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 Springer

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Contents

Bibliometric Analysis on Customer Dissatisfaction	1
Laura Pascual-Nebreda, Alicia Blanco-González, and Francisco Díez-Martín	
Holistic Learning Evidences in the Supervised Teaching Practice Reports	12
María de la Cruz del Río-Rama, Cristina Mesquita, Maria José Rodrigues, and Rui Pedro Lopes	
Assessing Overall Fit and Invariance in a PLS Model of PIGS and V4 Countries' Financial Systems	23
Juan José García-Machado and Agnieszka Jachowicz	
To Assess Collective Well-Being with a Synthetic and Autocorrelate Index Tourism of Italian Provinces	35
Domenico Tebala and Domenico Marino	
Cooperation for External Knowledge Acquisition from Inter- organizational Relationships as Antecedent of Product Innovation: The Mediating Role of Absorptive Capacity	43
Beatriz Ortiz García Navas, Joachim Bach, Mario Javier Donate Manzanares, and Fátima Guadamillas Gómez	
Recent Trends in Volunteerism: A Comparison Between European and North/South American Countries	58
Domenico Marino and Marina Schenkel	
Effect of the Spanish Sovereign Risk Premium on the IBEX 35. Evolution 2000–2016	84
Jessica Paule Vianez, Paola Plaza Casado, Sandra Escamilla Solano, and Miguel Ángel Sánchez de Lara	



Holistic Learning Evidences in the Supervised Teaching Practice Reports

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Abstract. The curricular unit of Supervised Teaching Practice (STP), of the Master programme in Pre-School Teacher Education and of the Master programme in Pre-school and Primary School Teacher Education, is organized in two main phases: the teaching practice in the adequate education levels, and the development of a final report. The final report is a document each student writes and that reflects the course of the training, the critical and reflexive attitude assumed in response to the challenges that were faced, and the processes and performance of the professional routine experiences. The document should also include a research component concerning the teaching action developed by the student. The final report is, thus, an instrument that allows multiple dimensions of analysis. The work described in this chapter resulted from the study of 62 reports, developed between 2012 and 2015, with the objective of analysing the type of teaching-learning experiences, the content areas and the pedagogical approach developed by students. A quantitative and qualitative approach was followed, using text mining to complement the analysis, due to the large quantity of text. This was complemented with content analysis to interpret the resulting data. The results reveal that students describe and analyse teaching-learning experiences in different content areas, valuing differentiated pedagogical strategies and that the reflective processes are centred in the description of the practicum, without revealing a substantial critical thinking. The final report, regardless of the weaknesses, is a valuable instrument in the training process, because it allows the development of reflection and research tools about the education practice, essential for the professional development of future teachers.

Keywords: Supervised Teaching Practice · Higher education
Teaching-learning experiences · Holistic learning

1 Introduction

Students of the curricular unit of Supervised Teaching Practice (STP) of the Preschool and Primary School Teacher Education master program contact with the professional context (kindergartens and primary schools) in a progressive way. This requires a supervision process, essential to help students improve reflexion about the contexts and their reality, calling for the “creation and sustainability of environments that promote the construction and the professional development, following a sustainable path of progressive development and professional autonomy” (Alarcão and Roldão 2010).

According to Vieira (2009), there should exist a close relation between pedagogy, comprising a conceptual dimension, and supervision, which integrates an experiential component, and whose integration results in praxis. The supervision practice appeals to the cooperation between all the actors as a life-long professional development process that places students, practitioners and supervisors together, sharing knowledge, functions and achievements.

However, supervision is not enough for future teachers to understand the professional reality they are experiencing. To be substantial, supervision has to focus on the multidimensionality of the pedagogical process. It should focus on the students’ performance and in the reflexion that leads them to a sustainable and holistic approach about the profession. Practitioners and supervisors should stimulate students to think critically about what they are doing, why, and the impact of their actions. This dialogical process should be supported by documenting, questioning and inquiring, so that theory and practice come together in a joint development of educational action that should be constantly evolving.

In this perspective, supervision is a process that can contribute to make meaning about professional reality and, in this way, induce pedagogical change. According to Freire (1979), praxis is where theory and practice (or practice and theory) meet. It flavours the interpretation of the experience that leads us to a better understanding of the action, and to pedagogical intentionality. This complex process is where critical pedagogy develops.

This study assumes a holistic approach of the professional practices that connects the supervision and pedagogy. This approach is supported by a concept of practice that assumes the intentionality towards change and an ethical commitment with children, their families and the community.

2 The Final Report of the STP in the Development of Critical Thinking

As referred above, the STP should ensure the development of specific, multidimensional, knowledge, that are described, in writing, in a document that helps the students to understand and reflect on the path they are experiencing. The final report describes the teaching-learning activities developed through the STP duration, comprising several educational levels, subjects within the teaching domain, and the critical reflexion about them. The reflexion should be supported by pedagogical and scientific literature,

as well as on information gathered from the practice, highlighting the critical analysis and the results obtained.

Considering the meaning of pedagogy discussed above, students should reveal, in their writing, a critical and reflexive attitude that allows them to unveil the research performed on the content areas and on the teaching-learning process, associating the content of the curricular areas and the way they articulate with the self-control, attitudes, representations, beliefs, preferences and styles, purpose and priorities, learning strategies and techniques, and the didactical process.

The written document should reflect the result of a constant reflexion that helps the student, in his effort towards autonomy, to perform changes concerning his concepts and practices. According to Alarcão and Tavares (2016), current trends are leading to a democratic supervision process and to strategies that value reflexion, cooperative learning, and to self-supervision and self-learning mechanisms.

The development of reflexion on the practice helps future teachers to identify coherent pedagogical approaches, to substantiate their options, to understand the value of some pedagogical strategies, to recognize their difficulties and to overcome them, and to develop the attitude for active and innovative pedagogical-didactical practice. This is further strengthened with the role of “facilitator of reflexion, raising awareness of his situation, helping him identifying problems and planning strategies for their resolution” (Amaral et al. 1996, p. 97).

2.1 Experiential and Holistic Pedagogical Experiences: How Students of the First Cycle of Education Learn

The basis for this study is the connection between the educational model and the pedagogical perspective. Several studies and international reports highlight the holistic, experiential and integrative pedagogical approach that teachers need to have in their practice for the concept of praxis to flourish. The teachers’ actions targets the child as a whole, body, mind, emotions, creativity, history and social identity (Pires 2013).

Scientific literature has been revealing that holistic and integrative pedagogical approaches, that recognize the competence of children and listen to their voices, have greater impact on their learning and their future life (Eurydice 2009; OECD 2004, 2012; Siraj-Blatchford et al. 2002). Regarding this, the Starting Strong III report (OECD 2012) highlights that children learn better: (i) with integrative pedagogical approaches, where social and cognitive learning are regarded as complementary and equally important; (ii) when they are active and involved; (iii) when the interactions are frequent and meaningful; (iv) when the curricula is based on previous learning.

In particular, the afore mentioned report also highlights that curricula that value the self-initiated activities by children are more beneficial at a long term, they drive their participation in community services and motivates them to proceed studying. The quality of learning environments is considered, in some reports and scientific papers (Elliott 2006; Evangelou et al. 2009), as one of the most important factors in the process of development and learning of children. The evidences refer, as meaningful elements in this process: (i) the diversity of opportunities the learning experiences have; (ii) the intentional organization of the environment and the quality and diversity of the available materials; (iii) the experiences that value the contact with the nature (forest,

field); (iv) learning by playing; (v) the existence of a structured, although flexible, daily and weekly routine; (vi) the appreciation of the children culture as a pedagogical resource; (vii) the involvement of parents in the school life of their children; (viii) the respect of the children's voice and the recognition of their participative competence; and (xix) the existence of qualified teachers, deeply involved in professional development processes that support their own research and learning.

In this context, the Starting Strong reports (OECD 2004, 2006, 2012) have been highlighting the need to ensure professional development opportunities, considering that the teaching procession should embrace a wide range of social responsibilities. Teachers should demonstrate a consistent knowledge of how children learn and develop, creating rich learning experiences for all, including the most vulnerable, involving children of diverse social and ethnical origins, in different levels of development. The functions of the professionals assume a complex nature, that implies the reflexion and development of critical thinking concerning the pedagogies developed in context.

3 Methodology

The study presented in the article assumes an exploratory approach that intends to verify, through the analysis of several STP reports, the areas of content that future teacher value and the pedagogical strategies used during the professional training. Considering the importance of a holistic perspective of the pre-school and primary school curricula, it is also intended the analysis of the degree of integration of the teaching activities. Finally, a relation is established between the main strategies and the content.

The study included all the reports from the last four years, in a total of 62 (17 from 2012, 12 from 2013, 22 from 2014 and 11 from 2015). All of them are available in the digital repository (<https://bibliotecadigital.ipb.pt>) in the PDF format, allowing a digital analysis.

Due to the large quantity of text (a total of 6723 pages, with 1832566 words), text-mining tools were used. Text organizes letters in words and these in phrases, gathering the information that can be stored, transmitted and read. Large quantities of text can make the interpretation of content and pattern discovery a difficult task. Using information processing algorithms, such as lexical analysis, pattern recognition, syntactical function annotation and natural language processing, among others, allows highlighting potentially useful information, difficult to assess otherwise. In its simpler form, it allows identifying the documents that satisfy given criteria in a large collection.

In this work, a classification process was used, to sort documents according to its content, looking for terms that define content areas and the teaching-learning strategies that were used. Text was initially pre-processed, to eliminate repeated forms and irrelevant words, as well as to minimize the different forms a word has by reducing flexed and derived words (for example, the word Didactic, DIDACTIC or didactic were converted to the common term didactic, as well as collaborate, collaboration, collaborative to the root collator).

Based on a significant number of reports, a dictionary of terms, representing content areas (Table 1) and teaching-learning strategies (Table 2) was built. Since all the reports are written in the Portuguese language, from now on the terms are kept in the original. The tables also present a translation, for reference.

Table 1. Dictionary of content area terms

Área de conteúdo	<i>Content Area</i>
Matemática	<i>Math</i>
Estudo do meio social	<i>Social mean</i>
Estudo do meio físico	<i>Sciences</i>
Musical Expression	<i>Musical expression</i>
Expressão Plástica	<i>Plastic expression</i>
Drama Expression	<i>Drama</i>
Linguagem Oral e Abordagem à Escrita/Língua Portuguesa	<i>Spoken language and introduction to writing</i>
Expressão Físico-Motora	<i>Physical expression</i>
Formação Pessoal e Social	<i>Social and personal training</i>

Source: Authors' elaboration

Table 2. Dictionary of teaching-learning strategies terms

Estratégias de ensino-aprendizagem	<i>Teaching-learning strategies</i>
Apresentação PowerPoint	<i>Powerpoint presentation</i>
Exposição	<i>Expositive</i>
Uso da narrativa	<i>Use of the narrative</i>
Visualização e discussão de vídeos	<i>Viewing and exploring videos</i>
Visitas de estudo	<i>Field trips</i>
Atividades práticas e experienciais	<i>Practical and experiential activities</i>
Investigação	<i>Research</i>
Leitura e exploração de textos	<i>Reading and exploring texts</i>
Fichas de trabalho	<i>Forms</i>
Jogo dramático	<i>Drama and role play</i>
Laboratório gramatical	<i>Grammatical laboratory</i>
Jogo fonético	<i>Phonetic game</i>
Resolução de problemas	<i>Problem solving</i>
Atividade integradora	<i>Integrative activity</i>
Trabalho colaborativo	<i>Cooperative work</i>

Source: Authors' elaboration

Each of these entries is characterized by words and sentences. For example, the sentences “memory game”, “puppets”, “theatre”, “drama”, “drama game”, “dance”, characterize the Drama Expression area, and the sentences “musical instruments”, “songs”, “beat”, “rhythm forms”, “song rhythm”, “sound creations”, “rhythm and sounds”, are all associated to the Musical Expression area.

After this initial step, a histogram of different terms was built, both for the content area and for the teaching-learning strategies, to check the frequency of each term in all the STP reports. The analysis continued by grouping related terms in each report, resulting in several multiconnected charts. Finally, a heat map crossing the teaching-learning strategies and the content was built, to check their intersections and interdependencies. The next section present and discuss the data from each of this instruments.

4 Results and Discussion

The histograms of the different terms, related to the content (Fig. 1) and to the teaching-learning strategies (Fig. 2) allows sorting the frequency of each term in all the reports.

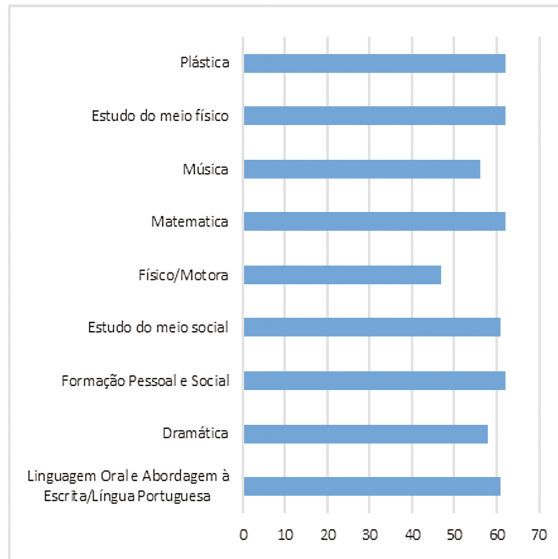
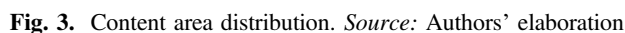
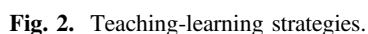


Fig. 1. Content areas. *Source:* Authors' elaboration

Most of the reports refer all the content areas related to pre-school and primary school education, meaning that students consider the development of all areas. However, mention to *Expressão Musical* (Musical Expression) (56 reports) and *Expressão Físico-Motora* (Physical Expression) (47 reports) are less referred. This fact may be associated with the offer of activities in extracurricular regime, existent in most institutions and schools.

The histogram related to the teaching-learning strategies developed during the teacher training period has higher incidence in the *Resolução de Problemas* (Problem Resolution) and in the *Atividades Experimentais* (Experimental Activities). Students use a diversity of active strategies, although their use is not transversal in the reports.



For better visualization, multilinked graphs were built, with the content area distribution (Fig. 3) and teaching-learning strategies (Fig. 4) in each report. The graphical representation is very similar in all the reports and therefore the pictures are an example of the global. From the analysis of the graphs, each report (represented in the centre of the picture) has several connections to the terms that characterizes it. The dispersion is remarkable, and it describes the representativeness of several areas and strategies in each report.

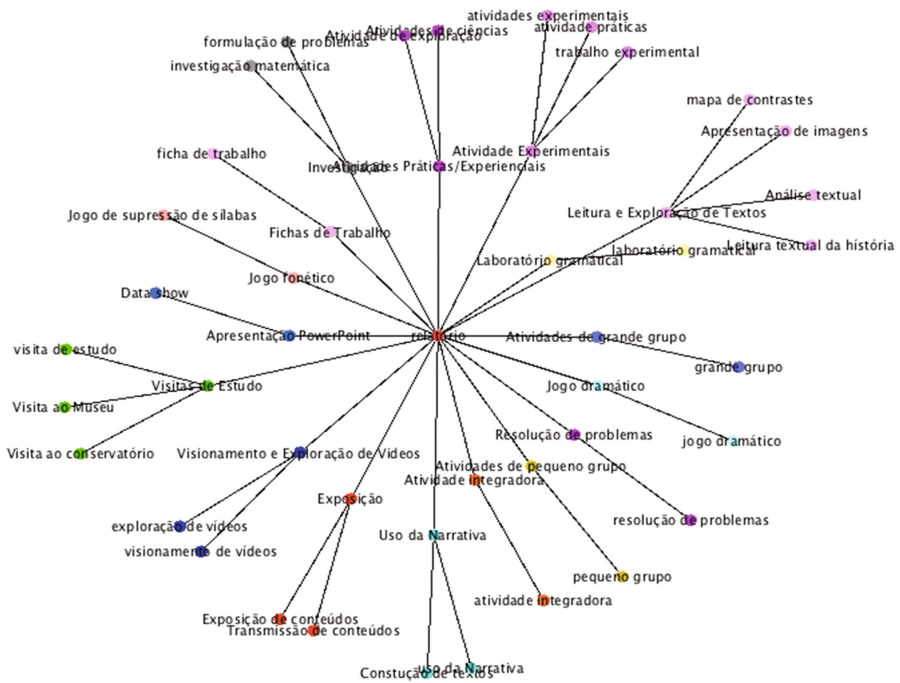


Fig. 4. Teaching-learning strategies distribution. *Source:* Authors' elaboration

Beyond references to the areas and strategies, students frequently mention the organization of classes around small group activities (60 reports) and large group activities (62 reports), which means that students choose the type of group organization that ensures the success of the activity, considering the pedagogical resources available. It may also mean a diversity of options, considering the educational levels in which they are developing activities (these data needs more research in future work so that the differences between the pre-school options and primary school can be assessed).

Usually, the report is structure in two main parts. The first is related to the preschool education and the second to the primary school. It is possible to estimate the if a term is related to the first or to the second, according to the initial page it firstly appears. Although not infallible, it provides a reasonable heuristic. In this context, the initial position of the term *Atividade Integradora* (Integrative Activity) was retrieved in the 24

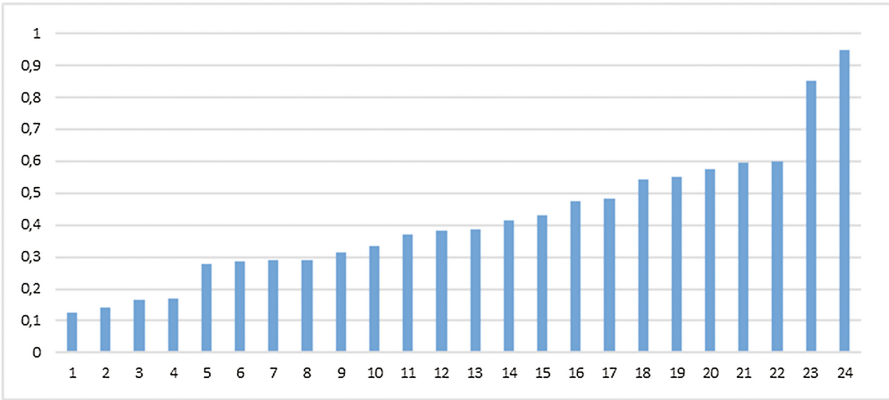


Fig. 5. Reference to “atividade integradora”

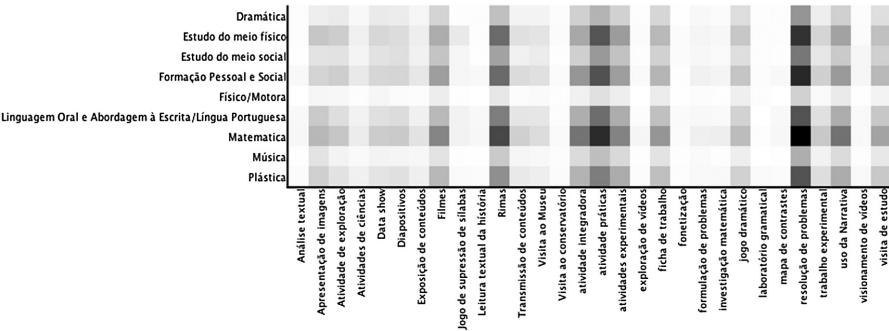


Fig. 6. Relation between teaching-learning strategies and content areas. *Source:* Authors’ elaboration

reports in which this term is mentioned (Fig. 5). In 17 of the 24 reports, the term is initially mentioned in the first half, indicating that the integrative activities are more valued in pre-school. This requires further clarification, in future work.

Finally, a heat map was built, crossing the teaching-learning strategies with the content areas to verify the intersection and interdependencies (Fig. 6).

As expected, the crossing is darker (and also transversal) in the *Resolução de Problemas* (Problem Resolution) and in the *Atividades Práticas* (Practical Activities). From the chart, it is possible to see that both teaching-learning strategies have more expression in the area of Math, in the *Formação Pessoal e Social* (Social and Self Training) and in the *Estudo do Meio Físico* (Sciences). In relation to Math, this may indicate a large number of exercises solved by students, highlighting a more technical approach to teaching and less of building critical thinking. However, it is important to assess the context of the practical activities to understand if they are translated into moments of student implication or experientialism.

5 Conclusions

The STP reports are documents that allow studying the options students make during the professional training. Both the content areas and the teaching-learning strategies are described in them, allowing to know the frequency each approach or technique is used. The study presented in this document highlights the importance that the contact with the contexts has to provide students with the professional reality they will face in the future, allowing them to plan and implement different teaching-learning strategies in all content areas.

This exploratory study reflects on multiple possibilities of analysis, based on the data collected. It is clear that students develop teaching-learning experiences in several content areas, valuing some over others. However, a deeper perspective on the curricular integration is needed. The integrative activities, which describe a holistic of the teaching-learning process, are not sufficiently stressed in the first cycle of education (6 to 10 years old), suggesting a more vertical perspective on this education level than on the pre-school education.

It is still necessary to understand the pedagogical approaches that students follow in their practice, their concepts about the teaching-learning in both levels and in the role they attribute to the children and the teachers, in the context.

From the analysis performed, although no described on these pages, it is also evident the reflexion and research on the teaching practice, essential to the professional development of future teachers. These, and other aspects, will give continuity to the research, to better understand the training of future teachers within the STP.

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