

A DESCRIPTIVE STUDY ON THE LEARNING APPROACHES OF SECOND YEAR PHYSIOTHERAPY STUDENTS

Iris Machado de Oliveira, Gustavo Rodríguez-Fuentes, Lourdes Maceiras

Faculty of Physiotherapy, University of Vigo (SPAIN)

Abstract

Introduction. Nowadays, within the binomial teaching-learning, and more in the university context after Bologna plan, the learning aspect, and consequently the student, is the key point. In terms of this aspect, one of the central questions concerns the way the students learn. For that, one of the aspects to be accessed could be the learning approaches of our students, in other words, the motivation and the learning strategies employed by them to perform an academic task.

Objective. To analyse what are the learning approaches employed by second year physiotherapy students at University of Vigo.

Method. Cross-sectional descriptive study. The Biggs' questionnaire on learning approaches was used (Biggs et al., 2001 – original version; Muñoz San Roque and Martínez Felipe, 2012 – Spanish version). The study was carried out in the academic course 2014-2015 and second year physiotherapy students participated in it. The sample was composed of 47 students (74.6% of the enrolled). The average age was 20.28 ± 2.26 years.

Results. 53.2% of the participants were women and 46.8% were men. To the total sample, there were higher scores in "Deep approach" (mean 30.94 ± 5.48) than in "Superficial approach" (mean 19.21 ± 5.39). Likewise, there were higher scores in the sub-scales of "Deep motive" and "Deep strategies" (15.98 ± 2.91 and 14.94 ± 3.16 , respectively) than in the sub-scales of "Superficial motive" and "Superficial strategies" (8.06 ± 2.17 and 11.15 ± 3.72 , respectively). There was a significant difference by gender in only one item of the questionnaire (Item nº 7, higher for men). Additionally, there were higher scores for men in "Superficial motive" ($p < 0.05$). For the other 3 sub-scales (Superficial strategies, Deep motive and Deep strategies), as well for the "Superficial approach" and "Deep approach", there were no significant differences by gender.

Conclusions. The second year physiotherapy students at the University of Vigo seem to have a deep learning approach. To know if there is any relationship between this conduct and their academic performance would be the next part of the study. In future researches, it would be interesting to analyse the other courses of the Degree, as well as other Health Sciences Degrees in order to establish correlations.

Keywords: Learning approaches, High Education, Physiotherapy.

1 INTRODUCTION

Nowadays, within the binomial teaching-learning, and more in the university context after Bologna plan, the learning aspect, and consequently the student, is the key point. In terms of this aspect, one of the central questions concerns the way the students learn.

A question some teachers could do would be the indicated by Heikkilä and Lonka [1]: "Why do some called intelligent students fail while seemingly less capable students do well in their studies?" Earlier theories of learning and studies often searched for the answers from individual differences or from intellectual functioning only. However, it seems that even highly selected, intelligent students sometimes do poorly in their studies [1]. For that, one of the main concerns from we, university teachers, could be the learning approaches of our students, in other words, the motivation and the learning strategies employed by them to perform an academic task.

This research line, that emerged around three decades ago, is related to complex study processes within educational context, and try to determine the study and learning patterns in students' educational natural environments. Additionally, it is important to understand that the learning approaches used by our university students could be determined by different factors like conceptions of learning, motivational orientations and regulation of learning [1,2].

That is why learning approaches arise from the combination of the motive and learning strategies. Both in the so-called deep approach and superficial approach, the students employ several different levels of motivation and learning strategies [2,3]. This diversity is welcomed; however, it also presents a challenge for teachers to meet the educational needs of all students, especially at the University. Specifically, student motivation and performance improves when instruction is adapted to student learning preferences and styles [4].

Currently, the study of learning from the learners' perspective takes on far greater significance when they are who give meaning and purpose to the materials processed. The students are also, who decide what they want to learn, as well as the way they are going to do it, maybe, in most of the cases based on the need to, for example, pass any course [2].

Because we, the authors, give classes in different subjects of the second course of the Degree in Physiotherapy, and based on the above mentioned, the objective of this study was to analyse what are the learning approaches employed by second year physiotherapy students at University of Vigo.

2 MATERIAL AND METHOD

2.1 Timing and Design

A cross-sectional descriptive study was conducted in the first semester of the 2014-2015 academic course at the Faculty of Physiotherapy, University of Vigo, Spain.

2.2 Participants

Second-year physiotherapy students participated in the study. The sample consisted of 47 students (the 74.6% of the enrolled). The average age was $20,28 \pm 2,26$ years, and 53.2% of the participants were women and the 46,8% were men. The students participated in this study voluntarily.

2.3 Assessment

The Biggs' questionnaire on learning approaches was used (Biggs et al. [5] – original version; Muñoz San Roque and Martínez Felipe [6] – Spanish version). This instrument integrates 20 items and they are included in for sub-scales: "Deep motive", "Deep strategies", "Superficial motive" and "Superficial strategies". The "Deep approach" score includes the scores obtained in the sub-scale of "Deep motive" + "Deep strategies", while the "Superficial approach" score includes the scores obtained in the sub-scales of "Superficial motive" + "Superficial strategies". The "Deep motive" sub-scale includes the items 1, 5, 9, 13 and 17; the "Deep strategies" sub-scale includes the items 2, 6, 10, 14 and 18; the "Superficial motive" sub-scale includes the items 3, 7, 11, 15 and 19; and the "Superficial strategies" sub-scale includes the items 4, 8, 12, 16 and 20. All the items should be scored based on a five-point Likert scale from "Never or only rarely" to "Always or almost always".

2.4 Statistical analysis

Statistical analysis was done using SPSS. A descriptive analysis was done for the total sample and by gender. To analyse significant differences by gender regarding the 20 items of the Instrument, the U de Mann-Whitney test was used. To analyse differences by gender in relation to the scores obtained for each of the sub-scales, a student-T test for independent samples was used. Finally, the Pearson correlation index was calculated to analyse correlations between the scores obtained in the different sub-scales.

3 RESULTS

39 of the sample (82.98%) had a "Deep approach", while 6.38% had a "Superficial approach" and 10.64% had a "Balanced approach". By gender, 22 of the women (88%) had a "Deep approach", 8% had a "Superficial approach" and 4% had a "Balanced approach", while 17 of the men (77.27%) had a "Deep approach", 4.55% had a "Superficial approach" and 18.18% had a "Balanced approach".

To the total sample, there were higher scores in "Deep approach" (mean 30.94 ± 5.48) than in "Superficial approach" (mean 19.21 ± 5.39). Likewise, there were higher scores in the sub-scales of "Deep motive" and "Deep strategies" (15.98 ± 2.91 and 14.94 ± 3.16 , respectively) than in the sub-

scales of “Superficial motive” and “Superficial strategies” (8.06 ± 2.17 and 11.15 ± 3.72 , respectively) (see Table. 1).

Table 1. Descriptive results on scores for types of learning approaches and for the sub-scales of motive and strategies.

	Total sample (mean \pm SD)	Female (mean \pm SD)	Male (mean \pm SD)
Deep learning approach	30,94 \pm 5,47	31,00 \pm 5,65	30,86 \pm 5,40
Deep motive	15,98 \pm 2,91	16,08 \pm 3,08	15,86 \pm 2,76
Deep strategy	14,96 \pm 3,15	14,92 \pm 2,96	15,00 \pm 3,44
Superficial learning approach	19,21 \pm 5,39	17,88 \pm 4,89	20,73 \pm 5,64
Superficial motive	8,06 \pm 2,17	7,44 \pm 1,83	8,77 \pm 2,35*
Superficial strategy	11,15 \pm 3,72	10,44 \pm 3,67	11,95 \pm 3,68

*Significant difference by gender $p < 0.05$.

There was a significant difference by gender in only one item of the questionnaire (Item nº 7 – “I do not find my course very interesting so I keep my work to the minimum”), higher for men (1.12 ± 0.33 and 1.5 ± 0.67). Additionally, there were higher scores for men in “Superficial motive” ($p < 0.05$). For the other 3 sub-scales (Superficial strategies, Deep motive and Deep strategies), as well for the “Superficial approach” and “Deep approach”, there were no significant differences by gender.

For the total sample, there was a significant direct correlation between “Deep approach” and “Deep strategies” or “Deep motives” ($p < 0.001$), an inverse significant correlation between “Deep approach” and “Superficial strategies” ($p < 0.05$), but not between “Deep approach” and “Superficial motive”. Additionally, there was a significant direct correlation between “Superficial approach” and “Superficial motive” or “Superficial strategies” ($p < 0.001$), but there was not a significant correlation (inverse or direct) between “Superficial approach” and “Deep motive” or “Deep strategies”. Finally, there was a significant direct correlation between “Deep motive” and “Deep strategies” ($p < 0.001$) and between “Superficial strategies” and “Superficial motive” ($p < 0.001$) and a significant inverse correlation between “Deep motive” and “Superficial strategies” ($p < 0.05$).

4 DISCUSSION

The objective of this study was to analyse what were the learning approaches employed by second year physiotherapy students at University of Vigo. Our results retrieved higher scores in the scale used for “Deep approach” when compared to “Superficial approach” or “Balanced approach”. Additionally, there were no differences by gender, except for the subscale of “Superficial motive”, where men scored higher than women.

Other authors had investigated in the same line. For example, Hernández-Pina et al. [2] in their study analysed the learning approaches used by students from the formerly called “*Ciencias de la Actividad Física y Deporte*” (CAFD) at a Spanish university and by students from “*Organización Deportiva*” at a Mexican university based on the location where the studies were done and based on gender. Those authors observed, for the total sample of the study (458 students), 54,6% of them had a “Deep approach”, followed by the “Superficial approach” (41.3%), and few of them presented a “Balanced approach” (4.1%). When data was analysed by gender, those authors observed that 48.1% of the men had a “Deep approach”, 46.7% had a “Superficial approach” and only 5.1% of them had a “Balanced approach”. In relation to women, 66.1% had a “Deep approach”, 31.5% had a “Superficial approach” and only 2.4% of them had a “Balanced approach”. The results observed in the study of Hernández-Pina et al. [2] are quite different when compared to ours, regarding the amount of students who adopt a “Deep approach”. This difference, anyway, could be because of the different Degrees studied.

Other study in the same line [7], reports the experience of 610 Dutch students who went a university in another European country and 241 students from other European countries who had studied at least three months in a Dutch university. The extent of constructive and reproductive learning were measured, comparable with deep and surface learning [8] but without the connotations of a strict

polarity and also comprising metacognitive activities. Those authors suggest that a learning environment that stresses memorizing of facts and does not invite the student to participate actively in the course, prompts the student to learn reproductively. A student-oriented learning environment, and especially one oriented to connectedness, appears to stimulate constructive learning. Those authors affirm that South European students show a tendency to learn somewhat more constructively and less reproductively during their stay at a Dutch university, because they experience the Dutch learning environment as less reproductive and as providing more opportunity for student involvement. Additionally, the authors comment that the students appear to be inclined to adapt their learning approaches to the characteristics and demands of the learning environment.

Wierstra and Beerends [9], suggest that the previous commented adaptation of the learning approaches are not very large. They affirm that there is no determining influence but a facilitating or inhibiting influence of the learning environment on learning approaches. Whether a person will learn constructively is probably not merely dependent on learning environment characteristics, but also on individual person characteristics [9]. Although the influence of the learning environment should not be overestimated, a change of learning environment (characteristics) could lead to a change of learning approaches. In our study, as it was a transversal study we could not analyse any possible change in the use of any learning approach by our students. However, the data obtained could lead us to think that, at least for some of the subjects included in the Study Plan of Physiotherapy, the type of teaching approach would be more constructive and not so reproductive. This could be the object of study in future researches.

In addition to the above commented, there are different instruments currently used to analyse learning approaches, but it is important to develop better diagnostic and research instruments that help us to monitor our students' development. We are in accordance with Heikkilä and Lonka [1] when they say "identifying problems early will help us to intervene in a constructive way that provides sufficient instructional support for those students who need it".

5 CONCLUSION

The second year physiotherapy students at the University of Vigo seem to present a deep learning approach, additionally there does not seem to be any differences by gender. To know if there is any relationship between this conduct and their academic performance or the approach in teaching used would be the next part of the study. In future researches, it would be interesting to analyse the other courses of the Degree, as well as other Health Sciences Degrees in order to establish correlations.

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