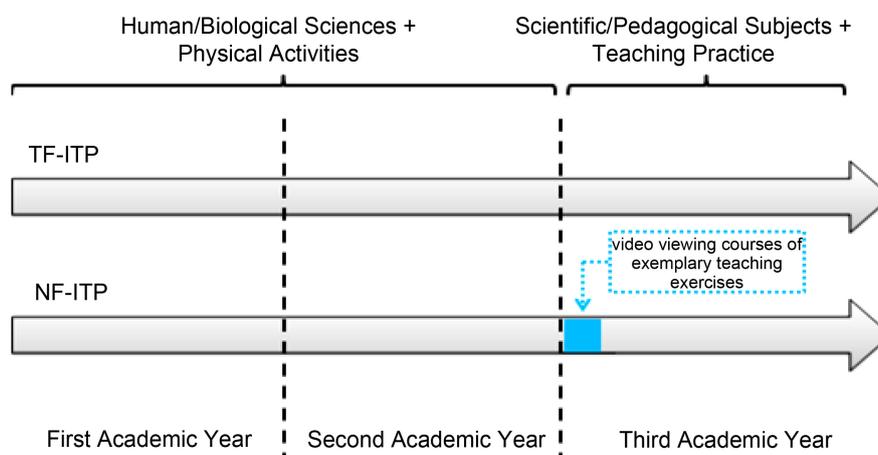

Figure 1. Schematic presentation of the two initial training programs' forms in physical education.

46 years, mean experience = 12.5 years) independently rated on a 5-point Likert scale each sequence to guarantee that the illustrated information was a realistic depiction of an exemplary teaching exercises (0 = *very non representative*; 5 = *very representative*). Nineteen sequences of exemplary teaching exercises were rated 4 or above and thus were kept for the experimentation (Table 1).

The (Q4TE; Grohmann & Kauffeld, 2013) responses were taken in the completion period of the initial training. All participants of the experimental and control group were asked to assess the effectiveness of the initial training program on a 10-point rating scale (from totally disagree [0] to totally agree [10]) with six subscales (satisfaction, utility, knowledge, application to practice, the individual organizational results, and the global organizational results). Satisfaction refers to whether initial training programs were satisfactory. Utility refers to whether initial training programs were usefulness in teaching practice during the internship. Knowledge refers to whether initial training programs have contributed in the acquirement of new knowledge. Application to practice refers to whether content of initial training programs have been applied in teaching practice during the internship. The individual organizational results refer to whether initial training programs have contributed in the improvement of teaching practice performances during the internship. The global organizational results refer to whether initial training programs have contributed in the amelioration of teaching practice climate during the internship. In this test phase, the instruction given to the participants of experimental group is to indicate the number of

Table 1. Content of exemplary teaching exercises' videos.

Physical and sports activities	Content of exemplary teaching exercises
Basketball & handball	• Creative Moves Warm Up Drills. • Warm up fun and games. • Individual drills: Development of "jumping ability", Agility, Coordination, Ball control. • Dribbling, passing and shooting drills. • Ball Possession Games. • Attack and Defend Games in a small group. • Small-Sided Transition Games Progressing to Goal in a small group.
Running	• Dynamic and static Warm up: before running. • Reaction Drills and Block Start Drills • Basic Drills to Improve Running Form • Developing Speed Drills • Stretching: After running
Long Jump	• General and Specific Warm up • Drills to improve running technique • Drills to Increase Vertical Jump • Landing Drill Progression • The take-off Drills • The Hitch Kick Drills • The flight Drills

conferences that they assisted. The exclusion criterion was to eliminate copies of each participant who assisted less than eight conferences.

2.3. Statistical Analysis

All statistical tests were processed using STATISTICA Software (Stat Soft, France, version 8.0 for Windows). After the verification of normality with the Shapiro-Wilk test, data were analyzed using a two factors ANOVA (2 [Forms] × 2 [Genders]) with repeated measures. When ANOVAs revealed a significant difference, post-hoc multiple comparisons using the LSD Fisher's test was conducted. Partial eta-squared $\left(n_p^2\right)$ were calculated to assess the practical significance of our results. The level of significance was set at $p < 0.05$.

3. Results

The reliability coefficient obtained by Cronbach's alpha for the overall assessment of the initial training programs' effectiveness was 0.96, and it was 0.68, 0.9, 0.82, 0.88, 0.89, and 0.92 for, satisfaction, utility, knowledge, application to practice, the individual organizational results, and the global organizational results respectively.

The two-way ANOVA was conducted on overall responses score showed a significant main effect of forms $F = 195.34$, $p < 0.001$, $n_p^2 = 0.33$, non significant gender effect $F = 1.39$, $p > 0.05$, $n_p^2 = 0.03$, and non significant interaction (form x gender) $F = 1.89$, $p > 0.05$, $n_p^2 = 0.18$).

In each of the individual subscales—satisfaction, utility, knowledge, application to practice, the individual organizational results, and the global organizational results—analysis indicated that Pre-service Teachers' perceptions regarding the initial training programs' effectiveness were significantly higher during the NF-ITP in comparison with the TF-ITP ($p < 0.001$) without any difference between genders (Table 2).

Table 2. Mean of pre-service teachers' perceptions ± (standard deviations), towards the effectiveness of the two initial training programs' forms.

Q4TE Subscales	TF-ITP		NF-ITP	
	Females	Males	Females	Males
Satisfaction	4.93 (0.36)	5.31 (0.28)	7.16* (0.18)	6.88* (0.19)
Utility	4.8 (0.42)	5.61 (0.29)	8.12* (0.19)	7.41* (0.16)
knowledge	4.8 (0.39)	5.87 (0.27)	7.7* (0.19)	7.81* (0.14)
Application to practice	4.5 (0.38)	4.91 (0.3)	7.25* (0.18)	7.43* (0.14)
Individual organizational results	5 (0.42)	5.29 (0.31)	7.45* (0.22)	7.62* (0.15)
Global organizational results	4.6 (0.38)	5.11 (0.33)	7.13* (0.23)	7.7* (0.16)

*Significant difference between NF-ITP and TF-ITP.

4. Discussion

The study examined how an integration of video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice could enhance the Pre-service Teachers' perceptions towards initial training programs' effectiveness in physical education. To determine this dependent variable, a validated Questionnaire For Training Evaluation (Q4TE; Grohmann & Kauffeld, 2013) was used. Results shows those P-sT who learned from the NF-ITP reported significantly higher assessment levels than P-sT who learned from the TF-ITP towards—satisfaction, utility, knowledge, application to practice, the individual organizational results, and the global organizational results—subscales.

First, findings of the present study mentioned that P-sT becomes more satisfied when they received an initial training program containing video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice. The results are consistent with previous research carried out in the influence of video viewing on teacher education domain, demonstrating the influence of video on Pre-service Teachers' level of satisfaction. For example in a study carried out by Choi & Johnson (2007), authors have tried to identify the effects of two major components (i.e., video and group discussion) of problem-based video instruction (PBVI) on college students' learning. To achieve this purpose, this study examined whether or not PBVI can improve learner satisfaction, comprehension and retention by comparing the results from three dependent variables in PBVI with two other kinds of instruction: 1) problem-based text instruction (PBTI) and 2) PBVI without group discussion. According to the findings, there were significant differences in learner satisfaction, comprehension, and delayed retention between PBVI and PBTI groups, whereas there were no significant differences in learners' satisfaction, comprehension, and delayed retention between PBVI and PBVI without group discussion. This study implies that PBVI in college courses have the potential to enhance student satisfaction, comprehension and delayed retention. Second, P-sT mentioned that initial training programs containing video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice supports them in the acquirement of new knowledge. Findings are in agreement with previous studies carried out in the benefits of video viewing on Pre-service Teachers' orientations, knowledge and skills for analyzing and reflecting on mathematics teaching in ways that generate knowledge for improvement (Santagata & Guarino, 2011). Also, results are consistent with research carried out by Star & Strickland (2008) who have demonstrated that video-supported reflection enabled interns to write more specific (vs. general) comments about their teaching than writing from memory, shift the content of the reflections from a focus on classroom management in memory-based reflections to a focus on instruction when video was available, and focus less on themselves and more on children

when they reflected on video clips of their teaching. In addition, P-sT mentioned the practical application of the content of this sort of this new initial training programs' form in teaching practice during the internship. Finally, P-sT declared the improvement of their teaching practice performances and by the amelioration of their teaching practice climate, when they received an initial training program containing video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice. Likewise, results confirm studies carried out in the benefits of video viewing on Pre-service Teachers' classroom practice that demonstrated that online videos of teaching practices contribute positively to feelings of self-efficacy in Pre-service Teachers during their internship (Karsenti & Collin, 2011; Fadde & Sullivan, 2013). In this study, it means that the integration of video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice is a valuable device to enhance the initial training programs' effectiveness for Pre-service Teachers. Although the present study makes useful contribution in teacher education particularly in physical education domain, certain limitations should be kept in mind, when interpreting the results, as the choice of the content of exemplary teaching exercises' videos. In this study, we have based only on exemplary teaching exercises related to four types of physical and sports activities, while the P-sT are asked to teach six types of physical and sports activities during the preparatory internship for the professional life. Moreover, examination of findings of this study in more realistic circumstances is recommended. In sum, this study aimed at describing the benefit of using video viewing courses of exemplary teaching exercises in the initial training programs of physical education. The results recommend the integration of this sort of courses during the start-up of the academic year of teaching practice in order to make the initial training programs more efficient for the Pre-service Teachers.

5. Conclusion

The present study demonstrates that an integration of video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice may contribute to the development of the initial training programs' effectiveness in physical education. Thus, High Institutes of Sports and Physical Education could integrate video viewing courses of exemplary teaching exercises during the start-up of the academic year of teaching practice.

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Disclosure Statement

No potential conflict of interest was reported by the authors.

Ethical Approval

All procedures performed in study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

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