

**KM in education, education in KM**

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## KM IN EDUCATION, EDUCATION IN KM

### 1. Introduction

Globalization and upsurge of the knowledge economy are challenging the way individuals must learn how to manage their knowledge. In the workplace, individuals are increasingly facing the pressures of time-constrained requests for effective and high-quality results, of rapid learning and continuous adaptation to a fast-changing environment, of introducing or managing innovations at an accelerating pace. Hence all individuals, regardless their role or function, are increasingly requested to become 'knowledge-intensive' workers. Among the many expectations facing these new-age professionals, Handzic (2007) includes these: being skilled at creating, acquiring, and transferring knowledge and modifying their behaviour accordingly; being capable of continually expanding the ability to create desired results, nurture new thinking patterns, set free collective aspirations, and learn how to learn together; and finally, inventing new knowledge as a way of behaving or being. In short, there is increasing demand for Knowledge Management (KM) capabilities.

By extending the analysis, we consider that people need a more sophisticated way of managing their knowledge just to be considered citizens in our complex societies. We need to quickly learn how to use new social media to stay connected with family or friends; how to retrieve and select appropriate information for understanding the state of our financial accounts, our pension scheme, or our investment opportunities; how to find and interact with key informants that help us take everyday decisions about our health, our family's safety, our children's schools, etc. In short, we all need to be effective knowledge managers in everyday tasks.

This increasing demand for new skills and capabilities necessitates a corresponding response from the educational sector. Generally speaking, the capacity of traditional educational systems to meet these requests effectively – and how to reform them adequately – is increasingly debated (Robertson, 2005; Stukalina, 2008). In terms of content, educational programs or teaching approaches are often criticized because they may not reflect the cross-disciplinary nature of today's knowledge domains, they may have little base in reality, or may not be appropriate to cultivate creativity, problem-solving skills, and capability to interact and share knowledge, in a global world that grounds on interpersonal and cross-cultural interactions. In recent years, new strategies and tools for teachers to help their students activate their learning capabilities have been suggested and tested (Chalmers and Fuller, 2012). In this context, KM can find an important place: students can be made aware of the need for giving order to their processes of assimilating, creating, sharing and exploiting knowledge, and can be provided with useful suggestions, approaches, and practical methods. Recently, the term *personal knowledge management* (Pauleen and Gorman, 2011) has become popular: it indicates the collection of processes or methods that the single individual can use to gather, classify, store, exploit, retrieve or share knowledge in their daily activities, and it grounds on the idea that each person is responsible for their own learning (Smedley, 2009).

Furthermore, KM can be important for the work of educators and, more generally, for the organization of schools and universities. Although it is generally recognized that KM has its origin in companies, schools and universities, being knowledge-intensive organizations by definition (Schaller et al., 2008), are natural candidates of KM applications. In particular, it has been said that KM practices may be beneficial to supporting teachers and academics in their multi-faceted work, to actually share tacit knowledge, and to enable real organizational learning across cultures (Ratcliff-Martin et al., 2000; Stevenson, 2000). The interest of educational Institutions in KM is recent but growing: for example, the creation of professional communities of practice of teachers is increasingly considered in schools and universities (Lieberman and

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3 Miller, 2008). A community of practice, one of the most popular KM arrangement (Bolisani and Scarso,  
4 2014), can make teachers interact and assist each other in their daily problems, improve collective learning,  
5 facilitate consistent teaching methods across various subjects, and in the end improve the effectiveness of  
6 learning experience of students.  
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9 Recalling that KM has its first natural application in companies, another important connection between KM  
10 and education relates to the need for companies to train their 'KM professionals'. KM can be a career and a  
11 profession (Bolisani and Scarso, 2011), and this requires appropriate training, both at University and later in  
12 companies (Zhang et al, 2008). Reflecting on how KM programs can be delivered at Universities – but also  
13 in companies – becomes urgent (Cervone, 2016).  
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#### 15 1. KM in education? Education in KM?

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18 This Special Issue was organized to address the connection between KM and education by considering two  
19 significant perspectives, which were also used to classify the submitted papers. A first viewpoint  
20 characterizes the papers that mainly focus on the *way KM is taught and learnt*, as an educational or  
21 professional subject, in different environments: schools, Universities, or business organizations. In the  
22 Special Issue, we called this perspective "Education in KM". This essentially means that KM can be relevant  
23 as a special subject for specialized professionals, that have or will have KM functions in companies and  
24 organizations; but also for students, researchers, and non-specialized professionals, that can take  
25 advantage of general skills. This requires a reflection on possible contents of KM courses, education  
26 standards, and Institutions that deliver these courses in the various steps of a person's career.  
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30 A second viewpoint is that, considering that the management of knowledge is strictly connected with the  
31 learning processes of people, KM methods can *improve the effective transmission of knowledge between*  
32 *"teachers" and "learners"* of any kind of subject. In other words, an effective implementation of knowledge  
33 of KM processes, functions, methods and tools can represent an essential support of educational programs  
34 and, therefore, a basic background of teachers and learners. Also, KM practices can help organize and  
35 provide effective and efficient education services: in other words, educational Institutions (Universities,  
36 schools, business schools, etc.), being knowledge-based organizations by their essential nature, can exploit  
37 KM techniques for better management and provision of their services.  
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41 The Special Issue was organized around these main topics, with the purpose to provide a fresh view of the  
42 state-of-the-art of these long debated issues, but also to collect new viewpoints and to open a window on  
43 the unresolved/recent questions that still concern the function of KM in Education and the place of KM  
44 among other subjects of educational programs.  
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#### 47 2. The selected papers

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50 The majority of the papers included in this Special Issue were earlier submitted to a Special Track,  
51 organized by the International Association for Knowledge Management (IAKM), at the European  
52 Conference on Knowledge Management (Ulster University Belfast, 1-2 September 2016). This Special Track  
53 contained a Papers Award Competition, which ensured the best quality of the publication.  
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3 Paper selection involved multiple-step selection: first, after a blind peer-review, 13 papers were accepted  
4 for the Special Conference Track, of which 9 were finally presented at the Conference. Out of these, a  
5 special panel of reviewers decided the finalists for the two Awards (one award for the “best paper”, with 3  
6 finalists, and the other for the “most innovative paper”, with 2 finalists). These paper authors were invited  
7 to submit a revised version of their article to the Special Issue. The submissions were integrated with some  
8 additional papers, submitted by invitation. After a final round of double blind peer-review, 8 papers were  
9 finally accepted for publication in the Special Issue.  
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12 In this section, a summary of the individual papers are classified into two categories: those that mainly  
13 focus on KM as a subject (“Education in KM”) and those that focus on the use of KM practices in  
14 Educational Institutions (“KM in Education”).  
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### 16 2.1. Education in KM 17 18

19 Three selected papers focus on KM as a special subject in Education and professional training. The first  
20 article “Five Ws and One H in Knowledge Management Education”(by Meliha Handzic, John Edwards, Aino  
21 Kianto, Sandra Moffett, Alexeis Garcia-Perez and Ettore Bolisani) examines the state-of-the-art and outlines  
22 the possible prospects of KM as educational subject. The paper grounds on a literature review and also  
23 reports the results of a group discussion, led by the Authors during an authoritative international  
24 conference on KM and involving a number of researchers and practitioners all interested in the topic, about  
25 the “why”, “what”, “who”, “where”, and “when” of KM education. On the basis of the opinions expressed  
26 by this sample of researchers and KM educators, it was possible to highlight the “hot points” that still  
27 characterize this field, and finally to provide some ideas about “how” to strengthen KM as a subject of  
28 education in Universities and schools, and of professional training in the business context. The study  
29 recognizes that KM is a relatively new phenomenon and that there is no clear consensus about the role of  
30 KM in organizations, the competencies and skills that KM professionals need to have, and where and when  
31 they should obtain them. This also explains the lack of a “standard” approach to teach or learn KM and,  
32 therefore, of a standard model of KM courses or programs in Universities and schools. Challenges to KM  
33 researchers and educators are that KM is, somewhat, transversal and complementary compared to a  
34 person’s set of competences, but needs to be integrated into them; that it requires conceptual and abstract  
35 models, but also a clear connection with the practice; finally, that KM courses and curricula have to fit the  
36 specific needs of people in their distinct steps of career or job positions.  
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43 So, what is the current panorama of KM curricula and courses provided at Universities? Frank H. Cervone,  
44 in his paper “What Does the Evolution of Curriculum in Knowledge Management Programs Tell Us About  
45 the Future of the Field?”, draws a broad and updated picture based on a worldwide analysis of KM  
46 programs in US, EU, Australian and Asian Universities. Indeed, there has been very limited study of the  
47 curriculum within knowledge management programs, and in any case, most of the research dates from  
48 2010 or earlier. In the paper, the results of a comparative analysis of curricula in English that are focused on  
49 KM are illustrated. Currently, it emerges that KM as a distinct program of study appears to be stable but  
50 the number of programs is declining. Also, we see a greater variety in home locations, and coverage of the  
51 field is becoming increasingly diverse in its approach. In addition, KM programs are moving toward  
52 transformation or integration with allied fields. The paper is particularly precious because it provides a  
53 baseline understanding of what the overall requirements within these programs has been developed. This  
54 may provide benefits for the profession as this baseline can provide a clearer understanding of the skills  
55 and knowledge elements that are present, or absent, in current academic programs. In addition to better  
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3 informing the KM community of what graduates of these programs may know, this information can provide  
4 a basis for academic program improvement and, ultimately, better use of KM in professional practice.  
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7 So, what can the KM community do to contribute making KM a more established education subject? The  
8 paper "Lifewide, Lifelong Comprehensive Approach to Knowledge Management Education –Emerging  
9 Standards", by Denise Bedford, Marion Georgieff and Johel Brown-Grant, take a step in this direction, and  
10 reports about a project conducted by a special Committee of the KM Education Forum involving more than  
11 one hundred KM researchers and educators worldwide. The project, where the authors themselves had a  
12 role, aimed to provide a foundation upon which to design standards for KM programs in educational  
13 institutions. Indeed, the lack of standards is a significant challenge for the advancement of the field, for the  
14 sustainability of institutional programs, the future competencies of knowledge workers and the effective  
15 growth of knowledge organizations. By leveraging an intensive and inclusive review of the core literature  
16 and the analysis of relevant concepts with learning goals and objectives for different levels of learning, a  
17 framework is proposed that builds upon and adapts a methodology used to establish educational standards  
18 in computer science. The framework is presented as a focal point for discussion across the profession. The  
19 paper suggests that a lifelong learning model is definable for the field of KM, just as it has been for other  
20 disciplines. The progressive learning model may produce high school graduates who are better prepared for  
21 knowledge work, a larger population of knowledge practitioners and professionals prepared to support  
22 and lead knowledge organizations, and increased quantities and improved quality of knowledge  
23 management research. However, an unexpected finding was the lack of general knowledge of the breadth  
24 and depth of concepts in the discipline amongst knowledge practitioners and professionals. This still  
25 represents a challenge that will be hopefully faced by tomorrow's KM researchers and educators.  
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## 31 2.2. KM in Education

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33 The second group of papers adopts the second perspective outlined in section 2, and focuses on a different  
34 issue, i.e. how KM can help to understand, model, or organize teaching and learning processes and more  
35 generally to assist the organization of educational services. Despite this common trait, the papers treat  
36 specific topics and adopt different research methodologies.  
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39 Two papers focus on how KM concepts can be useful to understand effectiveness of teaching and learning.  
40 Constantin Bratianu and Elena-Madalina Vătămănescu, in their paper "Students' Perception on Developing  
41 Conceptual Generic Skills for Business. A Knowledge-based Approach", underline that the classical  
42 approach of teaching and learning, mostly based on knowledge transfer, is being increasingly questioned:  
43 knowledge life cycle is shortening and new type of jobs appear every day with new knowledge request.  
44 Therefore, there is the need to investigate how to switch the focus from purely learning knowledge to  
45 learning generic skills liable to help future professionals to think and learn by doing, i.e. to develop their  
46 own knowledge in peculiar and individual ways. The paper reports the results of an extensive survey of over  
47 500 students in undergraduate and graduate programs at two Romanian universities. The findings show  
48 that the "classical approach" of learning as knowledge transfer can be still preferred by undergraduate  
49 students (because this implies less responsibility in doing a harder conceptual work), but students of master  
50 programs are much opener to new perspectives of developing generic skills as the basis of development of  
51 their own knowledge that can be useful for their future professional needs. This is an important message  
52 for Universities that need to face the increasingly turbulent landscape of today's world, and this lesson goes  
53 well beyond the specific environment where the study was performed  
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3 Similarly, the paper “Making meaning out of noise: a knowledge management core competence for higher  
4 education students”(by Jorge Cegarra-Sánchez and Juan-GabrielCegarra-Navarro) focuses on the specific  
5 concept of “counter-knowledge” and how this notion can help to understand the dynamics of learning in  
6 specific environments. Counter-knowledge means constructing “false” meanings out of gossip, lies,  
7 exaggeration, partial truth etc., which can cause a reduction in rational thinking, a diffusion of irrational and  
8 false messages, and can also be the cause of frauds or misleading behaviours. By analysing the roots of this  
9 phenomenon in terms of KM concepts, the assumption of the authors is that, when controlled, counter-  
10 knowledge is a variable that can also have the effect of strengthening the relationship between learning  
11 and student achievement. The paper analyses the relationships between professional learning communities  
12 and counter-knowledge using an empirical study of 210 undergraduate students, with the purpose to clarify  
13 the impact on student achievement by professional learning communities.The findings support the  
14 hypothesis that professional learning communities provide a way of counteracting counter-knowledge and  
15 the noise heard through gossip, lies, exaggeration and partial truths. This is important because it highlights  
16 how KM can be useful to improve the capability of learners to develop their critical thinking capabilities.  
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22 Another paper “Transmitting Competencies at Universities: Employability Readiness of Students” (by  
23 Gulbakhyt Sultanova, Serik Svyatov and Nurzhan Ussenbayev) shows how KM concepts can be useful to  
24 measure the effectiveness of educational services. The study compares a traditional “Grade Point Average”  
25 methods of measuring the results obtained by students with a newly proposed method which is  
26 “Employability Readiness Indicator”, which aims to measure the efficacy of universities in transmitting  
27 transferable knowledge that can produce employable graduates – which is, indeed, a key goal of higher  
28 education institutions. Details of the method are illustrated, which can also help a reader to understand its  
29 applicability. Also, a test is performed by using data of 245 students at Narxoz University in Kazakhstan.  
30 Although there is still research to be done for confirming the data, this measurement approach is promising  
31 and can, in principle, be applied at any university and, also, may allow national and international  
32 comparison of educational efficiency, which is another important issue for educators and policy-makers.  
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37 The last two papers consider how KM practices can be of use for the organization of educational or training  
38 services. Enrico Scarso, in his paper “Corporate Universities as Knowledge Management Tools”, focuses on  
39 Corporate Universities, particular educational arrangements to provide specific training in companies. The  
40 study discusses how corporate universities are seen in the KM literature, analyses some key KM aspects in  
41 their implementation and management, and proposes a preliminary classification of corporate universities  
42 based on fundamental KM notions. On the basis of a multiple case-study investigation in medium-sized  
43 Italian companies, it is proven that KM concepts can be pertinent and useful to understand the organization  
44 and functioning of corporate universities. This is especially important because it can help the design and  
45 management of these structures, which are becoming popular in companies. However, the study also  
46 shows that there is the need to conduct further studies to better understand these particular educational  
47 arrangements under a KM viewpoint.  
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52 Finally, the paper “Using Enterprise Social Networks as a Knowledge Management Tool in Higher  
53 Education” (by Niall Corcoran and Aidan Duane) examines how a well-known notion in business, that of  
54 enterprise social network, can enable staff knowledge sharing in communities of practice in higher  
55 education institutions. Indeed, in this field, the management of organisational knowledge and the  
56 promotion of staff knowledge sharing is still neglected. The study reports an Action Research project,  
57 covering three cycles over a 12 month period between 2016 and 2017. The analysis provides insight into  
58 the antecedents necessary for the creation of an enterprise social network enabled knowledge sharing  
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3 environment, the motivators for and barriers to participation, and the perceived organisational and  
4 individual benefits of increased staff knowledge sharing activity. Many practical implications for the  
5 management of higher education institutions can be derived. In particular, while the importance of  
6 knowledge sharing is perceived to be important for facilitating dynamism and reactivity of higher education  
7 institutions, the organizational culture and structure can be major barriers to staff knowledge sharing: for  
8 example, an evident problem is the classic divide between faculty and other staff. The study proposes a  
9 model of adoption of social media platforms, that can be of great help in facilitating knowledge sharing  
10 across organizational or hierarchical divisions. However, the authors also underline the importance of  
11 leadership and management capability in a project of enterprise social network, especially when it is  
12 applied to a higher education institution. Needless to say, this is also a central and recurring theme in KM  
13 research.  
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### 17 3. Conclusion: what's next on the KM horizon?

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20 In our opinion, this Special Issue can attract the attention of the KM community not only because of the  
21 interesting contributions of the various papers, but also because it provides a preview of the future  
22 challenges in the relationship between KM and education and, therefore, of the possible directions of  
23 research and practice. Undoubtedly, it is confirmed that KM is an ingredient of educational activities,  
24 whether it is explicitly recognized or not. The processes of teaching and learning imply cognitive activities,  
25 and here KM research can provide food for thought and also useful methods and approaches to learners  
26 and instructors. Also, KM can help schools and universities, that are – by nature – knowledge-intensive  
27 institutions, to organize and manage their activities. As the Special Issue confirms, these points are well  
28 clear in the literature, but what is still missing is the development of established models of application of  
29 KM to the specific world of education. There is the need for coordinated efforts of theoretical research and  
30 practical experimentation.  
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35 The situation is even more complex when we consider KM as an educational subject matter. Even the  
36 papers of our Special Issue show that there is increasing awareness that it is important to define  
37 educational standards and established curricula in KM. However on the other hand, this process faces  
38 several difficulties, and is often promoted by the single university or school rather than being a shared  
39 initiative or development program. It may be said that this depends on the fact that KM is still far from  
40 being an independent and well-defined area of study.  
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44 Indeed, it is true the KM field still lacks a formal recognition among the other “established” disciplines and  
45 schools, but it must be recalled that in a few decades, the community of researchers and practitioners has  
46 made giant leaps in a few decades. Today, we witness a proliferation of conferences, books, journals, and  
47 practical projects in companies. The next step will be to reinforce the foundations of KM as a scientific  
48 discipline, which calls for a recognition of its usefulness in education. This is also one of the goals of our  
49 International Association for Knowledge Management, which greatly collaborated in the success of this  
50 Special Issue.  
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#### 44 45 46 47 **Biographical notes**

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50 Dr. Ettore Bolisani was EU 'Marie Curie' Research Fellow at the University of Manchester

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54 and researcher at the Universities of Trieste and Padua. He is currently Associate Professor at the  
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3 (with Meliha Handzic) of the IAKM Book Series on Knowledge Management and Organizational  
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9 Dr Sandra Moffett is a Senior Lecturer of Computer Science with the University of Ulster's Schoo of  
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12 leading authors in this field. She has received a number of research awards and citations for her work.  
13 External funding has enabled Dr Moffett to  
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16 undertake extensive quantitative/qualitative research to benchmark KM implementation. She is  
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20 Dr Alexeis García-Pérez is a Senior Lecturer at Coventry University, UK teaching and researching on  
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