Argumentation Strategies in the Classroom

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To Fabrizio, for his continuous love and support

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Introduction: What does it take to teach as argument?

In the European Recommendation for lifelong learning (EU, 2006), one of the main skills related to key competencies is argumentation, defined as the capacity "to express one´s oral and written arguments in a convincing way appropriate to the context" (p. 4). Enhancing students´ argumentation skills implies supporting their reasoning about everyday and scientific issues in ways that such reasoning becomes more critical (van Gelder, Bissett, & Cumming, 2004), contextualized (Sadler & Fowler, 2006), evaluative (Driver, Newton, & Osborne, 2000), sense-making (Berland & Reiser, 2009), and co-constructive (Baker, 2003), just to mention some of the qualities of thinking *as* argument (Kuhn, 1992).

In "Thinking as argument", Kuhn (1992) advocates the idea that, because of the fact that most people think *with* their theories and not *about* them, a principal goal of education should be to teach students how to engage in the practice of thinking, so that reflection on their own thinking, i.e. metacognition, will be enhanced. This idea-proposal of Kuhn is further supported by the fact that argument skills' acquisition forms part of a continuum, of which the upper level, which manifests mastery of the skills, does not seem to be part of the cognitive skills naturally developed among individuals until early adolescence. Therefore, creating classroom environments that will help young people further develop their argument skills is an emerging need.

Teaching as argument, first of all, implies fostering a number of key argument skills. A brief presentation of them is necessary before I present what it takes to teach as argument.

Main argument skills

Traditionally the term "argument" has been used to refer to a valid product of argumentative reasoning consisting of at least one claim and one premise, while the term "argumentation" has been used to refer to the process by which arguments are dialogically and dialectically constructed (Schwarz & Shahar, 2017). In this book, the terms "argument" and "argumentation" skills are used alternately, based on the pedagogical assumption that argument literacy presupposes the skill of engaging in critical argumentation (Osborne, 2010; McNeill, 2011). Below some key argument (or argumentation) skills will be discussed.

Key argument skill No1: Constructing and identifying valid arguments

We cannot talk about arguing when we do not have any arguments. The very first skill of arguing competently then refers to the construction of a valid argument. An argument is "a set of claims in which one or more of them –the premises- are put forward so as to offer reasons for another claim, the conclusion" (Govier, 2014; p. 1). In most of our everyday reasoning and discourse, including classroom discourse, the arguments we form cannot be judged by the standards of formal logic, that requires for valid deductive relations between all the argument elements. Instead, we use informal logic standards, according to which the validity of an argument corresponds to its *cogency*. A cogent argument is one that "has premises that are *rationally acceptable* and that support the conclusion in a way that is *relevant* and provides *good grounds*" (Govier, 2014; p. 108) (emphasis in italics added). The way that the major premise of an argument, also called "data", supports its conclusion has also been described as "warrant" and the grounds by which the warrant stands as a good one have been described as "backing" (Toulmin, 1958). What the cogency criterion tells us, is that the first thing we should look at is at the premises alone and decide whether they are rationally acceptable or not; the second thing would be to look at the warrant and the backing of the argument. This second step will be discussed in Key argument skill No2.

Based on the above, the skill of constructing a valid argument mainly corresponds to the skill of constructing an *acceptable* argument. An argument is acceptable in two broadly defined cases: (a) when it satisfies at least one of the acceptability conditions; or (b) when it does not satisfy all of the unacceptability conditions. Given the difficulty of defining, sometimes, the acceptability of certain premises, the second criterion may be very useful at times, especially when it comes to students' arguments. Govier (2014) presents a comprehensive summary of five main conditions when arguments are considered unacceptable. These are:

- When they are easily refuted or contradicted;
- When claims or premises are known a priori to be false;
- When there is inconsistency between premises (in the cases where we have more than one premises);
- When premises are stated in language that is vague or ambiguous; and

- When the premise contains (asserts or assumes) the conclusion. This latter case is also known as "begging the question", and it entails the majority of circular arguments.

Key argument skill No2: Supporting arguments

Arguing is a dialectical process, and, as such, further supporting one's arguments to a sufficient degree for them to be persuasive is an essential aspect and skill of arguing (Walton, 1998). This "further support" is usually referred to as evidence or grounds.

In her pioneering work on "Skills of argument", (Kuhn, 1991) interviewed 160 people about what they think on several everyday topics. Two of the questions that she made aimed at eliciting further support or evidence from the participants. The first one was "How do you know that *x*?" and the second was "If you were trying to convince someone else that your view is right, what evidence would you give to try to show this?" Although the answers to these two questions were broadly classified as evidence, either genuine or non-genuine, I will briefly show that they correspond to two different levels of justification.

The question "How do you know that *x*?" is distinguished from the question "Why is it so?" (Kuhn, 2001). While the second question leads to an answer of presenting a theory or a causal explanation of a phenomenon, the first question asks for a further foundation of this theory or explanation by unquestionable facts. It is this kind of evidence-based justification that an inquiry-based teaching environment asks for.

With the second question, "What would you tell someone to convince him/her that your view is right?", the dialectical aspect of argumentation becomes more evident. To be able to argue in a skillful way, finding the first available evidence to support one's view (theory, explanation) is not enough; further backing up one's arguments according to anticipated challenges is a requirement. In this case, evidence refers to the element of "backing" that needs to be sufficient in view of critical rebuttals, expressed by physically present or imaginary addressees.

Key argument skill No3: Considering alternative arguments and/or counterarguments

For someone to be able to construct a persuasive argument, considering other points of view rather than his/her own is a necessary condition. In the absence of this skill, also known as *antilogos* (Glassner & Schwarz, 2007), several reasoning biases might appear such as the *my-side* bias (Baron, 1995), meaning one's tendency towards favoring his/her own position or the *confirmation* bias, which

is the "inclination to recruit and give weight to evidence that is consistent with the hypothesis in question, rather than search for inconsistent evidence that could falsify the hypothesis" (Risen & Gilovich, 2007, p. 112).

Alternative arguments or theories are taken into consideration when the person who argues accepts that there might be some other view that is also plausible on the basis of the same or similar data or grounds. Accepting this possibility does not weaken one's position; it simply opens up the space of debate for other theories and evidence to be included in the dialogic game. In the case of interpersonal argumentation, this makes a lot of sense as listening to each other's arguments is necessary for any critical discussion to take place. For skillful argumentation in educational contexts, active listening is required, meaning that participants not only allow for other voices to be heard, but also, they co-elaborate views through constructing on each other's theories and evidence.

This co-construction on each other's views must be critical. As Atwood, Turnbull, and Carpendale (2010) humorously remark, cooperative interaction is not a 'Pollyanna' conception of social life based on the uncritical acceptance of the other's contributions. In educational dialogue contexts, challenging a peer's view may be done in several ways, some of which are: a) supporting an alternative argument or theory to the one proposed by a speaker; b) rejecting a speaker's viewpoint by attacking it directly; or c) attacking a speaker's argument by countering or challenging (through critical questions) at least one of the premises on which it is based (Macagno, Mayweg-Paus, & Kuhn, 2015). This latter element is also important from a teacher's point of view. Critical questioning has been shown to be an effective technique in promoting students' argumentation (Chin & Osborne, 2010; McNeill & Pimentel, 2010).

Key argument skill No4: Anticipating or replying to counterarguments

The reply to counterarguments is another important argument skill, as it shows the strategic implementation of argumentative discourse (further explained in Chapter 1). This reply can be done either individually, in one's own discourse (e.g. written argumentation) or socially, as part of an argumentation dialogue. In the first case, i.e. individual argumentative discourse, counterarguments are anticipated by the use of rebuttals, which serve to acknowledge the possible limitations to one's own arguments. Also it is possible that a writer exposes possible counterarguments to his/her own position, and then in the end, (s)he offers what is known as an integrated or balanced argument (Nussbaum & Schraw, 2007; Kuhn & Udell, 2007), for example an essay weighing both sides of an ill-defined issue.

As part of an argumentation dialogue, replying to counterarguments might take several forms. The strongest one is the rebuttal in the sense of a refuta-

tion of a speaker's counterargument. The function of this dialogue move, which is different than Toulmin's rebuttal explained in Chapter 1, is to "eliminate or reduce the force of a partner's counterargument by critiquing it, thereby restoring force to one's own argument" (Felton & Kuhn, 2001; p. 145). Other types of reacting to an objection exist. Leitão (2000) mentions: the dismissals, which are a kind of weak rebuttals; local agreements, which are forms of shifting the focus of the dialogue from the counterargument to one's original position through an apparent agreement with some points of the counterargument; and integrative replies, which are efforts of integrating some of the contents of the other party's counterargument into one's own position through allowing for some exceptions and conditions (this case is similar to the integrated argument in the case of individual, written argumentation).

Some Truths About Teaching As Argument

I will now briefly explain what *teaching as argument* implies, through making explicit some truths that are generally and commonly shared among researchers and practitioners in the field of argument as a teaching practice.

Truth No1: Teaching as argument is not the same as teaching how to argue.

The explicit teaching of argumentation is shown to be an essential part of helping students arriving at their mastery level of argument skills. Especially studies in scientific contexts (e.g. Bell & Linn, 2000; Zohar & Nemet, 2002) have shown the potential of the explicit argumentation instruction in favoring learners' skills and quality of arguing. Such an explicit instruction refers to "the direct teaching of various aspects of argumentation including instruction pertaining to the various definitions, structure, function, and application of arguments, and the criteria used to assess the validity of arguments" (McDonald, 2010; p. 1138). I refer to this practice as "teaching how to argue." On the other side of argument-based teaching, there exists a practice that focuses on the use, by the teachers, of strategies that allow for argument skills to be manifested in their own and students' discourse. I refer to this second practice as "teaching *as* argument."

Truth No2: For teachers to be able to teach as argument, they first need to be able to think as argument themselves

This truth comes to complement the previous one. For teachers to be able to embrace the argument constructs as part of their instruction, they must be able to apply the main argument skills themselves, such as evaluating evidence, assessing alternatives, establishing the validity of claims, and addressing counterarguments. This is why the explicit instruction of argument elements, such as the TAP elements, often forms part of teachers' training on argumentation (see, for example, Sadler, 2006).

Truth No3: In order to teach teachers how to teach as argument, a wisdom of practice must be built and shared

An enculturation into argumentation as a socio-discursive practice has thus far only focused on students. Ford (2008), for example, claimed that if students want to act like scientists, in the broader sense, they must "know how to play the roles of constructor and critiquer appropriately" (p. 416). Teachers as argument-scaffolders must not only know the same but also know how to facilitate and promote constructive argumentative dialogue and discourse in their classrooms. This requires a certain pedagogical practice knowledge that must not be kept implicit, but it should be shared, in order to be learnt and consciously applied. Defining the "wisdom of practice" necessary for argument-based teaching and unveiling the competences that teachers must have to be able to successfully promote argumentation in their classrooms is a principal challenge for teacher educators. Such wisdom does not only imply that a teacher professional is able of "practicing and understanding his or her craft", but also of "communicating the reasons for professional decisions and actions to others" (Shulman, 1987; p. 13). Therefore, creating a community of teachers able to teach as argument is a matter of communicating their acquired wisdom of practice, as a result of adequate professional training programs and initiatives.

What this book is about

This book is based on the main findings of a vast and continuous research in the field of Argumentation and Education. This means that from a theoretical point of view, it does not invent anything new. Its main contribution lies in the intersection between academic research, on one hand, and meaningful teaching practice in schools, on the other. My goal is to provide some insights to educators from any part of the world on what it means to be "argumentative" teachers in their classrooms. The existing researchers' interest has mainly focused on the argument aspects of science teaching, due to the evident relations between argumentative and scientific reasoning. This book tends to be interdisciplinary, taking into account different areas in which argumentation may be applied. Last but not least, although the teaching insights included in this book are based on my own experience as an educator of middle-grade teachers, the applicability of the principles and strategies presented transcends the age level of the students in a way to make the same knowledge accessible by every teacher, from primary school to University, interested in implementing argumentation as a teaching practice.

This book is structured as follows: Chapter 1 gives an overview of what strategic implementation of argumentative discourse in the classroom refers to; Chapter 2 is a literature review on teachers' role in promoting argumentation; Chapter 3 is a philosophical discussion on which are some potentially argu-

mentative dialogues and how teachers may empower them; Chapter 4 focuses on the implementation of argument-based teaching in different disciplinary fields; Chapter 5 describes the impact of argument-based teaching on students' critical argumentation skills; and Chapter 6 offers some practical implications which aim to serve as summarizing guidelines for argument-based teaching implementation.

The work described in Chapter 5 is a component of an exploratory one-year project titled IMPACT (IMproving instructional Practices through Argument-based Classroom Teaching) that was supported by an internal fund for international projects granted by the author's institution. The goals of this project were: (a) to create a community of practice among teachers from different disciplines and schools in the broader area of Lisbon, Portugal, interested in implementing argumentation strategies in their classrooms; (b) to support participant teachers in the implementation of the learnt strategies through engaging them as active stakeholders in the project; and (c) to contextualize the innovative approach of argument-based teaching within methodological and empirical contributions with a wide impact, not necessarily restricted to one disciplinary area.

Although explicit reference to the IMPACT project that inspired and formed the basis of this book is only made in Chapter 5, there are short references to the Project (with the first letter intentionally capitalized) at several points throughout the book.

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