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Research Article

The Academic Supervisor of Higher Education Students' Final Projects: A Gatekeeper of Quality?

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Abstract

The production and presentation for public discussion of an end-of-programme project, thesis or dissertation are unavoidable elements for the conclusion of academic training in study programmes of various levels, namely bachelor's, master's and PhD. Although these end-of-programme projects may take on various forms, as well as different levels of demand, supervision in the production of these projects is one of the critical elements for their success. This article aims to analyse the supervision process, examining the supervision strategies that faculty members may mobilise in their role as academic supervisors. To this end, the authors carried out a bibliographic collection, which made it possible to substantiate the proposals set out throughout this piece of research. The results allow concluding that, to be effective and efficient, supervision strategies need to consider, as a basic assumption, that this is a pedagogical relationship, with asymmetric powers between the supervisor(s) and the student(s), in which it is paramount to acknowledge the different duties of each party. Furthermore, this relationship entails the need for flexibility on the part of the supervisor, taking into account both the characteristics of the supervisor and of the work designed and the development of the entire process, which may motivate and involve several supervision strategies in the same supervision over time/process. This whole dynamic takes place in a context where it seems important to (re)think the final product of the academic supervision process.

Keywords: supervision, supervision strategies, end-of-programme project, thesis, dissertation

1. Introduction

The end-of-programme/cycle projects take on different formats (Santos, Ferreira, Serpa, & Sá, 2020; Paltridge & Starfield, 2020). However, all of them involve drawing up a final written document with the

respective discussion before a jury (Orozco-Orozco, 2019; Larrea, 2019; Santos, Ferreira, & Serpa, 2020). The evaluation of this public project discussion normally follows a set of criteria, on which the members of the jury base their assessment of the work and check its grade. Table 1 depicts these criteria.

Table 1. Thesis assessment components mapped to thesis subject learning outcomes

Thesis component	Learning outcome
Problem Definition	(i) Define clearly the aims and objectives of a given problem.
Literature Review	(ii) Retrieve and analyse previous work on related problems (critical literature review).
Research Plan	(iii) Formulate methods for problem solution.
Research Implementation	(iv) Plan, design and construct an experimental or theoretical procedure to solve the problem.
Data Analysis and Conclusions	(v) Collect data and evaluate findings.
Communication and Presentation	(vi) Communicate conclusions and solutions verbally and in writing.

Source: Stappenbelt & Basu (2019, p. 210).

Successful supervision culminates in the undergraduate and graduate students' successful preparation and discussion of a study programme's final project, whether it be a monograph, an internship report, a thesis or a dissertation, carried out and presented in a rigorous manner and with a controlled discourse (Serpa, Santos, & Ferreira, 2020). This is a very important element, with both direct implications for the student and indirect implications for other social actors, such as the supervisor's curriculum, the prestige of the higher education institution (HEI), financial profitability, the image of the institution abroad and the consequent funding and student attraction (Minayo, 2019; Zaheer & Munir, 2020; Hu, van der Rijst, van Veen, & Verloop, 2016). As Bazrafkan, Yousefy, Amini, and Yamani (2019) state, "Faculty members supervise the students because qualified supervision leads to success on the part of the student, and it has moral, reputational, and financial outcomes for the institution" (p. 1).

However, this highly complex process often poses obstacles to both supervisors and students (Minayo, 2019; Roberts & Seaman, 2018; Zaheer & Munir, 2020; Seijas, Val, Antelo, & Rodríguez, 2018; Nouri, Larsson, & Saqr, 2019; Capello, 2020; Alabdulaziz, 2020; Roberts & Seaman, 2017; van Rooij, Fokkens-Bruinsma, & Jansen, 2019). Nouri et al. (2019) offer an illustrative view of these difficulties when they state that

> *Not finishing a master thesis is a devastating personal experience for students that costs precious time, loss of money and energy. Non-completion also results in a vast waste of faculty time and institutional resources, and a societal loss of high skilled workers (p. 35).*

In summary, the activities and strategies mobilised in academic supervision may be different from one HEI to another, depending on its mission and the resources it has, as well as the scientific field and the format of supervision itself (e.g. single or multiple supervisors, single or multiple students) (Roberts & Seaman, 2018).

Despite all this variability, the supervisory process can be considered as a "supervisor/supervisee

dyad", whose roles, to some extent, complement each other and create a commitment (Minayo, 2019). This commitment is embodied in a relationship of interdependence between the supervisor, who has higher academic experience and knowledge, and the student, who is in the early stages of their research career (Minayo, 2019). This supervision can be solo-supervision or co-supervision, with the existence of two or more supervisors, which can bring added complexity to the whole process (Olmos-López & Sunderland, 2016).

The supervision and the features of both the supervisor and the student, in addition to other factors, have a very relevant weight in the product presented by the student (Strebel, Gürtler, Hulliger, & Lindeque, 2019; van Rooij et al., 2019; Nouri et al., 2019). In the analysis of van Rooij et al. (2019) of PhD students' supervision, the following four success predictors stand out:

> *(1) institutional or environmental factors, including the departmental culture; (2) supervision-related factors such as the quality and quantity of supervision and the relationship between the supervisor and PhD student; and (3) individual PhD student characteristics like background characteristics (e.g. gender, age) and behavioural and psychological characteristics (e.g. personality, motivation) . . . [and (4)] PhD project characteristics (p. 2).*

Alabdulaziz (2020), who also analyses the supervision of PhD students, emphasises that there are both positive and negative challenges in this supervisor/student relationship. The author indicates that there are four central dimensions to shape these challenges: (i) the supervision of the team; (ii) the supervisory relationship; (iii) the elements of effective supervision of current supervisors; and (iv) the written and frequent feedback provided by supervisors to students.

2. Methodology

The development and presentation for public discussion of an end-of-programme project, dissertation or thesis is a critical element for the completion of academic training in study programmes of various levels, such as bachelor's, master's and PhD. Although these end-of-programme projects can take on different forms and different levels of demand, the supervision of this process is one of the critical elements for their success. The aim of this article is to analyse the supervision process by examining the supervision strategies that can be put in place. To this end, the authors have chosen to use a qualitative approach, having carried out a bibliographic collection that made it possible to substantiate the proposals set out here. The literature collection was carried out at the B-ON (online) database, between October 21 and 24, 2020, searching the terms "supervisor" plus "thesis" or "dissertation" in the title and abstract. B-ON (Biblioteca do Conhecimento Online) "provides unlimited and permanent access to research and HEIs to the full texts of thousands of scientific journals and online eBooks from some of the most important content providers" (online). For the analysis and subsequent discussion of the collected and selected information, the authors used the technique of content analysis.

3. Supervision: The Features of the Supervisor's Role

The importance of the role played by the supervisor in monitoring the process of design, preparation and presentation of the end-of-programme project by students is undeniable. It is up to them to make sure that the student follows the timetable defined at the beginning of the process, attains the objectives of the project and delivers a quality product, always in an iterative relationship with the student.

In particular, the role of the supervisor has subsumed a set of competences that they must mobilise in their supervisory work. Table 2 depicts some of these important competences.

Table 2. The roles of the supervisor

- Director (determining topic and method, providing ideas).
- Facilitator (providing access to resources or expertise, arranging field-work).
- Adviser (helping to resolve technical problem, suggesting alternatives).
- Teacher (of research techniques).
- Guide (suggesting timetable for writing up, giving feedback on progress, identifying critical path for data collection).
- Critic (of design of enquiry, of draft chapters, of interpretations of data).
- Freedom giver (authorizes student to make decisions, supports student's decisions).
- Supporter (gives encouragement, shows interest, discusses student's ideas).
- Friend (extends interest and concern to non-academic aspects of student's life).
- Manager (checks progress regularly, monitors study, gives systematic feedback, plans work).
- Examiner (e.g. internal examiner, mock vivas, interim progress, reports, supervisory board member).

Source: Filippou, Kallo, & Mikkilä-Erdmann (2019, p. 2), citing Brown & Atkins (1988, p. 120).

In addition to (and concomitantly with) the competences that characterise the role of the supervisor, there are also requirements that this role entails. These requirements are described in Table 3.

Table 3. Five basic requirements of supervisors

1.	Be capable of developing a learning alliance to work with the students towards common objectives.
2.	Be interested in the object of the monograph, dissertation, or thesis, learning together, sharing knowledge, and acting with wisdom.
3.	Have theoretical and reflexive capacity proven by research, publications, article reviews, courses, and academic programmes.
4.	Clearly state the skills that the student needs to develop, particularly the capacity to write, speak, and communicate on the research object and issues studied in their programme.
5.	Have a comprehensive vision of reality, putting into perspective the importance of the research work and the person they are supervising.

Source: Adapted from Minayo (2019, p. 2).

As an example of the difficulties/complaints from the students' perspective regarding how their supervisor guides them at work, Minayo (2019) points out some, namely arrogance; disrespect; irresponsibility; impatience; hassling; and "not giving a damn", that is, lack of commitment.

Despite the more or less asymmetrical relationship that usually exists between the supervisor and the student (Filippou et al., 2017, 2019; Roberts & Seaman, 2018), the latter has a desirably active role (Kaakinen, Suhonen, Lutovac, & Kaasila, 2017), and should not expect the supervisor to behave in a way that does not suit them. Table 4 offers an overview of some of these behaviours/attitudes.

Table 4. Behaviours that students should not expect from supervisors

Supervisors cannot
• Be therapists for the student's emotional crises.
• Answer all the questions.
• Solve problems with the work or take on commitments in the students' place.
• Remain passive when they receive rough drafts or notes instead of coherent texts.
• Accept delays and omissions in relation to the scheduled meetings without reacting.
• Be a proof-reader of the texts they receive (although this always ends up happening).

Source: Adapted from Minayo (2019, p. 3).

The student is not a "blank slate" (Minayo, 2019, p. 2). The supervisor should respect the student's traits in this interaction, but should always "try to keep ahead of problems, calling attention to the risks of academic incompetence you [they] may glimpse based on your [their] experience" (p. 3) and displaying a transparent communication in academic supervision (Baltzersen, 2013). However, this may be difficult to accomplish in practice.

4. Challenges

According to Henricson, Fridlund, Mårtensson, and Hedberg (2018), "Different supervision models mirror the supervisors' expectations of how the students will act and how they will perform" (p. 12). Focusing their study on master's dissertations, the authors put forth two 'ideal types' of good supervisory practice, the first focusing on the supervisor and the second focusing on the student, on what are their characteristics, roles of each of the actors and risks involved in this interactional process. Figure 1 depicts these two 'ideal types'.
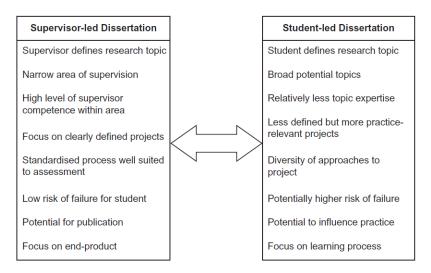
Supervisor-led Dissertation	**Student-led Dissertation**
Supervisor defines research topic	Student defines research topic
Narrow area of supervision	Broad potential topics
High level of supervisor competence within area	Relatively less topic expertise
Focus on clearly defined projects	Less defined but more practice-relevant projects
Standardised process well suited to assessment	Diversity of approaches to project
Low risk of failure for student	Potentially higher risk of failure
Potential for publication	Potential to influence practice
Focus on end-product	Focus on learning process

Figure 1. The two 'ideal types' of a master's dissertation
Source: Katikireddi & Reilly (2016, p. 631).

Although there are variations, in general, the purpose of the dissertation encompasses several elements, of which the following stand out: (i) the attainment of competences; (ii) the application, in the dissertation, of the contents of the taught courses; (iii) the assessment of the progress and final output; (iv) the opportunity to bridge the research-practice divide; (v) the need for a practice-based dissertation; (vi) the alignment of research and teaching; and (vii) a focus on the final product (Katikireddi & Reilly, 2016).

The quantity and quality of interactions between the supervisor and the student are critical to the ultimate success of the supervision process (Zaheer & Munir, 2020; Kaakinen et al., 2017; Harwood & Petrić, 2018; Rodriguez, Smith, & Barrett, 2020).

In this logic, adaptability is a central process. According to Kleijn, Bronkhorst, Meijer, Pilot, and Brekelmans (2016), adaptability in the supervisory process could be characterised as follows:

> *[...] adaptivity to describe the adaptation to what students need in the eyes of the supervisor, given their performance and possibly other characteristics, in order to meet the goals of a master's thesis project. Adaptivity is not about adapting to just any students' preferences and wishes, as the academic standards*

and curricular goals are the same for all students; rather, adaptivity concerns the supervisor's approach towards having the student meet these goals (p. 1473).

The adjustment of the supervisors' practices, both to their experience and to the expectations and practices of supervision throughout the process, may be pivotal (Filippou, 2019; Katikireddi & Reilly, 2016; Xu, 2020; Roberts & Seaman, 2017). This implies "[...] not treating students equally, but instead hopefully equitably" (Katikireddi & Reilly, 2016, p. 628). Ibrahim (2018) draws attention to the fact that "[...] faculty supervisors might not be adhering to one philosophy of knowledge and that they shift their approach of supervision based on the importance they ascribe to different parts of the thesis or dissertation" (p. 692). On the other hand, the potential of a peer collaboration between the students themselves at the various stages of their work cannot be overlooked. Peers can present and discuss each other's various proposals under the observation of the supervisor (Almeatani, Alotaibi, Alasmari, Meccawy, & Alghamdi, 2019) and, thus, create important synergies.

Aitken, Smith, Fawns, and Jones (2020) mention "supervision as a partnership" (p. 4) and propose the concept of participatory alignment. This concept, based on the dynamics of the relationship between the supervisor and the student and the personal traits of each of the actors, is materialised in a specific zone that is useful for any supervision process.

Thus, the supervisory process also depends on the cultural context, which generates specific expectations in this relationship. Hu et al. (2016), in their comparative study between the practices of master's dissertation supervisors from Chinese and Dutch HEIs, considering the profound cultural differences between the two countries, concluded that

[...] the Chinese supervisors aim to prepare their students for future jobs and use explicit assessment and regulation to monitor student progress, while the Dutch supervisors aim to enhance student well-being and use implicit regulation, emotional support and frequent posing of questions to facilitate student learning (p. 1).

These results attest to the relevance of the cultural context in which the supervisory process takes place. They also show the importance of the culture of the institutional actors involved and the implications on the type of learning outcomes supervisors aim their students to attain, and the approaches, strategies and methods they use to help their students achieve these learning outcomes.

Following Agricola, Prins, van der Schaaf, and van Tartwijk (2020), the supervision of the end-of-programme project is a teaching process for the supervisor and a learning process for the student. It is up to the supervisor to conduct the process flexibly so that, whenever the student needs it, they can move "from an indirect regulation strategy with lots of questions to a more direct regulation strategy with clear guidance and feedback when students need it" (Agricola et al., 2020, p. 17), not only between supervision meetings but also during each of these meetings.

5. Conclusion

The main objective of this article was to analyse the supervision process, examining the supervision strategies that faculty members can mobilise in their role as academic supervisors. The authors analysed and discussed the contours of this relationship, which, although bidirectional, is asymmetrical in its characteristics, various forms/models of supervision and particularities of this interaction between human beings in an academic context.

The results of the analysis and discussion of the documents collected and selected allow concluding that this is a complex relationship, with sometimes fuzzily defined roles. Yet, it is an interaction in which each institutional actor has their place, responsibilities and a role to play. It must be characterised by flexibility, iteration, continuous feedback and constructive criticism, in the sense that the supervisor trains the student with investigative competences, in this teaching-learning process, although with specific characteristics.

One of the central objectives to achieve through supervisory interaction is the creation and

development of competences (Stappenbelt & Basu, 2019). These competences relate primarily to research competences and abilities but also to transversal competences, which will be vital for the student about to enter the labour market. Thus, in addition to the specific competences related to the study programme and the particular training area, the end-of-programme project enables the development, in a broad way, of various transversal competences (Santos & Serpa, 2017). In short, the supervision process fosters the development of two types of competences: specific and transversal. Regarding the specific or technical competences, they are "applicable only in the environment for which they were developed" (Sá & Serpa, 2018, p. 3). Conversely, transversal competences are

> [...] required for all types of jobs and are the basis for the attainment of more specific or technical competences. These competences are transversal and transferable to different contexts. Some examples of transversal competences are: leadership, communication, problem-solving, teamwork and creativity competences, among others (Sá & Serpa, 2018, p. 3).

In conclusion, "supervision is a professional and relational activity in which the student, pedagogically, should be acknowledged as a producer of (and active participant in) the knowledge" (Minayo, 2019, p. 3), in balanced supervision. As a result, "One of the most important factors contributing to the thesis and research quality is the process of developing expertise in supervisors' research supervision.[...] Feedback received from students about their supervisors will improve the supervisor's further expertise and capabilities" (Bazrafkan et al., 2019, p. 11). This task does not seem to be easy, alongside the challenges of fostering multidisciplinarity, as well as deepening the relationship between theory and practice (Minayo, 2019).

The problem analysed and discussed raises questions in the context of an increasingly digital society (Serpa et al., 2020; Ferreira, Sá, Martins, & Serpa, 2020; Sá & Serpa, 2020a, 2020b; Ferreira & Serpa, 2018), in which end-of-programme projects, in their most traditional format (in book format, printed), conflict with a society in which knowledge is produced collaboratively and disseminated digitally. In this digital society, a traditional end-of-programme project, as defined by Paré (2017) – "[...] single in focus, single in method, single in genre, single in purpose, single in medium, single in mode, single in authorship, single in readership. Or, if not singular, certainly narrow" (p. 409) –, should be rethought, restructured and adjusted to the new ways of making and disseminating science.

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