

Bachelor's Degree Final Project Checklists for elaboration, tutoring, and evaluation

Ana María Martín-Nogueras¹, Beatriz María Bermejo-Gil¹, Raquel Diez-García¹, Emérita García-Astudillo¹, Inés Llamas-Ramos¹, Natalia Montes-Carrasco¹, Carlos Moreno-Pascual¹, Carmen Oreja-Sánchez¹, Jesús Orejuela-Rodríguez¹, Fátima Pérez-Robledo¹, Luis Augusto Silva², Juan Luis Sánchez-González¹

Email: anamar@usal.es, Beatriz.Bermejo@usal.es, raquel10@usal.es, 00774612@usal.es, inesllamas@usal.es, natmontes@usal.es, moreno@usal.es, carmenoreja@usal.es, jorejes@usal.es, fatima_pr@usal.es, luisaugustos@usal.es, juanluissanchez@usal.es.

Nursing and Physiotherapy Department

University of Salamanca
Salamanca, Spain

²Expert Systems and Applications Lab-ESALAB,

Faculty of Science
University of Salamanca
Salamanca, Spain

Abstract. The Bachelor's Degree Final Project (BDFP) is a compulsory subject for undergraduate university students. Due to the different types of works and the lack of coordination mechanism, there is a disparity of criteria in the preparation-tutoring and evaluation-qualification of them. The aim of this work was to design an instrument that facilitates the elaboration, tutoring, and evaluation of the TFG in the Physiotherapy Bachelor's degree at a Spanish public university. A bank of six checklists was designed; a common one that included the rules of style, extension, and structure; and another five regarding each specific type of BDFP: research work, systematic bibliographic review, research projects, and professional work (clinical case or intervention protocol). A team of 11 university professors agreed and designed the sections and headings of each checklist. A final version was distributed during the second semester of 2021 among teachers and 4th-year students. It is remarkable that having organized, and specific checklists facilitate the preparation, tutoring, and evaluation of the BDFP, assuring the most important task, consistency as well as minimizing mistakes. Furthermore, they are easily exportable tools to other universities and health sciences related degrees.

Keywords: *Bachelor's Degree Final Project; checklists; Physiotherapy Degree.*

1. INTRODUCTION

The Bachelor's Degree Final Project (BDFP) was incorporated as a compulsory subject in the Graduate degrees after the adaptation of the degrees to the European Higher Education Area (EHEA) in 2009.

The national regulations do not include specific aspects regarding the preparation or design of the BDFP, so that each degree, center, and university has developed its specific regulations for the preparation, presentation, and defense of these works. However, in general, these are brief instructions or simply instructions on format or procedure.

Each degree program usually includes a set of different types of work, sometimes with different structures. This diversity, and the lack of coordination mechanisms between tutors and evaluators within the same degree, leads to disparity

of criteria in the elaboration-tutoring, evaluation-grading of the work, as well as non-compliance with student expectations (Moreno, Jaén, and Ruiz 2019).

The aim of this study was to design an instrument to facilitate the development, tutoring and evaluation of the BDFP in the degree in Physiotherapy in a Spanish public university.

The expected improvements with the development of the present project were as follows:

- To achieve greater student autonomy in the development of their BDFP, as well as the possibility of carrying out their own self-evaluations.
- To facilitate the tutoring of professors during the process of elaboration of the BDFP.
- To minimize errors that may appear in the format or content of the BDFP, thus improving the academic performance of students.
- To facilitate the evaluation process of the professors who are members of the evaluation commissions by objectifying in detail and jointly the different aspects of the BDFP.
- To homogenize the individual and collective evaluation process, and the possible final grade by the professors of the evaluation committee.

2. CONTEXT

This work is framed in the context of the undergraduate degree in Physiotherapy at a Spanish public university.

The BDFP is incorporated as a subject in undergraduate degrees after the adaptation of the degrees to the EESS, being a mandatory requirement for obtaining the degree. It consists of an original academic work of different nature, depending on the degree, tutored, and supervised by a tutor professor and that finally must be presented and defended before a university tribunal.

The BDFP is regulated by Royal Decree 1393/2007 (RDL 1393/2007, of September 30), which establishes the organization of official university studies, where in Article 12.3, dedicated to the guidelines for the design of graduate degrees, includes "these studies will conclude with the preparation and defense of an end-of-degree project". In the same article and in point 7 it is added that "the end-of-degree project will have a minimum of 6 credits and a maximum of 12.5 percent of the total credits of the degree, must be carried out in the final phase of the study plan and be oriented to the evaluation of the competencies associated with the degree". The competences of the university degrees that give access to regulated professions are included in the corresponding CIN orders, in the case of the Degree in Physiotherapy, ORDER CIN/2135/2008, of July 3 (Order CIN/2135/2008, of July 3). It establishes in the module of Supervised Practices and Bachelor's Degree Final Project that the competences to be achieved are the "presentation and defense before the University Tribunal of a bachelor's degree final project, consisting of an exercise of integration of the training contents received and the competences acquired".

Another regulation that refers to the BDFP is the Statute of the University Student, RD 1791/2010, of December 30 (RDL 1791/2010, of December 31), which states that students have the right "to have effective academic and professional supervision in the bachelor's degree final project and, where appropriate, in the external internships provided for in the study plan" and "to have the recognition and protection of the intellectual property of the bachelor's degree final project and previous research work under the terms established in the current legislation on the matter"; Finally, Article 27 establishes that "the final projects, Bachelor's and Master's degree final project, as well as doctoral theses, shall be governed by their specific regulations". Therefore, the regulations do not contain provisions on the type of work or how it should be prepared or evaluated, so that each university, center, and degree has applied its own criteria. No consensus has been found between universities or degrees, only diverse guides on how to carry out a BDFP, which are very different in length and content. Our university has a standard regulation that each degree program and center has developed specifically, in our case it is available on the center's web page. (<https://enfermeriayfisioterapia.usal.es/trabajos-de-fin-de-grado/>).

The BDFP subject in which this work is framed has been assigned 6 ECTS in the Physiotherapy Degree Curriculum and is contemplated in the second semester of the 4th year. Our regulations establish that the content of the work must correspond to one of the following types: research work, systematic literature review, professional work, or research projects; also including instructions on style, length, and structure.

The incorporation of the BDFP to the degree of Physiotherapy, as in many other degrees, was done without a previous tradition in this type of work and without the professors having specific training for it. Throughout these years, professors have been learning to develop their work as tutors and evaluators in the corresponding commissions. From the experiences accumulated from tutoring and evaluation over the past years is where this work arises, where a team of professors of the Degree in Physiotherapy identified a set of

difficulties in students and teachers, during the process of preparation-tutoring and evaluation-grading of the BDFP that justified the development of this project, which was submitted to the 2020 call of the Teaching Innovation Program of the university of origin; obtaining a score of 84/100 along with funding for the dissemination of the results.

The general objective was to design an instrument to facilitate the realization, tutoring and evaluation of the BDFP in the degree in Physiotherapy in a Spanish public university. As specific objectives were established: 1. To elaborate checklists with the structure that each type of BDFP contemplated in the degree program should present, based on the consensus on the sections, subsections and obligatory and optional contents that each type of work should contain; 2. To prepare a checklist on formal aspects of the BDFP presentation documents; 3. To present and send the checklists to the different professors and students of the Degree in Physiotherapy for their voluntary use during the process of carrying out the BDFP in the Degree in Physiotherapy in the 2020-2021 academic year; 4. To evaluate the degree of use and usefulness of the instruments designed.

3. DESCRIPTION

The project was designed to be carried out in two distinct stages. The first stage was dedicated to the development of the instruments (September 2020-January 2021) and the second to their application and evaluation (February 2021-July 2021).

In September 2020, a work team coordination meeting was held to establish the work guidelines and the schedule to be followed. A total of 6 working sessions of 2 hours duration were scheduled, one for each checklist that was developed. Given the current pandemic situation, all sessions were conducted synchronously via videoconference through Google Meet. The way of working in each session was similar, one week before the meeting the project coordinator distributed among the rest of the team a draft or template on the aspects to be discussed and assessed in each of the checklists, in accordance with the instructions provided by the center's management on its web page (<https://enfermeriayfisioterapia.usal.es/trabajos-de-fin-de-grado/>) and the recommendations of the Equator Network (The EQUATOR Network, 2021) for the type of work contemplated. All the questions and headings included in each of the checklists were resolved by consensus among the team members.

During the month of February 2021, the checklists were distributed by e-mail from the dean's office of the center to all the professors of the degree and students of the 4th year of the Degree in Physiotherapy for their use during the BDFP course of the second term. During this second phase, and in a new work session, the team of professors designed a survey to be distributed among professors and students through Google Forms and that would allow to know the degree of use and usefulness of the lists elaborated. (<https://forms.gle/qiLHsMU7gumtVpQr5>)

4. RESULTS

A total of 6 checklists were drawn up (<https://sites.google.com/usal.es/listas-tfg>), a generic one for all types of BDFP and which included the Norms of style, extension, and structure of the BDFP and 5 others for the

types of work contemplated by the center: BDFP research work, BDFP systematic bibliographic review, BDFP research projects, BDFP professional work (clinical case), BDFP professional work (intervention protocol). In the case of professional BDFP, the two most common types were considered, considering that they are a very diverse type of work and that it is very difficult to standardize the headings.

The format of all the lists was unified in the form of columns, the first of which included each of the sections and questions to be assessed or considered, the second included a system of check boxes to activate, the third included observations that the team considered appropriate and the fourth a space for the tutor or evaluator to include their comments.

Thus, the list of style standards, extension, and structure of the BDFP included the following sections: format and style standards, title page, table of contents, summary, tables, figures and graphs, bibliography, and others. The list of BDFP research work included in columns different types of studies (experimental, cross-sectional descriptive and longitudinal descriptive) with the following sections: introduction, objectives, material and methods, results, discussion, and conclusions. The BDFP systematic literature review list included the sections on introduction, objectives, search strategy and selection of studies, synthesis and analysis of results, discussion, and conclusions. The BDFP research projects included the introduction, objectives, material and methods, and work plan. The BDFP professional work (clinical case and intervention protocol) was structured as follows: introduction, objective, development of the topic and conclusions.

These lists were made available to the university community in PDF format through the web page developed by the project team (<https://sites.google.com/usal.es/listas-tfg>).

The survey on the use and usefulness of the lists was distributed among professors of the degree program and fourth-year students on June 25, 2021, through the dean's office of the center, and remained open until July 12, 2021. The target population was 110 people (60 professors and 50 students).

A total of 36 responses were collected, of which 24 (66.7%) were students and the rest were professors. A total of 13.9% of the respondents stated that they had not used the checklists because they had not received information about them and 2.8% because they had not tutored any BDFP during the course. The most frequently used checklist, as expected, was the Standards of style, length, and structure, in 70% of those who had used them. Among those specific to the types of work, those for systematic review (56.7%) and research (30%) were those with the highest percentage of use (Figure 1). Regarding the use and usefulness in the group of students, 89.5% agreed or strongly agreed that the lists had been useful and had facilitated their work and 52.6% considered that they had helped them to achieve a better result. Only 10.5% would change the design and no one felt that they were incomplete. In the group of teachers, 81.8% agreed or strongly agreed that they were useful and had made the work easier. Only one teacher considered that he would change the design and that they were incomplete. A total of 94.7% of the students and 81.8% of the teachers said they would use them again.

Finally, in the degree of overall satisfaction with the use of the lists, the average score was 8.4 points out of 10 (SD 0.895) in the group of students, with a range between 7 and 10, and 9.6 points out of 10 (SD 0.674) in the group of teachers, with a range between 8 and 10 points (Figure 2).

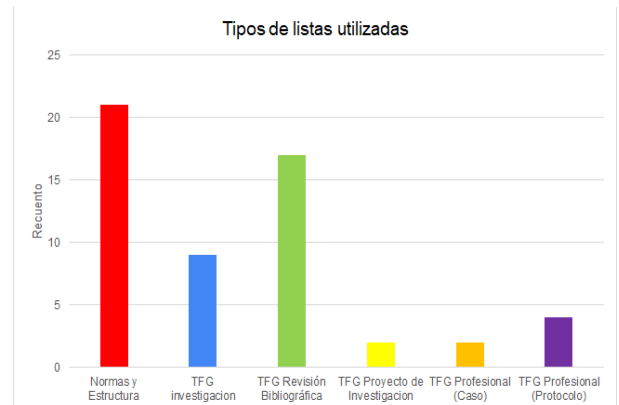


Figure 1

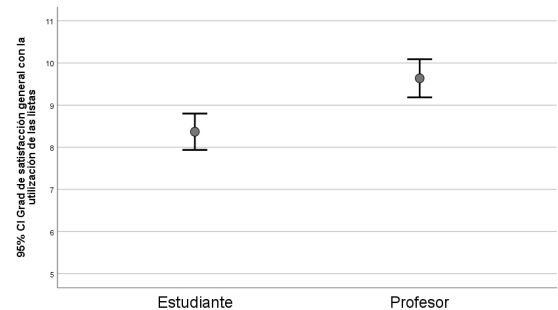


Figure 2

5. CONCLUSIONS

It has been possible to establish, through consensus among professors, checklists that facilitate the elaboration and evaluation of the BDFP by allowing the verification of the sections, contents and formal aspects expected in each type of BDFP contemplated in the regulations of our center.

Having checklists organized by sections and headings presumably minimizes the occurrence of errors in the preparation and outcome of the BDFP.

The elaborated lists are easily exportable to the degree of Physiotherapy Degree of other universities, as well as adapted to other degrees in the field of Health Sciences.

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