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Perceptions of future teachers towards A SPOC case of physical Education and sports

Mostafa Hamse [1]*, Said LOTFI [2], Mohammed Talbi [3]
[1, 3] Analytical and Molecular Chemistry Laboratory, Observatory of Research in Didactics and University Pedagogy (ORDIPU), Faculty of Sciences Ben M'SIK, Hassan II University, Casablanca, Morocco
[2] Multidisciplinary Laboratory in Education Sciences and Training Engineering, Normal Superior School (ENS), Hassan II University of Casablanca(UH2C), Ghandi, Casablanca, Morocco

* Corresponding Author: **Mostafa Hamse**

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Abstract
This study aims to determine the perceptions of trainee teachers of physical education and sports of an online course for small groups (SPOC). We administered a questionnaire to 70 participants for distance training according to the SPOC model divided into two groups: hybrid and distanced, and we used for data analysis the Khi 2 test ($p<0.05$) in comparing the variables' percentages and dependence. The results revealed that all of teacher-trainees declare that SPOC reduces students' travel time and allows follow-up and individualized teaching. Moreover, analysis of Khi 2 test data shows no significant difference between the two training groups and interest perception of SPOCs. These results will guide us to know different participants' attitudes towards an online distance training under the SPOC model on one hand, and on the other hand to anticipate an adequate mode of accompaniment.

Keywords: Perception, distance learning, SPOC, trainee teachers, Physical education and sport

Introduction

Nowadays, Information and Communication Technologies (ICT) have become an essential way to improve learning quality. Indeed, for [1] and [2] these technologies, when combined and interconnected, make it possible to search, store, process and disseminate an impressive amount of information, in the form of different types' data (text, sound, images, simulations, etc.), and can be used to exchange, communicate, collaborate, cooperate, produce, create and publish. In addition, the integration of ICT brings several benefits such as flexibility,accessibility, the increase in exchanges and interactions between various actors [3-4]. ICTs delocalize, in time and space exchanges between teachers and learners, and thereby diversify learning activities and methods of teaching and learning [5-6].

On the other hand, we have seen in recent years an explosion of ICT and a diversity of distance learning platforms, MOOCs [7] the appearance of mobile devices such as smartphones, tablets and other mobile devices and social networks' revolution such as Facebook, Viadeo, LinkedIn, Twitter, have become very effective means of allowing learners who have not had the chance to enroll in one of the best universities in the world to benefit from distance courses' content to learn and improve their knowledge [8]. Furthermore, SPOCs were created to succeed where MOOCs failed, namely in the high dropout rate [9-10]. These are therefore non-open courses with a smaller number of participants that must meet specific requirements [11-12]. As a result, the relationship with the tutors is closer than in MOOCs. Sometimes they have been developed in academia, applying educational resources used in MOOCs, as training courses for teaching staff [13] or as a complement to degree courses [14-15-16-17], reinforcing the teaching of blended learning so that students can adjust their pace of learning to lesson content and explanations [18].

According to [11], the methodology used in SPOCs, "has its central axis in the use of short videos (and video-simulation) for the transmission of knowledge and autonomous activities with automatic correction tests and in some cases of peer-to-peer activities, with the possibility of representing very complex phenomena"

(p.134), which are ideal for transmitting concepts at a higher education level based on adaptive learning and have a series of characteristics that make them differentiate from online education courses. However, the integration of online education is not easy [19] and studies are needed to analyze the benefits of SPOCs to create appropriate learning environments in which to encourage real, consensual and sustainable innovation, which can shape the way students and teachers interact, encouraging more participation and active roles in the former and more support and guidance in the latter. Similarly, there is a need to study the opinion of students in distance education in order to rationalize the design, implementation and evaluation of any distance learning device likely to overcome the limitations inherent in the distance learning.

In this perspective, the main objective of our study is to evaluate future teachers' perceptions and representations in Physical Education and Sports (EPS) towards SPOCs in order to guide a possible techno-pedagogical design of possible distance training under SPOC's model.

Methods

Sample

Our sample is made up of 70 trainee teachers. They are all in professional training at Regional Center for Education and Training Professions (RCETP): Casablanca-Settat, during the period 2018/2019, Physical Education and Sports sector (EPS) intended for teaching in midle and high school cycle.

It is divided into two groups:

- A group with hybrid training: formed by 44 teacher-trainees (62.9%) that we have called hybrid in reference to the Open Distance Learning (ODL) received. They follow a double initial training: face-to-face at RCETP and online training at through an ODL-SPOC device called FP@STAPS, hosted in a MOODLE platform.
- A remote training group formed by 26 teacher-trainees from the 2017 training promotion who exercise their profession in practice and follow face-to-face training at RCETP spread over 4 weeks of reception, training and evaluation.

Measuring tool

In the present study, we administered a questionnaire, to the two groups of our sample, in order to collect the following main parameter: Perceptions of the interest of SPOCs. This questionnaire composed of closed questions: dichotomous type and multiple choice which is shared through Google forms.

Data analysis

The data is analyzed by Chi-square test by comparing variables' frequencies. We examined the group effect on following variable: SPOCs perception scale, with the significance level set at $p < 0.05$. The data was processed with SPSS software.

Results

The results relating to trainees' perceptions of SPOCs are presented in Table 1.

Perceived interest of online SPOCs

The data analysis relating to teacher-trainees' perceptions towards SPOC, shows that 77.1% of the interviewees showed the SPOC's importance, including the participants' reduction in travel time, the reduction in contacts with learners 30%, individualized follow-up through a SPOC, i.e. 21.4%; the feasibility of a face-to-face course compared to a SPOC, i.e. 10%. Furthermore, the data analysis presented in Table 1 does not indicate any significant difference between groups in all the parameters of interest SPOCs' perception.

Table 1: Perception online SPOCs' interest in two groups: hybrid and distanced. The data are presented in frequencies and percentages and compared by the Chi-square test.

		Group						Chi-square test		
		Hybrid		Distanced		Total				
		N	%	N	%	N	%	Khi 2	dll	p
SPOC is easier than a face-to-face course at RCETP.	Not at all agree	1	1,4%	2	2,9%	3	4,3%			
	Disagree	11	15,7%	3	4,3%	14	20,0%			
	Moderately agree	23	32,9%	11	15,7%	34	48,6%	4,902	4	.297
	Somewhat agree	7	10,0%	8	11,4%	15	21,4%			
	Totally agree	2	2,9%	2	2,9%	4	5,7%			
The SPOC allows follow-up and individualized teaching.	Not at all agree	0	0,0%	1	1,4%	1	1,4%			
	Disagree	1	1,4%	2	2,9%	3	4,3%			
	Moderately agree	12	17,1%	8	11,4%	20	28,6%	6,829	4	.145
	Somewhat agree	18	25,7%	13	18,6%	31	44,3%			
	Totally agree	13	18,6%	2	2,9%	15	21,4%			
The SPOC reduces travel time for participants.	Not at all agree	2	2,9%	2	2,9%	4	5,7%			
	Disagree	0	0,0%	0	0,0%	0	0,0%			
	Moderately agree	3	4,3%	0	0,0%	3	4,3%	3,214	3	.360
	Somewhat agree	7	10,0%	2	2,9%	9	12,9%			
	Totally agree	32	45,7%	22	31,4%	54	77,1%			
In a face-to-face course, I am more often in contact with other learners compared to a SPOC	Not at all agree	1	1,4%	0	0,0%	1	1,4%			
	Disagree	5	7,1%	4	5,7%	9	12,9%			
	Moderately agree	12	17,1%	3	4,3%	15	21,4%	3,673	4	.452
	Somewhat agree	15	21,4%	9	12,9%	24	34,3%			
	Totally agree	11	15,7%	10	14,3%	21	30,0%			
The face-to-face course at RCETP is more prestigious than a SPOC.	Not at all agree	1	1,4%	3	4,3%	4	5,7%			
	Disagree	4	5,7%	2	2,9%	6	8,6%			
	Moderately agree	22	31,4%	12	17,1%	34	48,6%	4,309	4	.366
	Somewhat agree	11	15,7%	8	11,4%	19	27,1%			
	Totally agree	6	8,6%	1	1,4%	7	10,0%			

Discussion

The purpose of our study is to identify the opinions of Physical and Educational Sport teacher-trainees towards a SPOC. The interest of our study is to guide the design and techno-pedagogical management of a SPOC in vocational training. For this, we compared two training groups: hybrid and distanced. The most striking result of our study showed that all of trainee teachers declare that the SPOC reduces students' travel time and allows follow-up and individualized teaching. These statements show the positive attitude of trainee teachers towards SPOCs, which can be explained by their predisposition to get involved for a good integration of these types of training device.

In this regard, some researchers have found that the key to the pedagogical integration of educational technologies lies above all in positive attitudes towards ICT [20]. Similarly, the positive representation of teachers vis-à-vis the introduction of ICT in the educational environment is certainly influenced by the progressive integration of technology into everyday life [21]. In addition, these positive affirmations with regard to SPOCs lie in its spatio-temporal flexibility by allowing remote people to follow training without having to travel [22], as well as the diversity of teaching methods. This flexibility of teaching sequences, the link between training time, work time and leisure time, the pace of progression and acquisition of skills and the ability offered to each to have control of their own training [23].

However, faced with these advantages of SPOCs concerning spatio-temporal autonomy and learning's individualization, challenges appear related to objectives' achievement expected by these devices, in this case the low rate of perseverance. Indeed, the traditionally low persistence rates of ODL learners have been a subject of concern and study for many years [24]. Research on factors related to dropping out or persistence has led to some progress on this aspect of ODL [25]. Indeed, the abandonment of studies in distance education establishments is linked to a multitude of variables, linked to demographic factors (age, sex, civil status, ethnic or social origin, etc) [26], environmental factors (family, job, material or geographical conditions, changes in life, etc) [27-28-29] and educational factors such as courses, pedagogical help, assignments, feedback...etc [30-31-32-33-34-35-36].

However, almost a third of the trainee teachers preferred a face-to-face course at the RCETP to a SPOC, while about 50% are not able to make this comparison. Indecision is the concern to see evidence of ICTs' beneficial contribution before using them themselves, are the explanatory factors of this fact [37].

Faced with these findings, we suggest capitalizing on these positive representations of trainee teachers with regard to SPOCs, by providing support and close monitoring provided by quality educational tutoring reducing the dropout rate.

Conclusion

Our study identified the perceptions of trainee teachers towards a SPOC. Perceptions were generally positive and encouraging since these participants declared their knowledge of SPOC's qualities compared to face-to-face training. These conclusions will serve us in the future stage of designing a distance learning device according to SPOC's model.Future lines of research would focus on determining the trainee teachers' learning styles to have other precise data that will allow us to custom design our online distance education, by questioning a larger sample. concerning several training centers and universities in Morocco.

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