

# CURRICULAR ARTICULATION IN HIGHER EDUCATION: AN EXPERIENCE IN INITIAL TEACHER EDUCATION

Ana Raquel Aguiar, Fátima Fernandes

*Instituto Politécnico de Viana do Castelo (PORTUGAL)*

## Abstract

Curricular Articulation (CA) is undoubtedly a fundamental practice in the teaching-learning process. On the one hand, the construction of effective and solid knowledge implies holistic approaches at the level of disciplinary contents; on the other hand, it also implies a transversal intervention regarding the skills and abilities to be developed by students. Therefore, we advocate for a dynamic curricular conception in an integrative perspective to enable the promotion of significant learning.

Based on these assumptions, this text is the result of an experiment conducted with 3<sup>rd</sup> year Basic Education students in a Polytechnic Institute in the North of Portugal in the academic year of 2019/2020. In this period, CA was carried out in two Curricular Units: one in the field of Portuguese Didactics, and the other one under internship conditions in Initiation to Professional Practice 3. By analyzing the study cycle, it is clear that there are contact points in terms of skills and content in this training process, which explains this experiment. Furthermore, the interconnection of knowledge, which will influence the students' pedagogical practices in the future by providing them with experiences, is also considered fundamental. In methodological terms, this is an exploratory study, since it is the first experiment in this Curricular Unit involving both students and teachers.

The results allow one to conclude that CA is seen in a very positive light by students, and it is undeniably an experience to be repeated by teachers. Students highlight the possibility of carrying out tasks, evaluative and reflective moments mutual to both Curricular Units, which allow them to articulate learning. In this sense, they consider the mobilization of knowledge, capacities, and skills relevant to both areas of utmost importance. They also highlight the use of certain resources which, built within the scope of one Curricular Unit, are (re)adapted in the light of the other, therefore enabling constant reorganization processes of high significance for future education professionals.

In the same way, they also mention the development of significant learning which contributes to the construction of knowledge they consider fundamental. Furthermore, they consider this articulation to be necessary, as it allows them to experience model situations that can be mobilized for their future practice. The teachers mention the collaborative work involved as a strong point, namely in the planning of lessons and in the structuring of resources, highlighting the possibility of (re)building knowledge together.

Keywords: Curricular articulation, initial teacher education, collaborative teaching practice, students and teachers' perceptions.

## 1 INTRODUCTION

Curricular Articulation (CA) has played a key role in the teaching-learning process and this is noticeable in current educational policies in Portugal. CA is therefore understood as an essential practice in student learning, providing relevant contributions for a holistic use of knowledge. Instead of being repeated and decontextualized, interconnected contents are linked, so knowledge is made more relevant.

Assuming that CA clearly fits into the reference curricular policies, the processes of change and the challenges that educational institutions face by bringing in innovative practices and more qualified educational responses that promote solid and meaningful learning for students, this practice must be valued in Initial Teacher Education (ITE) courses.

In the field of educational research, many contributions have been made to CA, both abroad [1, 2], and in Portugal [3-7]. Many of the researchers argue that CA is an essential practice in student learning, based on the premise that the learning strength is dependent on the holistic nature of the disciplinary knowledge, which naturally avoids compartmentalization.

As a result, schools, traditionally regarded as educational institutions and largely inspired by Taylor's administrative theories [8] and work organization, were organized in accordance with disciplinary curricular compartmentalization, with implications on the construction of closed disciplinary conception

[9]. However, recent educational policies are aligned with the recommendation of a curriculum that stimulates CA, which reinforces the significant nature of learning and the development of a set of complex skills that imply interdisciplinary integration work. These naturally emerge as a result of greater flexibility in curriculum management.

It is important to begin with the perception of some scholars on the concept of CA, thus defining this practice, as well as pointing out some of its foundations.

Gimeno Sacristán's [10] ideas stand out: these are oriented towards an organizational dynamic between teachers and between areas at a given moment of the education of a student, which, according to the author, value not only the students' learning but also the teachers', thus promoting effectiveness and an improvement of educational institutions.

In turn, some researchers [1] advocate that CA should be regarded as an interconnection of knowledge from different fields of knowledge. It should be noted that the complexity of the world in which we live is taken into account as well, as some scholars [11] highlight CA as being capable of responding to the complexity of knowledge in today's world. In the same manner, CA is viewed as a theory of curriculum design that is concerned with increasing the possibilities of personal and social integration through the organisation of a curriculum around problems and significant issues, which are identified through the collaboration of educators and young people, regardless of the lines of demarcation of the disciplines [12].

In view of the aforementioned definitions, and taking into account this article's analysis, CA should be understood as a pedagogical coordination possibility based on guiding premises from different subjects, which helps to bring coherence and sequential order to the articulation of content and objectives, as well as encourage meaningful learning in daily teaching practises. In line with the stance some researchers [13], this article intends to forgo traditional curricular conceptions, which value exposure and memorization, and replace these with an integrative perspective based on an educational process that should be centred on students, who are (co)constructors of knowledge and mobilizers not only of knowledge but also of skills, competencies, and values constantly (re)adapted both to the contexts [14] as well as to the continuous process of change.

With this in mind, it is important to highlight some of the assumptions on which CA is based. In fact, CA unquestionably assumes a dynamic conception of the curriculum. Indeed, the current educational policies advocate the importance of curriculum relevance, undervaluing a curriculum based only on knowledge, content, and absolute truths [13]. The dynamic character of the current knowledge implies the necessary valorization of the learning process over the learning product, ultimately placing the student in a chief position, to the extent that he/she should assume a critical perspective of that knowledge by constantly contributing to its (re)construction, a task that should be shared with the teacher in the collaborative construction of knowledge [12,15,16]. Consequently, the curriculum will be one that promotes significant learning, as it offers a sense of purpose, unity, relevance, and pertinence – when this is coherent. Young people are thereby more likely to integrate educational experiences into their cognitive schemes, which, in turn, broadens and deepens their knowledge of themselves and of the world [12]. CA improves meaningful learning since students have easier access to knowledge. Furthermore, through CA, the relationship between these learnings and the students' social and family context can be more easily promoted [5].

Another aspect of CA is related to the way in which the teaching work is carried out and the way in which schools and educational intervention are mobilised. Thus, in line with some scholars [13], we understand the teacher as a manager of the curricular work, a driver of knowledge, and a recognizer of the students' life experiences, not forgetting neither their needs nor the specificities of the context. Moreover, collaborative teaching work is considered fundamental [17] as a strategy in view of the importance of the transversality of knowledge [1] to the detriment of a watertight curricular conception. Therefore, CA goes further, proposing joint planning and teaching tasks [3, 4].

We also highlight educational innovation, since the teacher, once again, has to demonstrate the ability to adjust the curriculum and his/her own teaching to the diversity of students and their realities, always aiming at a significant improvement of learning. Innovation also involves a diversification of themes and methodologies, which are always intended to be (re)adjusted to the reality of the educational public. In fact, we agree with some researchers [13] who argue that a curriculum that integrates students' previous experiences and knowledge is highly motivating, boosts new learning, and contributes to a positive self-image. We thereby believe that with CA one can meet the necessary conditions that facilitate taking personalised and appropriate measures for the specificities of the student group[18].

Finally, the interconnection of knowledge from different areas should be highlighted. This interconnection of knowledge unequivocally contributes to integrated, contextualised, and articulated knowledge, aiming towards a flexible and autonomous curriculum rather than one based on fragmentation and curricular compartmentalization.

With this last point, it is clear that CA can be implemented through different pedagogical approaches, thus making its application difficult due to the many different concepts associated with it, namely multidisciplinary, interdisciplinarity, and transdisciplinarity [19].

Although we recognize the differences between the models, which essentially differ in the relationship between the contents of the various subject areas [5], it is not our intention to deepen them.

Nonetheless, we revisited some concepts in a very linear way in order to present the perspective adopted in this work. Thus, multidisciplinary implies the analysis of content based on the contribution of different disciplines, working parallel to each other. One step up would be interdisciplinarity, which values the integration of disciplinary subjects that enable a holistic look at the same problem, assuming thereby an organised relationship [20]. The highest degree of disciplinary coordination is found in transdisciplinarity [5], which eliminates the disciplinary vision.

In the perspective presented here, interdisciplinary integration is valued, insofar as it proposes a link between two curricular units, through activities which, from our point of view, are also integrative and effective to the achievement of significant learning [16].

Thus, interdisciplinarity allows for a deeper understanding of the contents being studied, since different disciplines are interconnected [21]. However, in addition to the gains in terms of articulation, we share the view of some scholars [22], who believe that interdisciplinary tasks contribute to the increase of discipline-specific knowledge, promoting critical thinking and creativity in both teachers and students [11].

Aware of its importance, we consider it essential for future teachers to have these experiences in their initial training, moving away from a solely disciplinary vision.

## **2 METHODOLOGY**

This study is based on the belief, shared by some researchers [23], that there is a need to promote interdisciplinary integration experiences in ITE courses.

Aware of this need, an experiment was conducted involving the participation of 58 students in the 3rd year of the Undergraduate Degree in Basic Education in the academic year of 2019/ 2020 in a School of Education of a Polytechnic Institute of Northern Portugal. We aimed to understand how it is possible to implement CA in a teacher training course, developing CA competencies in students. To this end, a pedagogical proposal of interdisciplinary integration was prepared, taking into account the learning objectives of two curricular units, one within the field of Didactics - Didactics of Portuguese (PD) - and the other with internship characteristics - Introduction to Professional Practice 3 (IPP3).

This is a qualitative study, exploratory and descriptive in nature, as it is the first experience within these curricular units for both students and teachers. Therefore, it aims at establishing an initial contact with the object of the study so that, later on, the objectives can be more precisely re(defined) [24].

Thus, in PD, it was proposed to the students that with the same elements of the IPP3 internship, they should write a creative story as a group, following a textual typology of their choice. The creative story should be associated with various types of content and should fit into the subject of Citizenship Education, as part of the educational process within Pre-School Education, and of the subject of Citizenship and Development in the 2nd cycle of Basic Education. Furthermore, it should also cover the following aspects of Education for Citizenship, namely: i) human rights education; ii) environmental education/sustainable development; iii) road education; iv) financial education; v) consumer education; vi) entrepreneurship education; vii) gender equality education; viii) intercultural education; ix) education for development; x) education for defence and security/education for peace; xi) volunteering; xii) media education; xiii) the European dimension of education; xiv) health and sexuality education.

In the IPP3 curricular unit, the story would be readjusted in order to be a useful resource in Pre-School Education (World Knowledge Area) or in the exploration of programmatic content in the area of Natural Sciences, Mathematics, or Portuguese History and Geography.

The constant support and feedback given to the students, both in the writing of the stories and in the planning, should be highlighted. This support, involving participant observation by the teachers, was given by means of tutorials and document analysis.

In view of all the above, our aim is to understand:

- 1 What choices did the students make in order to articulate the area of Education for Citizenship with other curricular areas in the planning proposals they presented?
- 2 How do students perceive the CA experiment they were subjected to within the curricular units of PD and IPP3?

In order to answer the first question, we used the portfolio prepared by the students with regard to the experience of the third practicum context.

In the case of the second question, the overall reflection of the IPP3 course unit was analysed, in which students had to, among other things, make reference to the CA experiment between this course unit and PD, creating categories *a posteriori*, according to the answers obtained and in light of the literature.

### 3 RESULTS

Before the presentation of the results, it is important to mention that the 58 students were divided into 18 groups, nine of which worked in Pre-School Education and the remaining nine in Secondary School.

Regarding the question - **What choices did the students make in order to articulate the area of Education for Citizenship with other curricular areas in the planning proposals they presented?** -, it can be noted that the students planning in the Pre-School Education favoured two main areas. The first one, Gender Equality Education (six groups), with the objectives of promoting equal opportunities, educating for the values of pluralism and equality between men and women, and seeking to eliminate gender discrimination. The theme was worked on in the Social World Knowledge Area. The second, Environmental Education/Sustainable Development (three groups), is associated with the Approach to Sciences - Knowledge of the Physical and Natural World, with the aim of developing and enhancing behaviours of concern for nature conservation and respect for the environment, with awareness of its implications for human health.

As far as the second cycle is concerned, students focused on Environmental Education/Sustainable Development, applying the story mainly to the subject of Natural Sciences, except for one group which applied it in Mathematics; another group focused on Health and Sexuality Education, developing the story in the subject of Natural Sciences. Two groups worked on Human Rights Education and one on Intercultural Education in the subject History and Geography of Portugal.

After analysing the options, it was noted that the students planning for Pre-School Education were less creative, focusing on Gender Equality and Environmental Issues, which can be justified by the possibility of framing these themes in the wider scope of Pre-School Education. On the other hand, the students planning for the second cycle also worked on the theme of Environmental Education/Sustainable Development, because it is a facilitator within the Natural Sciences subject. For the subject of History and Geography of Portugal, the expected themes emerged - Intercultural Education and Human Rights Education.

Regarding the second question - **How do students perceive the CA experience they were subjected to in the course units of PD and IPP3?** - According to the students' answers and based on the literature, the following categories of analysis were created: i) curricular relevance/significant learning; ii) knowledge interconnection; iii) didactic innovation; iv) collaborative work.

The students' statements showed that they considered the CA experience to be i) practical, as it provided them with significant learning experiences; ii) advantageous, as it allowed for the interconnection of contents; iii) innovative, as it allowed for the creation of different and dynamic strategies; iv) useful, because, as future teachers, teamwork will be present in the students' daily lives and, in addition, it allowed for the maximisation of resources; v) didactic, as it showed the students how to use interdisciplinary articulation with their students in the future.

### 4 CONCLUSIONS

The experiment detailed in this article intended to respond to the need to integrate CA into an ITE course. This required collaborative teaching work in terms of planning, methodologies, and didactic resources. Students were actively involved in the proposed challenges. The results prove that in the choice of

themes within Citizenship Education, which served as a basis for the writing of a story to (re)adapt in the planning of IPP3, students generally tried to avoid taking risks, thus demonstrating that they are already able to perform CA, albeit without daring to innovate. There are, however, groups that clearly show that they go out of their comfort zone, seeking new relationships with knowledge and interdisciplinary content. Nonetheless, they all agree that having the story as a basis facilitated the planning of the activities, seeing the writing as a challenge since it promoted creativity.

The final results show that the CA experiment was very positively assessed by the students, who considered it to be relevant at a curricular level, as it promoted significant learning and contributed to the construction of fundamental and, above all, interconnected knowledge. They also highlighted the collaborative work involved as well as the model experience, which will be so relevant in their future practice. Lastly, they mentioned the constant readaptation of resources and the educational innovation inherent in this whole process.

From the teachers' perspective, CA is a complex art that requires a willingness to develop collaborative, cohesive, systematic, and reflective work. In this sense, the teachers cited collaborative work as a strength, particularly in lesson planning and resource structuring, highlighting the possibility of (re)building knowledge together.

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