Teaching How to Develop an Argument Using the Toulmin Model

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ABSTRACT: One of the competencies that Business Communication students must acquire is the capacity to select appropriate rhetorical strategies to persuade multiple audiences to accept business decisions or propositions. Strategies for building arguments have been studied for literally thousands of years and Aristotle's rhetorical proofs, logos, pathos and ethos have been accepted as major guidelines for quite a long time. In the 1950s, two philosophers, Perelman and Toulmin, addressed the crucial problem of differentiating the construction of a demonstration (proving unequivocally the truth) from the production of an argument (defending a point of view). Chaïm Perelman produced a taxonomy of arguments with logic carefully placed and Stephen Toulmin proposed the argument layout, an objective way to evaluate thinking that may be subjective and can be used to verify the soundness and completeness of arguments. Students can learn to apply the Toulmin layout through vivacious class discussion and proper assignments.

I.   INTRODUCTION

Business communication is often about building arguments, and that is in fact one of the competencies to develop through a Business Communication program (Brzowic, 2006). The construction of arguments is an ancient craft. Few people, even in Academia, realize that Rhetoric came even before formal philosophy itself (Hermann, 2011). Socrates and Plato stated, in the fifth century BC, that convincing was less important than aiming for the truth. He started what is called the Socratic project, and this is the reason for Greek philosophy to be divided in before and after Socrates.Aristotle, in particular, shaped the three rhetorical proofs: logos (logical reasoning), pathos (emotion), and ethos (orator's image). The path suggested for the building of a business argument using Aristotle is to lay down the facts (premises), find a deduction showing a point of view to be valid and put together the argument, paying attention to the emotion contained (most of the times subtly) and to the personal image one wants to convey through the argument.

Rhetoric was practiced and studied in Ancient Rome and through the Middle Ages and Renaissance, but lost its prestige with the coming of Enlightenment and, after, of positivism. This was possibly due to the non-scientific character of argument as compared to scientific demonstrations. This problem was addressed well into the 20th century by two thinkers, Chaïm Perelman and Stephen Toulmin, Perelman according to a more theoretical approach and Toulmin devising a method that is more pragmatic. The Toulmin model is a powerful help in the construction of an argument: it is at the same time (almost) failsafe and gives room for the argument builder to be creative. More than that, it can be developed as an instinct and a teacher can foster that. Modern teaching tools, like Project-based learning, problem-based learning, and team-based learning, using techniques as three-step interviews, round tables and think-pair-share can be particularly effective in developing intuitive skills in building arguments under Toulmin's framework.

Rhetoric and Argumentation – Ancient and Modern Rhetoric : The brief historical background that follows shows that basic concepts still apply, notwithstanding the fact that they were formulated some 2,000 years ago. Quintilian's (95 AD) definition of rhetoric deemed it as "the science of speaking well". He meant the capacity to utilize all resources provided by language in order to cause a certain effect in the listeners. According to sophists, who were pragmatic, utilitarian thinkers, rhetoric was specifically connected to argumentation, meaning debate for or against an opinion in order to obtain advantage for oneself or for others. Such standing was criticized by Socrates (380 BC), who argued that philosophy is an art and rhetoric a mere skill acquired through experience. Plato extended his criticism:

But still there are two sorts of persuasion: one which gives knowledge, and another which gives belief without knowledge; and knowledge is always true, but belief may be either true or false,--there is therefore a further question: which of the two sorts of persuasion does rhetoric effect in courts of law and assemblies? Plainly that which gives belief and not that which gives knowledge; for no one can impart a real knowledge of such matters to a crowd of persons in a few minutes (Plato, 380 BC)

Aristotle (320 BC) defined rhetoric as "ability of observing in any given case the available means of persuasion". Three concepts formulated by Aristotle stand out as particularly foundational of rhetoric as practiced thereafter. Ethos refers to the orator's character, to the image borne by his discourse and even to features like dressing up and posture. Pathos is connected to emotions conveyed by the discourse and to desire arisen in the audience's minds. Logos is related to the orator's knowledge, to logic contained in the argument and to the orator's ability to use facts and data to reinforce the argument.

In Ancient Rome, the two leading rhetoricians were Cicero and Quintilian. Cicero (50 BC) authored three treatises, which presents the perfect orator as the perfect man. Such point of view was also asserted by Quintilian (95 AD), who stated that rhetoric, considered as a system, was "the power of persuading men to do what ought to be done". During the Middle Ages and Renaissance, rhetoric was very seriously considered in higher education, along with logic The Jesuits were the great masters of rhetoric.

With time, rhetoric went through strong criticism as a non-scientific discipline. By the end of the 19th century, it was eliminated from the Republican French University. That reflects a strong rejection of rhetoric, probably out of positivist influence (Plantin, 2008). Rhetoric became then confined to the study of figures of speech until the end of the 1950s, when the Treatise of Argumentation was written by Chaïm Perelman, a Polish-born philosopher of law who spent most of his life in Belgium. The Treatise (1958) maintains that argumentation studies are connected to logic as "the art of correct thinking", to rhetoric as "the art of speaking well" and to dialectics as "the art of good dialogue". Such tripod is the basis of Aristotelian argumentation theory, which, like many parts of Aristotle's thinking, stood well to time.

By stating that efficient argumentation intensifies or at least secures the adherence of the audience, the Treatise maintains another key concept by Aristotle, the audience. Perelman also considers audiences as belonging to one of two kinds: universal (all rational human beings) or particular (one segment). Discourses directed to the universal audience address truths and facts, and discourses to particular audiences are about values (Gross, 1999).

Perelman also elaborated on Aristotle's work by differentiating convincing and persuasion. Convincing obtains rational adherence (through logos), and persuasion is based on emotion (pathos). Actually, this separation is pedagogical, since arguments are seldom purely logical or exclusively emotional.

The scheme that follows shows the three Aristotelian proofs, also present in Perelman. The three equal sides of the triangle shows that all three proofs are equally important in what may be called the rhetorical space.
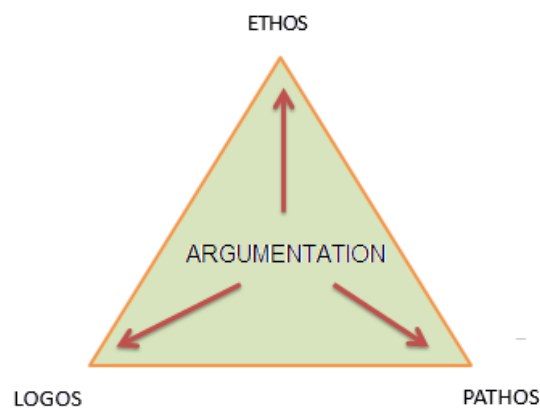

Figure 1: *The rhetorical triangle*

Demonstration vs. Argument : In rhetoric, rational does not mean demonstrable, since rhetoric deals with the realm of the possible, the probable, the plausible, and the verisimilar. Demonstrations are connected to logic, to the strictly rational and to hard sciences, while rhetoric exists in the non-scientific space. Demonstrations belong to mathematics, physics, and engineering, sciences whose results can be proved through the scientific method and cannot be argued rhetorically, since rhetoric is all about argumentation. Perelman at first tried to find some conciliation between formal logic and rhetoric, considering that many arguments follow logical reasoning. After a few years, he found that such conciliation was impossible, exactly because any argument is open to refutation.

He then classified arguments into categories, one of them the quasi-logic argument, which follows the structure of a demonstration without being irrefutable like the demonstration. The quasi-logic arguments are: contradiction and incompatibility, definition and analysis, reciprocity, transitivity, inclusion, division, weights and measure, comparison and probabilities. The other Perelmanian categories are: arguments based on the structure of reality (causal link, pragmatic argument, ends and means, argument of waste, argument of direction) and relations establishing the structure of reality (example, illustration, model and anti-model, analogy). The detailed study of those categories is beyond the scope of this text.

According to Christian Plantin, a celebrated French linguist (2008), "the essential merit of the Treatise on Argumentation was to ground the study of argumentation on the study of argumentation techniques". Stephen Toulmin, a British philosopher, did his research on argumentation concurrently with Perelman, although neither Toulmin nor Perelman did not know of each other's work. Toulmin's initial objective was also to draw rhetoric closer to the hard sciences. Like Perelman, he arrived to the conclusion that it was an impossible endeavor, since the very character of the argument opposed mathematical reasoning. Like Perelman, he concluded that the construction of many arguments was "quasi-logic", but rather than classifying arguments, as Perelman did, Toulmin studied the internal structure of arguments, thus creating the argument layout. He devised six parts for every argument, detailed in the next section.

Toulmin's Method and Soundness of Argument

According to Toulmin, an argument has six components, represented in the scheme below.

Figure 2: *Toulmin's Layout*
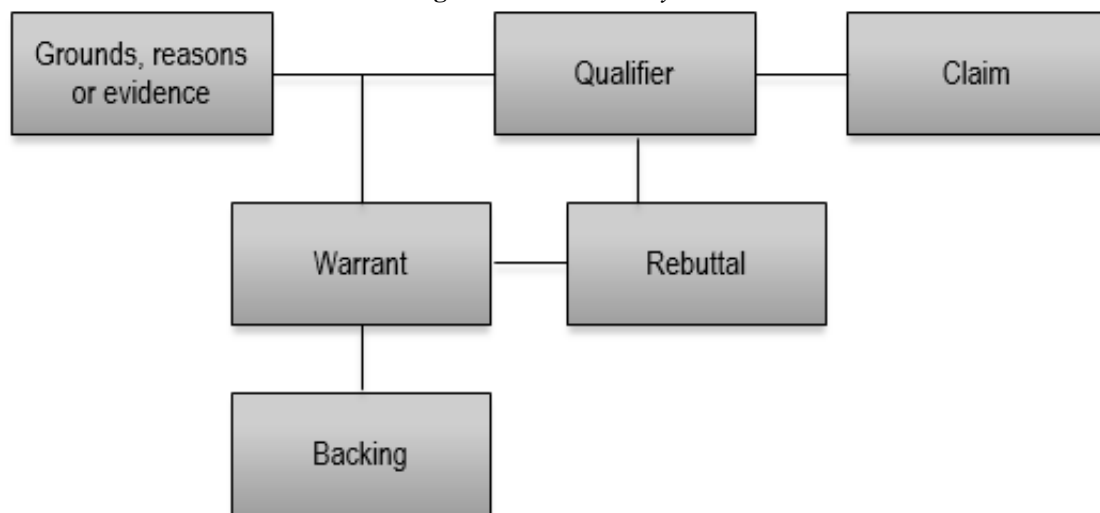
1. **Claim:** proposition that sustains, states, denies or asks for something; objective argument, thesis. According to Toulmin, this is the first step for a sound analysis. For example, smoking in public places should be banned. This is the argument to be proven valid.

2. **Grounds/data:** facts or data that sustain the conclusion. They are the motives, evidences, proof, circumstances and reasons that support the conclusion. In the example, smoking puts other people, especially children and pregnant women, at risk of breathing smoke from cigarettes.

3. **Warranty:** statements with implicit logic, often hypothetical, linking claims and grounds. In the cigarettes example, banning an act that causes problems to innocent civilians is helpful in many ways.

4. **Backing:** statements that limit argument strength or that propose conditions for the argument to be true. This is usually not subject to questioning. In the example, if smoking in public places is banned, we actually reduce or totally eradicate the danger of putting non-smokers at risk of developing lung and heart problems.

5. **Qualifier:** Indication of conclusion strength, usually done through words like necessarily or possibly. Any conclusion is presented along with its strength or limitations. In the lung-friendly prohibition example: recent

studies show that almost 80% of those who ingest secondhand smoke from public smokers have a high risk of getting respiratory problems.

6. **Rebuttal:** Counter-arguments or statements indicating circumstances when the general argument does not hold true. In the example, while it can be said that not all people who smoke in public areas are always causing harm to others, it remains a fact that cigarette smoking per se is a cause of health problems.

Building an Argument in a Real Business Situation – concise presentation of a Case Study : A real business case to be brought to class involves an engineering & construction company, which had a quality system designed with the sole objective of complying with quality audits. A group of employees proposed a new quality plan, to guide actively day-to-day operations in addition to provide audit compliance. The argument, as written in the proposal to Higher Management, reads as follows.

"There are presently in the company two teams for each given project: one to perform actual work and the other to produce quality compliance documents. The quality system developed in accordance with the proposal will save man-hours now spent in producing sterile documents and will bring all the benefits of designing and constructing with quality in mind. Compliance will come as consequence, not as an objective. Employees will be happier at work and the company image will improve as a result of work well performed."

One can find in this argument all three Aristotle's rhetorical proofs: logos appears as reasoning on elimination of wasted work, pathos as making workers happier and ethos both as enhancement of company image and, more subtly, as the image of the author of the idea as someone concerned with better corporate performance and worthy of trust.

Now for the Toulmin analysis.

- Claim: a new, properly designed and developed quality system will bring benefits to the company.

- Grounds: presently, the project crew consists of two teams — one to perform the work and other to produce quality documents. This arrangement defeats the legitimate purpose of having a quality system.

- Warranty: a legitimate quality system will foster the production of better work.

- Backing: the new quality system must be carefully designed.

- Qualifier: the staff will be probably more motivated to perform the work, since they will be producing excellence, through a combination of thoroughness and higher production standards. Company image will improve because of better product quality.

- Rebuttal: while it can be said that the new quality system will require more work for the production team, this will be more than compensated by elimination of the documents-only activity and avoidance of errors demanding rework.

The Toulmin analysis has shown that:

a) The new system will work if, and only if, properly and carefully designed.

b) Team motivation must be stressed, beyond the assertion that it will make workers happier.

c) One should be careful in explaining why the new system will save man-hours.

The argument, after toulminian analysis, is rewritten as:

"There are presently in the company two teams for each given project: one to perform actual work and the other to produce quality compliance documents. The quality system, properly designed and carefully developed, will save man-hours, since it will eliminate the time now spent in producing sterile documents and greatly reduce (or even eradicate) rework. I will bring all the benefits of designing and constructing with quality in mind. Compliance will come as consequence, not as an objective. The production staff will feel more motivated, since they will be

producing excellence through a combination of thoroughness and highest production standards. The company image will improve as a result of higher product quality."

The differences between the two texts brought by Toulmin analysis are summarized as follows.

before analysis	after analysis	comments
The quality system developed in accordance with the proposal […],	The quality system, properly designed and carefully developed, […]	The claim is stated in a stronger way than simply mentioning the proposal.
[…]will save man-hours now spent in producing sterile documents	[…] will save man-hours, since it will eliminate the time now spent in producing sterile documents and greatly reduce (or even eradicate) rework.	Rebuttal anticipated and better explained. Care in explaining why the system will save men-hours.
Company image will improve because of work well performed.	Company image will improve because of higher product quality.	Qualifier made more specific.

II. CLASSES AND ASSIGNMENTS

Teaching is performed by explaining Toulmin's model (with or without a historical introduction, although it is advisable to mention Aristotle and his rhetoric proofs) and asking the students (in discussion groups, pairs, or individually) first to analyze arguments, identifying claim, grounds, warrant, backing, qualifier and proposing a rebuttal. After a number of such exercises, the teacher presents arguments that lack one or more of Toulmin's components. The students are then asked to identify what is missing and propose a completion, amidst much debate in the classroom (it always happens). They readily recognize that the argument layout makes sense and gives more depth to the understanding of the text.

At that moment, it is interesting to reproduce actual arguments present in the press or TV. The teacher has to act as a moderator, constantly reminding students that they are in a class to study a technique, not to win arguments with colleagues. Selecting real arguments on touchy issues is a risk, highly compensated through class liveliness.

Finally, the class is divided in groups (if not so divided before) and each group is asked to develop two arguments stemming from real business situations. Debate is then not as heated as before, but at that point, the students are already familiar with the key concepts. The groups are asked to create argumentative texts. They need to discuss, in groups, about real themes – normally one in evidence – and write a short text defending or attacking the point. After writing, they apply Toulmin's layout. After this analysis, the texts shall be refined and the students feel satisfied with the results.

More exercises must be given and students should be encouraged to use Toulmin's analysis in any paper defending a point of view. Toulmin analysis also can be part of written exams, with one short question asking students to list with short comments the six parts of the argument and an analysis of an intricate argument.

III. RESULTS

A research was conducted in argumentation texts written by students Business Management students in a Community College in the State of Sao Paulo, Brazil. The texts were produced one week before and one week after the classes and assignments on the Toulmin method. This was carried out examining texts from in Texts from between 35 and 40 students per semester during six semesters were analyzed, the total being 233 students. The analysis considered three of the features on quality of writing devised by Karen Schriver in a 1989 paper. Such features were:

- Ambiguities and reference problems

- Faulty logic and inconsistence

- Faulty text structure

The results are shown in the plots below.

Figure 3: *Quality of Text*

Quality of texts on arguments
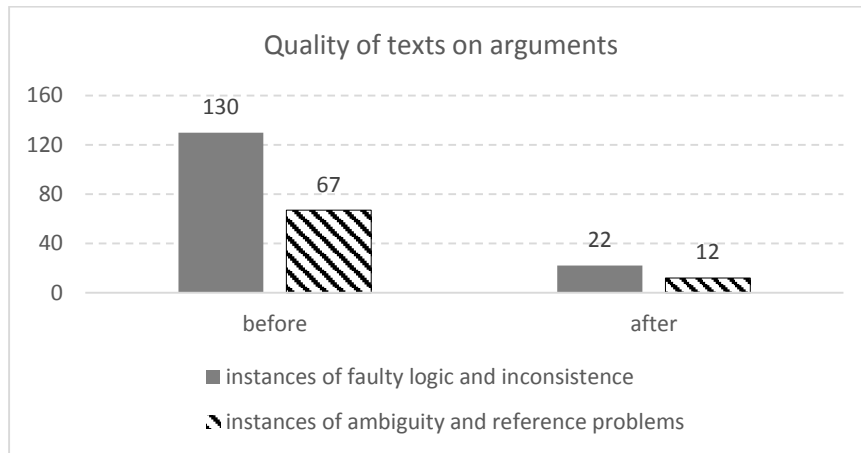
Figure 4: *Faulty Structuring of Text*

faulty structure
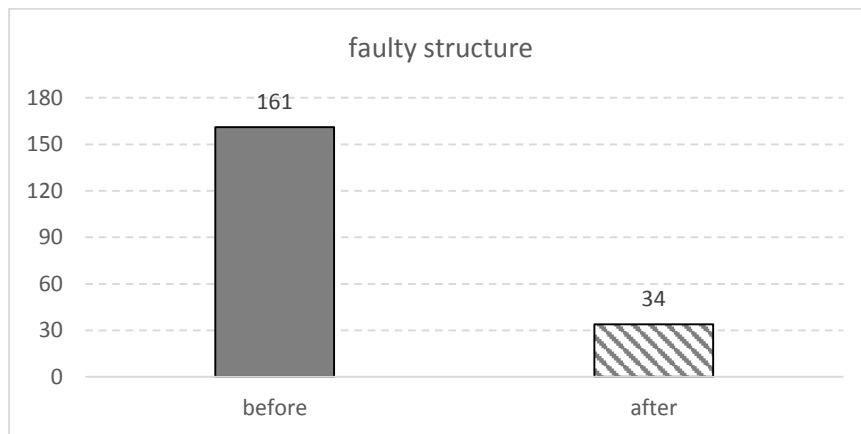
The evaluation was made by the same teacher, assuring uniformity on evaluation criteria. The texts required included explanation of background and comments on each sentence of an argument of choice (suggestions were given on arguments to defend and to attack). The texts after the class defended the same argument as the text before.

The results appear to be unequivocal, although it must be reminded that students are a little more mature, when they produce the second text, than they were when they wrote the initial paper. It must be said that the approach used is pragmatic, with Toulmin layout taught after a concise introduction on Aristotle, ethos, pathos and logos.

The classes on argumentation are lively, with much discussion and the students appear to enjoy them.

Toulmin's Layout and Academic Papers : The Toulmin method has proven to be effective for developing academic papers from other programs (like Strategic Management or Marketing Principles), as reported by teachers suggested to ask their students to perform Toulmin analyses as part of assignments development. Instruction on the Toulmin layout is provided to any teacher that requires so.

The first draft is adjusted, for consistency, proper references, and the presence of an identifiable argument. The effort proceeds with argument analysis. Students are heavily tutored and there are at least three more deliveries before the final paper, but major decisions are assigned to each author, as per the principles of active learning. At the end of the process, a mini-convention, most students show to be happy with the results. Some papers find their way to "adult" conventions and the school board decided that each student must produce at least one paper per semester.

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