Chapter 19
Concept Maps and the Systematization of Knowledge

Patrícia Lupion Torres
Pontifical Catholic University of Paraná (PUCPr), Brazil

Marcus Vinicius Santos Kucharski
Federal University of Technology – Paraná (UTFPr), Brazil

Rita de Cássia Veiga Marriott
Federal University of Technology – Paraná (UTFPr), Brazil

EXECUTIVE SUMMARY

The act of doing research, reviewing recent literature, checking data, and articulating results and meanings are important but not enough when working with scientific publications in graduate schools. A vital part of the work is authoring an informative text that can be clear enough as to communicate findings of the study and, at the same time, reinforce chosen arguments. This chapter focuses on an experiment at a renowned Brazilian graduate school of education, which uses concept mapping and collective assessment of such maps as fundamental pre-writing stages to guide the authorship of well-thought, well-knit scientific/argumentative texts. Results indicate that the experiment was successful in making students negotiate meanings, clarify ideas and purposes, and write in an academically acceptable style. All this was conducted from a methodological standpoint that makes meaningful knowledge, collective construction, and the reflective, critical work of the author (from the first draft to the final collectively written version given), the foundations to perform a better job at communicating the processes and results of the investigative work.

INTRODUCTION

There are many challenges in the construction of knowledge. Some are more theoretical or rhetorical, such as the definition of what knowledge effectively means; others are from a more practical view point, such as its representation in diverse forms: written, graphical, multimedia, etc. From all of the possible challenges, it is on the systematisation of knowledge in the preparation phase that we will concentrate our attention in this chapter.

The main reason for focusing our attention on this area is the constant complaint from teachers, at all levels in the profession, that students do not have a demonstrable ability/capacity to organise and articulate knowledge in a cohesive, coherent and contributive form. Apart from noticing a near incapacity to understand relations and levels of articulation about which they learn, we perceive a much bigger problem than a simple difficulty with the representation of proper knowledge - although it encompasses it – which is the issue of attributing questions to the diverse niches of educational investigation: from teaching theories to learning process, from methodology to didactics, from educational biology / psychology / sociology / anthropology / philosophy / history to educational technology, nearly claiming that a metatheory to propose solutions to the problem that affects all levels of schooling be created.

However, the creation of this metatheory is not a task exclusive to Education or to any one of the contributing sciences and it needs to be undertaken in the confrontation and negotiation of the concepts developed by the diverse areas of educational research, each one applying its speciality to weave the network in its entirety. To be able to properly contribute to the overall discussion, it is necessary to define from where we speak stating clearly what should or should not be considered and to be careful not to exhaust the subject but to explore its facets. In the case of this article, the contribution will come from the exploration of the systematisation of knowledge, which occurs after the end of the exploratory stage and immediately before the creation of the summary of what has been learned, not taking into account the type of document/article/paper it becomes. This is a moment of reflection and individual or group summary, revision, negotiation and planning in the sense of knowledge exchange. In this area of action and reflection, concept maps can fulfil a privileged role in the reduction or elimination of the difficulties of critical and informed systematisation of knowledge, as we have systematically seen in our students. For this, we need to establish a path that clarifies the presuppositions of our stance; this path needs to start from the definition of the main object of the educational process.