

# From information to knowledge; from knowledge to wisdom: introduction

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There is no doubt that, in this second decade of the 21st Century, higher education in Europe is confronted with important changes. The Bologna Process, initiated in 1999, has, and still is, reshaping the European Higher Education Area. A major aim of this process is to accomplish greater compatibility in the systems of higher education in Europe, and, as such, to facilitate the mobility and exchange of students, teachers and scholars. According to the communiqué of the conference of the European Ministers responsible for higher education, held in Leuven and Louvain-la-Neuve, Belgium, in April 2009, the Bologna Process should make it possible, in the 2010s, for European higher education to contribute substantially to the realization of a ‘Europe of knowledge’ that is highly creative and innovative. Achieving this ambitious goal means higher education faces tremendous challenges. One of these challenges was the topic of a previous joint *Academia Europaea/Wenner-Gren Conference* organized in November 2007, namely the confrontation of the university with the market [1]. Other major issues and developments that universities have to deal with also call for reflection on, and reconsideration of, the traditional model of higher education, such as globalization, the growing diversity and multi-ethnicity of the student population, the need to provide equal opportunities for all to quality education, the transformation of universities into multipurpose institutions (see Chapters 6, 7, 10 and 15), as well as the trend toward seeing higher education as a commodity as opposed to a public good [2] (see also Chapter 7), and accelerated technological developments, especially ICT (information and communication technology), and the related exponential growth of research-based information and knowledge in all disciplines.

This volume addresses especially the latter challenges. How can/should higher education deal with the impact of the massive increase of easily retrievable information, and with the ways of using and the possibilities for manipulating information? How does information relate to knowledge, and how can both facilitate the development toward wisdom?

Owing to the massive ICT developments, people in general, and youngsters and students in particular, are today overwhelmed with information. However, information should not be equated with knowledge and certainly not with wisdom. The interrelationships between the three notions in the information–knowledge–wisdom chain, as well as their implications for learning and teaching in higher education, are critically discussed in Chapters 2–5. It is interesting in this respect that,

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according to a recent British report of the Committee of Inquiry into the Changing Learner Experience entitled *Higher Education in a Web 2.0 World* [3], the evolution of the internet has produced a generation of students with a “*preference for quick answers*”.

The report raises strong reservations about students’ ability to critically process and evaluate information from the web. This supports the view that a major responsibility of higher education institutions is to immerse students in learning environments that guide and enable them to selectively and critically process and transform information into deep conceptual knowledge. However, students also need competence, beliefs and attitudes that allow them to use their knowledge in adaptive, responsible and creative ways in new situations. Achieving and mastering such an adaptive competence requires they acquire cognitive, motivational and effective skills to self-regulate their learning, and get ample opportunities to use and apply their knowledge in a large variety of contexts and problems [4]. Over time this can result in the acquisition of tacit or implicit knowledge that constitutes, according to Sternberg’s balance theory [5], an important component of wisdom besides explicit knowledge.

Taking all this into account it is obvious that attaining wisdom is a long-term and laborious goal that most people never reach and that students can certainly not achieve during their student days. As argued by Perkins in Chapter 2, a more realistic objective for university education is to help students acquire knowledge and skills *on the road to wisdom*. A major challenge for university teaching is then to design and implement (computer-supported) learning environments that are powerful in guiding and supporting students in their exertions to make progress on that road. There is no doubt that this requires intensive and sustained efforts to change and innovate teaching practices in university, supported by continuous professional development of university teachers. A variety of aspects of this endeavour, including the use of technology, are discussed in Chapters 2, 4–6, 8, 9 and 15.

However, the massive increase of information, combined with the explosive development of its digital archiving and access, is not only a challenge for the traditional model of teaching in higher education, but also has implications for the research and community service missions of the universities. The impact of the information explosion on research is, as such, not prominently represented in this volume. However, let us briefly consider the following anecdote: In the early 1960s a statistics professor knocked on the door of an assistant’s office. When he entered the room he saw the young man sitting on his desk with a blank sheet of paper, and asked him, “Joseph, what are you doing now?” Joseph responded, “I’m thinking Professor.” And the professor replied, “I’m glad to meet someone this morning in the building who is thinking.” One sometimes wonders whether, a half century later, young scholars today still have sufficient time and opportunities to carefully think and reflect on their work. Indeed, they are overwhelmed with books, articles and reports, and moreover constantly under pressure to produce and publish more papers themselves. In addition, research proposals are often written in such a way that they can easily and quickly result in papers that can be submitted to journals. In all, the current research culture is certainly conducive to the increase of information, but maybe less conducive to

addressing new avenues and challenging existing paradigms necessary for fostering the real advancement of knowledge and the development of wisdom.

Community service and engagement is the third mission of higher education. Notwithstanding the threat of becoming a commodity, in European countries higher education is, in general, still considered as a public good financed by the state via taxation. This public funding of higher education implies that society has the right to get correct, reliable and relevant information from the sciences, including the humanities and the social sciences, based on solid knowledge and wisdom. There are indications that today this is not always the case, as described in Chapter 11 about the manipulation of knowledge in the domain of biomedicine. In addition, as demonstrated in Chapter 12, using history for political aims is not uncommon. However, besides fighting against the systematic manipulation of scientific information and knowledge, scientists should, as argued by Sundberg [6] in a paper presented at the conference, make efforts at developing and enhancing effective communication channels and patterns with the surrounding world. As a recent illustration we refer to the confusion induced among the public, and even among doctors, by the information disseminated by the medical sector about swine flu. As another example, the field of educational research has been heavily struggling for a long time with the problem of bridging the gap between theory/research and educational practices. Finding appropriate models to transfer evidence-based knowledge about learning and teaching to educational professionals, in view of their high-fidelity implementation in classrooms, constitutes an enduring challenge, and this certainly holds true for higher education.

Finally, two chapters in this volume address important issues relating to the role of the libraries in the growing digital world. Chapter 13 analyses the impact of the explosion of easily accessible information on academic libraries, while Chapter 14 focuses on the use of new technologies, such as digitalization, for preserving information and knowledge contained and stored in ancient books and documents.

## References

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