Design of a learning methodology for deliberation and knowledge construction

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Abstract. Developing collaboration skills is key in university education. We want students to dialogue, discuss and reach agreements from the knowledge of the discipline, especially in controversial situations. Developing collaboration skills and disciplinary knowledge simultaneously is not easy. One possible way to do this is by promoting deliberative argumentation (Felton et al., 2009) in students (contrasting and evaluating different and alternative points of view to reach the best possible solution). The problem is that this literature has been poorly developed in higher education, instead we find active teaching methodologies. We maintain that both perspectives are not contradictory and can feed each other. But how to do it? Particularly, what characteristics should a material have, within the framework of an active teaching methodology, to promote both knowledge construction and deliberation? We describe an (instructive) that addresses both objectives. We explicitly point out the relevant sections and their theoretical-empirical foundation. Specifically, we support the importance of scaffolding the students' dialogue to promote knowledge construction processes, also anticipating those that do not contribute to that purpose. We think that this presentation can help to visualize and imagine the role of language in teaching-learning activities.

Keywords: Argumentación, Colaboración, Aprendizaje, Estudiante universitario

1 Introduction

Developing collaboration skills is key not only in university education for future professional practice, but also as people who must come to an agreement in an increasingly complex and polarized world.

For this, the university must encourage students to dialogue, discuss and reach agreements with others, especially on issues that are difficult to solve. Furthermore, we require that they accomplish this, by using the knowledge of the discipline. This is not easy, faced with the challenge of university education. How do we promote collaboration and the learning of disciplinary knowledge?

1   Theoretical Framework

Robust evidence developed at the school level shows that deliberative argumentation could be key (Felton et al., 2009; Garcia-Mila et al., 2013), by opening the possibility of collaboratively contrasting and evaluating alternative points of view to reach to the best possible solution.

The problem is that, in the university, the development of this literature is scarce. Instead, active teaching methodologies (Bonwell & Eison 1991), such as Problem-Based Learning (ABP) or Case-Based Learning (ABC), are better known.

Regarding active teaching methodologies, two problems persist: on the one hand, research indicates that there is a lack of empirical evidence to support their effectiveness (Duchatelet et al., 2020), and on the other, those that exist would make the role of language in the activities invisible (we do not know how students dialogue to resolve controversial situations). We think that it is a problem because, from a perspective of Vygotsky, recognizing the specific way in which they speak is related to how they think, and how they construct knowledge. For example, it is possible that students quickly reach a consensus, which would not promote learning conditions. We think that both literatures can benefit each other by focusing on language in teaching methodologies. Since the development of skills takes time, we need to generate instances that, applied systematically, promote skills and knowledge simultaneously. But how to do it? How to promote deliberative argumentation, collaboration, and knowledge construction? Theoretically, what characteristics should a pedagogical design have to achieve that?

2   Method

We build an instructive within the framework of an ABC, this is part of a larger study of Teaching Learning Sequence. The objective of this report is to show the (instructional) material, and show how we materialize key characteristics to promote collaboration, deliberative argumentation, and disciplinary knowledge:

To promote the construction of knowledge, we made the decision to follow the learning sequence in 3 phases: Discussion in small groups → Full class discussion → Theoretical class. That is, the students first discussed, and at the end they listened to the class. This, to generate productive failure conditions (Kapur y Bielaczyc, 2011) and anchor the new knowledge to the previous one.

In the first phase (70 min), the students read a case that had 4 response alternatives and selected one. To promote deliberation conditions, the distribution of the groups was made in such a way that in each group there were students with at least two different positions. The cases were controversial situations that involved psychological knowledge.

After the approval of the Ethics Committee of the university, we carried out a pilot application with 34 third-year psychology students, we recorded the sustained dialogue. We are currently implementing the design in a first-year psychology course.

3 Results

In the instructive:

To promote collaboration and discussion from disciplinary knowledge, we make explicit the objective of the activity "The purpose of this activity is that you collaboratively dialogue and discuss with your classmates, in order to jointly find the best possible response of the case, to solve it".

To promote deliberative argumentation, and thus make visible the role of language in the methodology, we incorporated a section titled "These sentences can help you", which included a scaffolding for the students' language, providing structures that they could use, for example: "Why do you think this alternative is the most acceptable? Why did you rule out the other alternatives? What does not convince me of the alternative I chose is…".

Also, we made explicit that "the two sides" of each position were discussed. That is, both strengths and weaknesses of the position held, and of that held by others, in order to avoid biases and irrational defenses of a single position. Promoting the exploration of the knowledge involved.

In the same line of generating conditions for the construction of knowledge, we included the section "What NOT to do...", which included a list of attitudes to avoid, for example "It is possible that there is a quick consensus, without analyzing the pros and cons of each alternative" "That you remain silent and do not participate in the discussion", "That you do not criticize your own position". This made it possible to anticipate the risks, and, at least, make them aware for the students.

The focus of this presentation is to show how we materialize theoretical foundations and empirical evidence in an ABC material, to promote argumentation, collaboration, and disciplinary knowledge. However, preliminary findings from the pilot application show that the design allowed deliberative argumentation to take place, indicators of reflexivity were observed, students analyzed the pros and cons of each alternative, and scaffolding from the instructions were used. All groups reached a consensus collaboratively. No irrational defense of arguments was observed.

4 Discussion

The literature shows that arguing is not easy and does not occur spontaneously. Despite the value that deliberative argumentation may have for the construction of knowledge and the development of collaborative skills, this will not happen if it is not promoted.

At the university, we have active teaching methodologies to promote learning. The problem is that these designs do not always make the role of students' language visible, leaving the possibility for students to dialogue in a way that does not contribute to learning or to relate collaboratively.

5 Conclusions

For the development of collaboration skills, it is necessary to promote real situations where students, who think differently, must solve, and find the best solution. To do this, it is not enough to make it explicit, but rather to scaffold the dialogue that students hold through theoretically and empirically based designs.

6 Limitations and Future Research

We do not yet have data on the effect of design on learning (in process). Future research could analyze the role of other variables in ABC activities.

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