



Editorial – Issue 22 – April 2015

Recently, while working in a discipline whose goal was to prepare students to develop scientific work in the energy area, I came across a thought that turned out to be the main focus in the approach of that subject: the relationship between critical thinking and the assimilation of dogmas, the latter achieved by blind obedience to rules and the way things are usually done. The main message in the discipline was materialized in the concept that the method serves as a guideline, not as an end in itself. Therefore, it is necessary to have critical sense, in order to obtain the proposed result. For students, this was the main lesson. However, interest in the topic continued, generating some considerations which I sought to address in this editorial.

One of the hallmarks of the knowledge age is the proliferation of publications of various kinds and unlimited access to almost all of them. In addition, the power of immediate access by the public presses the communication vehicles for extreme speed. This peculiarity makes the level of control regarding the quality of publications compromised. This can be seen nowadays in the writing style of some online newspapers. This can also be considered as a result of the shortage of critical stance.

Unfortunately this example of change in the sense of quality is not the only one. It seems that there is the same tendency in many aspects of our daily lives, including the professional environment, the scientific community and academia. It seems that the urgent matters, more than ever today, override any attempt to do something different. In such a context, we tend to adopt standards and models as a way to automate the tasks and thus reduce their complexity. Thus, the dogmas of knowledge are taking place in the minds of the people, encouraging them to give up critical thinking.

This seems to be reflecting in education as well, where, due to increased demands and perhaps to mass education, models and patterns are used to provide "crates of knowledge". An aspect that may seem cliché crosses our minds, but unfortunately it is also becoming an alarming fact: students become prepared to answer questions that, in most cases, the world will make to them, but they will not know what to do before unusual questions and even less will they know how to, by themselves, ask questions.

Is this a behaviour that is also affecting the business world and even the scientific world? Are we rushing in to answer standard questions on time in our day to day work? Yes, this is important. But are we also giving a break, reflecting, pondering, having ideas and, especially, asking why things are as they are? If we are not doing it, we are doomed to failure because, in today's world, those who do not differentiate will only fight for survival. Even worse, sooner or later bankruptcy can knock on the door.

More than "putting money" into innovation projects and research and development, companies need to participate in the evolution that these types of projects provide. This means that it is necessary to take a break, think, ponder, have ideas, enable critical sense and ask the question of which we are constantly running away: "why?". Going against the grain of evolution, we can notice that many companies take a tortuous route by implementing management mechanisms for innovative projects, when in fact what they needed to do is to begin performing innovation rather than outsource them. Relying differentiated projects to third parties and give up to participate in these enterprises is a typical attitude of those who run away from innovation and, unconsciously or not, approach the defeat. It seems to be a self-deception mechanism.

It is therefore clear that we are still behind in the category "attitude towards innovation, development, differentiation and, finally, evolution." It also seems clear that investment is a requirement, but does not provide the main ingredient for innovation, which seems to be more



affected by attitude, critical sense, questions, nonconformity, the courage to take risks, plain determination and will to perform a groundbreaking work. In the energy sector, an attitude like this can bring great benefits not only for companies but also for society and for the nation.

This issue of Espaço Energia brings to you four papers, with special focus on hydrology. Three of them address hydrological issues directly, while the other fits into energy trading, which in turn is directly impacted by hydrology itself. Two of them make use of computational intelligence techniques to get better results in streamflow forecasts. The paper on energy trading proposes a methodology for evaluating spot price spread in short-term contracts.

The editorial board of this journal congratulates the authors of these papers. May the reading generate value to all, as well as bring benefits in many ways.

Klaus de Geus
Editor-in-chief