

Modes of acquisition of health literacy skills in informal learning contexts

MODOS DE DESENVOLVIMENTO DE COMPETÊNCIAS DE LITERACIA EM SAÚDE EM CONTEXTOS INFORMAIS DE APRENDIZAGEM

MODOS DE DESARROLLO DE COMPETENCIAS DE LITERACIA EN SALUD EN CONTEXTOS INFORMALES DE APRENDIZAJE

António Geraldo Manso Calha¹

ABSTRACT

In this article we try to analyze the learning processes of health literacy skills in informal contexts. We intend to broaden the understanding of the learning process beyond the formal contexts, thus contributing to the elucidation of health professionals on how individuals acquire and manage their knowledge in health matters.

Given our goal, we use an analytic *corpus* constituted by one hundred autobiographical narratives written between 2006 and 2011, in educational contexts but with recognized potential for use in different scientific fields, including health.

The results reveal the existence of three different types of modes of learning health literacy skills in informal context: i) learning that takes place in action, in achieving daily tasks; ii) learning processes that result from problem solving; iii) learning that occurs in an unplanned manner, resulting from accidental circumstances and, in some cases, devoid of intentionality.

DESCRIPTORS

Autobiography as Topic
Learning
Knowledge
Nursing Education Research

RESUMO

Neste artigo procuramos analisar os modos e processo de aprendizagem de competências de literacia em saúde em contextos informais. Pretendemos ampliar a compreensão dos processos de aprendizagem para além dos contextos formais, contribuindo para a elucidação dos profissionais de saúde sobre a forma como os indivíduos adquirem e gerem o conhecimento em saúde.

Face ao nosso objetivo, recorremos um *corpus* analítico constituído por cem narrativas autobiográficas elaboradas, entre 2006 e 2011, em contextos educativos mas com reconhecido potencial para a utilização em diferentes campos científicos, incluindo a saúde.

Os resultados obtidos evidenciam a existência de três diferentes características dos modos de aprendizagem de competências de literacia em saúde em contextos informais: i) aprendizagens que decorrem na ação, na concretização de tarefas quotidianas; ii) aprendizagens que resultam de processos de resolução de problemas; iii) aprendizagens que ocorrem de forma não planeada, fruto do fortuito e, em alguns casos, desprovidas de intencionalidade.

DESCRIPTORES

Autobiografia como Assunto
Aprendizagem
Conhecimento
Pesquisa em Educação de Enfermagem

RESUMEN

En este artículo se analizan los modos y procesos de aprendizaje de competencias de literacia en salud en los contextos informales. Tenemos la intención de ampliar la comprensión del proceso de aprendizaje más allá de los contextos formales, contribuyendo a la elucidación de los profesionales de salud sobre cómo las personas adquieren y gestionan el conocimiento en salud.

Teniendo en cuenta nuestro objetivo, utilizamos un *corpus* de análisis que consiste en cien relatos autobiográficos producidos, entre 2006 y 2011, en contextos educativos, pero con reconocido potencial para uso en diferentes campos científicos, incluyendo la salud.

Los resultados demuestran la existencia de tres tipos diferentes de modos de aprendizaje de competencias de literacia de salud en contextos informales: i) el aprendizaje que tiene lugar en la acción en la consecución de las tareas diarias; ii) aprendizajes que derivan de procesos de resolución de problemas; iii) aprendizajes que se ocurren de modo no planificado, resultado del fortuito y, en algunos casos, carente de intencionalidad.

DESCRIPTORES

Autobiografía como Asunto
Aprendizaje
Conocimiento
Investigación en Educación de Enfermería

¹ Master's Degree in Sociology, Studies for Social, Humanities and Health Sciences, Interdisciplinary Coordination for Research and Innovation, Polytechnic Institute of Portalegre, Portugal.

INTRODUCTION

Improving health literacy skills is an important vehicle for population health promotion. In 1998, the Health Promotion Glossary⁽¹⁾, published by the World Health Organization, defines the concepts that guide the policies of public health. In that document health literacy is defined as a set of cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health.

Although the responsibility to promote health literacy is collective, healthcare professionals have a crucial role in that matter. In Nursing the relevance of this role is reflected in the integration of health education as a fundamental dimension of its intervention. Researchers in health education have given special attention to contexts and formal learning process and how they contribute to disease prevention and health promotion. However, the learning process is not confined to formal dimension, it extends to non-formal (learning that is not provided by an education or training institution and typically does not lead to certification, though it is structured and intentional) and informal contexts (learning resulting from daily life activities related to work, family or leisure.).

In this article we try to analyze the learning processes of health literacy skills in informal contexts. We intend to broaden the understanding of the learning process beyond the formal contexts, thus contributing to the elucidation of health professionals on how individuals acquire and manage their knowledge in health matters.

METHOD

Given our goal, we have analyzed one hundred autobiographical narratives written between 2006 and 2011, by candidates to the educational processes of Recognition, Validation and Certification of Competences (RVCC) in Portalegre district (Portugal). The analytic *corpus* is, thus, constituted by documents drawn up in educational contexts but with recognized potential for use in different scientific fields, including health.

Given its centrality in this research, we briefly elucidate the context of production of these autobiographical narratives. The RVCC process, within which the narratives were written, is an adult educational program, that grants a school equivalency diploma depending on the skills gained throughout life experience in formal and informal contexts. The process takes place in three successive stages: recognition, validation and certification. The phase of skills recognition aims to provide candidates occasions for reflection and evaluation of

their experience of life, leading them to the recognition of their skills and promoting the construction of significant personal and professional projects⁽²⁾. This phase is held in sessions of skills balance that can take place individually or in group. Along the recognition of skills, the candidate builds a Reflective Learning Portfolio (RLP), oriented by a Key-Competences Referential, which should allow the demonstration of competencies acquired throughout life experience in formal, informal and non-formal contexts.

The validation phase of competence consists of one session, in which the candidate and the pedagogical team analyze and evaluate the RPL, comparing it with the Key Competences Referential. This session aims to identify the skills to validate and develop, through further RVCC process or through additional training. In this way, the validation process requires the assessment of individual learning in the light of the Key-Competences Referential, being the teachers' responsibility that assessment in the areas of competence that they are in charge of.

The final phase of the RVCC process corresponds to the certification, and occurs when all the conditions are satisfied to obtain an educational qualification. The certification of competences is an institutional and formal confirmation of competencies validated through the RVCC process, performed before a jury of Certification.

The construction of the RLP is based on the autobiographical methodology in order to promote a reflexive work of the candidates on themselves, allowing the recognition of the value of their life experiences. In our perspective, autobiographical narratives produced under the RVCC processes carry with them a strong analytical potential for the characterization of the processes of learning and skills development, inclusively in health literacy. The autobiographical material provides access to the reflectivity of individuals, because the narrative, as a writing practice, constitutes one exception to the pre-reflexive adjustments associated to the immediacy of situations.

The analysis allowed us to note that, that the autobiographical narrative included in the analytical *corpus*, assumes many different forms and styles, differing in vocabulary type, phrase construction and clarity. However, they all reflect an ability to objectify and rationalize the experiences of life, directing them through a chronological and causal order, ranking its various parts.

The autobiographical material used in this research was collected from four educational institutions promoters of the process of Recognition, Validation and Certification of Competences. The sample has the configuration showed on table 1.

Table 1 - Characteristics of the sample

	N.
Gender	
Male	45
Female	55
Year of birth	
Before de 1958	20
Between 1958 e 1969	43
After 1969	37
School qualifications	
1. st cycle (4 years of formal education)	31
2. nd cycle (6 years of formal education)	60
3. rd cycle (9 years of formal education)	9

The autobiographical material collected was compiled and worked to be subjected to the procedures of content analysis following the qualitative analysis procedures, in order to interpret and reconstruct the meaning of the narrative, producing categories and propositions (explanatory hypotheses) indispensable to the understanding of phenomena through an inductive process⁽³⁾. Underlies to the analytical work the idea that the narrative content indicates latent cultural contents which are mediated by social and symbolic structures that contextualize their production⁽⁴⁾. Ultimately, our analysis was conducted with the intention of inferring knowledge on the conditions of production⁽⁵⁾.

In pragmatic terms, we began by numbering each autobiography and removing the elements that allowed the identification of its author, so that the anonymity was preserved. Then they were classified based on descriptive variables: fictitious name of the candidate; age; occupation and level of certification.

Subsequently, we conducted a first reading of all the autobiographical material. Although this was an exploratory reading of fluctuating nature⁽⁵⁾, we had both the concern of structuring the reading from the dimensions of analysis previously defined, namely: i) processes of learning in informal contexts; ii) personal experiences of health and illness. They constituted, in fact, major thematic categories that facilitated the initial division of the components of the autobiographies and its initial organization. Concurrently, we performed the stabilization of a grid of analysis that resulted not only from the central theoretical core, from which the research questions are derived, but also from categories and concepts that emerged from the first reading of the collected material.

After the initial work of definition of categories and stabilization of the grid of analysis, we proceeded to the identification of comparable and categorizable record units. The identified registration units were, mainly, from semantic nature (based on a theme choice) and linguistic (highlighting, at this level, keywords)⁽⁶⁾. All the analytical *corpus* was classified, as far as possible, based on the criteria generally used in content analysis⁽⁵⁾, in particular,

exhaustivity (involving all the collected material), exclusivity (avoiding classifying the same element content in two different categories) and relevance (aiming to classify the sections depending on the objectives of the analysis).

The autobiographical material collected is extensive and marked, at first sight, by the uniqueness of each life story. Only after the work of exploration and attentive reading were the common traits of the modes of learning in informal contexts revealed. The emergence of these common points in different autobiographical narratives, which arise with recurrence in the analysis, are the indication of empirical saturation that provides a solid basis for generalization of the findings⁽⁷⁾.

RESULTS

The relevance of informal dimension in the RVCC process requires a deepen development of the narrative in order to portray the whole life of the candidate, identifying what he/she considers the most relevant aspects. The elements incorporated in the narrative tend to assume the characteristics of learning in informal contexts⁽⁸⁾: it occurs outside the formal educational structures; it does not have a defined content or a pre-established program; it does not presuppose the existence of prior knowledge to get the attention of the learner; the contents are not organized in a logical sense of learning, but according to his/her own logic connected to the action; the subject plays a decisive role on the learning process. Most of the episodes we find on the narrative account of events from everyday life or events that result in learning, or where it is inferred the detention of specific skills.

In the analyzed descriptions of episodes about learning of health literacy skills in informal contexts we find some features that allow us to group them according to their representativeness in different learning processes: i) learning that takes place in action, in achieving daily tasks; ii) learning processes that result from problem solving; iii) learning that occurs in an unplanned manner, resulting from accidental circumstances and, in some cases, devoid of intentionality. The three modes of learning are not mutually exclusive or exclusionary. It is, rather, an analytical tool to differentiate learning modes, giving its genesis, although many of the situations of learning in informal settings, reported in autobiographical narratives, enroll in more than one category.

The first characteristic of descriptions of learning processes in informal contexts relate primarily to social learning. These are accounts where learning is intertwined with the lives of individuals, based on their experiences. This learning has a fairly comprehensive nature, encompassing the fields of personal, social and cultural development in the context of everyday life. The assumption is that one can learn through participation in activities of social life. The pedagogical dimension of the activities is strongly

emphasized in these autobiographies. Other researchers have underlined the strong connection between action and learning in informal contexts⁽⁹⁾: individuals learn simply because they act; it is not possible to act without occurrence of experience and, as a result, learning. Activity is perceived both as producer and constructor: the subject not only produce transformations on the objects of the external world, it simultaneously transforms himself, enriching his repertoire of resources. In autobiographical narrative, learning in informal contexts is often related to the performance of social roles associated with the activities of individuals, specially the motherhood role:

"With my daughter I gained new skills, both emotional, social as well as other responsibilities. I learned to take care of her, changing diapers, breastfeeding, taking the fever, to recognize the "thrush", vaccines, colic, etc ..." (Simone, 49 years).

"Having a child changes your life. We must be attentive to their needs, understand what they need and take care of their health" (Francisca, 46 years)

"As a mother I learned a lot: to take care of a child and to treat her when she is sick" (Henriqueta, 45 years)

Although linked to social roles, the acquired skills result from learning processes where family members and friends play an important role as a source of information:

"As a mother I was very inexperienced and had many doubts, but I asked for help to my neighbour Paula and my sister, and they helped me as they could" (Gabriela, 38 years)

The concept of learning through action, frequently associated to organizational analysis^(10,11), emerges in these narratives implied in a broad conceptualization of knowledge. In fact, besides the theoretical knowledge we also find the valuation of procedural knowledge (which is directly connected to the action and its development and allows a contingent but effective knowledge of reality) and the valuation of the know-how (which is related to the expression of human acts)⁽¹²⁾. In the previous examples, by reflecting on their actions, women reconstruct their experience and organize it taking into account the context of production of the narrative. The description of learning is thus, in many of the reports, located in time and space in order to follow a time line to which the construction of autobiography must obey. The place and time that contextualize the action give meaning to learning and narrative itself. In the examples presented, being a "responsible parent" is the product of activity and context. This role includes skills related with the responsibility for the provision of health care associated to the duties of a mother. Performing normal tasks in specific social contexts provides individuals an expanded knowledge capable of being reused in new situations and other contexts.

The second feature that emerges from these descriptions of learning in informal contexts is the evocation of life situations in which the individual faces health problems.

ms. Carré and Charbonnier⁽¹³⁾ describe such situations as times of disorder and danger that carry with them an instructive potential. The following description illustrates learning that results from the situation of being confronted with a health problem:

"As life sometimes brings us surprises which are not always pleasant, I had a nasty surprise in terms of health, [...] after five years my health problem was detected, when I knew what I had I was really scared, but over time I learned to live with the problem, and now I try to live my life, the best I can. [...] Sometimes I say that I'm living an experience with this problem because you can take a lesson from anything even from health problems." (Fátima, 56 years).

The descriptions tend to value disease as something that carries pedagogical value, particularly in cases where the change has implications on lifestyle. This is what Schwartz calls the "pedagogy of dysfunction"⁽¹⁴⁾, according to which the incident is considered as an object of reflection and opportunity to progress, forming an axis of the training process. The case of Adelaide is particularly illustrative. This woman assigns the causes of anorexia nervosa to her past lifestyle, the overcoming of her health problem was a "lesson" on how to put her problems in perspective:

"[...] Obviously that with all the other jobs I had, plus family and the house, while trying to conciliate everything I went into exhaustion. This depletion, which accumulated with stress and lack of rest, originated anorexia nervosa. Anorexia nervosa is an eating disorder, characterized by low body weight and physical stress. The less we feed, the less we want to eat and the less we rest more stress we feel. We don't even realize that we have this disease, because I was 37 kilos without realizing it. I looked in the mirror and could see me normal, never so thin, which revealed psychological disorders, one of the symptoms of the disease, because who does not see the obvious is not well. I was hospitalized one month with a light diet until I recover a little, because recovery is not easy." (Adelaide, 30 years)

The learning outcomes that result from the illness experience extend for a long time. The experienced situation leads to a reflexive process where health problems result in learning and life experience. The constructive aspect of action may extend in time when subjected to a reflective analysis that reconfigures it in an effort to a better understanding⁽⁹⁾. As a matter of fact, this is an idea with a strong presence in the documents that shape the RVCC: reflective learning [...] results from a process of (re)assignment of meaning of the experience and prior knowledge. The reflection leads to an understanding on the learner's side, [...], a reinterpretation of the experience, in light of new perspectives that constantly form to learners⁽¹²⁾. The speech of candidates constrains the idea that experience is not only the result of an activity, but also of the ability to reflect on their situation.

A third characteristic of the modes of learning in informal contexts is the unplanned mode of how it occurs. In autobiographical narrative is often manifested the accidentally of learning at the expense of the planned situations of formal learning. The fortuity of life circumstances, sometimes dramatic, can constitute learning moments. In Cassilda's case, she felt the need to understand her father's illness, which triggered the search for information:

"One of the most dramatic moments that happened in my life was the recent death of my father, [...], after about a year when he was hospitalized in intensive care at the Hospital of [...], he died victim of a disease "Guillain-Barré syndrome", a disease unknown to me until my father's situation, I therefore researched on the internet and learned that the Guillain-Barré syndrome or acute polyradiculoneuropathy is a demyelinating disease [...] motivating the total loss of movement and muscle reaction as well as the rib cage which led to the death of my father, for lack of breath." (Cassilda, 35 years)

The fortuitous and random character of many of the episodes described is accompanied by the identification of educational outcomes, similar to other researches conclusions⁽¹⁵⁾: durable changes in behaviour that result from the acquisition of knowledge in action and the capitalization of individual experiences. The apprenticeships described, from a distanced glance, gain particular importance in the script of each narrative. Isabel, for example, refers to the preoccupation of monitoring possible symptoms of colorectal cancer. The explanation for this behavior is attributed to the experience lived during childhood while watching her mother's illness:

"When I was 14 my mother was diagnosed with cancer in her intestines, we were caught by surprise because my mother did not have any symptoms, and also because at that time there were no traces to detect the disease at an early stage. [...] My mother had to stay with a bag on the outside of the belly to do her needs, however she stood well about a year, but the disease returned powerful and there was nothing to do, the pain was increasingly, and at that time there were no medicines like today. Thankfully, today there are already very effective drugs against pain so that people do not suffer much" (Isabel, 40 years).

DISCUSSION

Learning in informal contexts is thus marked by a set of characteristics that distinguish it from the modes of formal learning with a structured, planned and intentional nature. Learning processes reported insinuate changes in ways of being and acting. Underlying the autobiographical narrative is the idea that learning has a linear and cumulative character. The wide range of skills and contexts perceived as potentially educational enables the multitude of learning episodes reported. The narratives link descriptions of learning episodes occurring in different spaces and times and associated to a process of transfor-

mation of the self. The presentation of the self in autobiographical narrative also incorporates the capitalization of experiences of daily life activities, presented as processes of knowledge acquisition in action. These are processes that approach the conception of self-education described in other researches⁽¹⁶⁾, which derives from contexts that stimulate individuals to identify problems, analyze situations, find solutions and manage resources.

In this way, the pedagogical potential of health literacy skills acquired in informal contexts is conditioned by two distinct constraints. On the one hand, the configuration of learning contexts may, by its informal nature, be subject to error, prejudice or oversimplification. These are real risks of informal learning processes that are exacerbated in situations where learners do not have a critical sense on the assimilation of information. Using the typology proposed by Mezirow^(17,18), we classify these cases of uncritical assimilation of health information that occur in informal educational settings as formative learning processes. This model of learning is typical of childhood but it extends throughout life⁽¹⁹⁾ and it is an important element of personal growth and development process. It's where the schemes of meaning and interpretation of the world that determine individual action are founded. In this sense, learning based on wrong conceptions about health and illness may be reflected in risk behaviors with serious implications on the health of individuals. On the other hand, through the testimonies identified in the autobiographies, we have also identified situations where informal learning contexts had great potential for development of literacy skills in health. These cases are based on processes of critical reflections similar to the transformative learning model described by Mezirow^(17,18). It was possible to perceive in the autobiographical narratives that life experiences often result in changes on the structures of meaning assignment and, consequently, in behaviour changes. The educational potential of learning in these contexts depends on the ability of the learners to interpret the meaning of their experience and, in doing so, adjust their action to promote health practices. They represent, therefore, individual changes in mental milestones, habits of thought and even meaning assignment tendencies that generate new learnings that turn to be more accurate and credible in the way how they guide individual action.

CONCLUSION

The results from the analysis of the analytical *corpus*, constituted by one hundred autobiographical narratives, reveal the existence of three different types of modes of learning health literacy skills in informal context. They are conceptually different processes, but not necessarily mutually exclusive, given that a particular episode of learning can be categorized in more than one of the identified characteristics.

Learning for health is, as we have seen, throughout the testimonies of these individuals, inseparable of learning that arises from the contexts of everyday life. They are

processes marked by the adoption of social roles and the randomness of lifespan. The resources and means that each individual has to develop skills to achieve the physical, mental and social well-being vary according to the social contexts of origin. The potentiality of learning processes in informal settings cannot be uncritically generalized given that not all contexts and life experiences are equivalent. Thus, the informal contexts of knowledge acquisition in health contain differences and social inequalities in the access to information and its quality. This repertoire of biographical knowledge that forms the basis of many of health literacy skills is, however, vulnerable to prejudice and wrong conceptions not scientifically validated.

The intervention of health professionals, particularly nurses, in their vocation of training individuals to determine their health project should take into account informal learning processes of literacy skills in health. Health education can benefit, during the planning phase, by taking into account these munitions of biographical knowledge that result from individual experiences, but it is up to the nurse the difficult role of interlocutor between, on the one hand, conservative and limited knowledge that characterizes, in many cases, common sense and learning in informal settings, and, on the other hand, scientific knowledge, sometimes extraordinary and impenetrable for individuals. If, during the planning of interventions, social roles, the moments of dysfunction and the randomness of life that results in learning, are taken into account, this will contribute to the promotion of health founded on equal opportunities in access to information and respect for the social contexts of origin of individuals.

It is based on this assumption that the autobiographical narrative constitutes an important tool in nursing. Through individual narratives, nurses have access not only to the sequence of events relevant to clinical life history of individuals, but also to their frames of reference. Education for health sustained on autobiographical narrative allows the reflection and evaluation of life experience, involving “accomplice” collaboration between the beneficiaries and the nurse. In this process, it is created a dynamic of trust and mutual support that favors the deconstruction of prejudices, skills development and individual valorization that enable individuals to make appropriate decision on their health project. It is on this process of life experience interpretation, shared between the beneficiary and the nurse, which opens, in our perspective, a new field of action for nursing that we term as “biographical coaching”. By doing so, the health professional has the responsibility of going over the learning that occurred in informal contexts, legitimizing and recognizing the knowledge and questioning and deconstructing erroneous conceptions. It is a way of fishing the individual experience, confronting it and combining it with expert knowledge and, in the process, it promotes modes of reflexivity adequate to good health promotion. This intervention frames health education in the most recent expressions of the paradigm of “lifelong learning”, especially those who advocate the use of continuous process of self-training of individuals in different spaces and times of their biography.

REFERENCES

1. Kickbusch I, Nutbeam D. Health promotion glossary. Geneva: World Health Organization; 1998.
2. Leitão J. Centros de reconhecimento, validação e certificação de competências: roteiro estruturante. Lisboa: ANEFA; 2002.
3. Guerra I. Pesquisa qualitativa e análise de conteúdo: sentidos e formas de uso. Lisboa: Principia; 2008.
4. Ruquoy D. Situação de entrevista e estratégia do entrevistador. In: Alborello, Luc et al. Práticas e Métodos de Investigação em Ciências Sociais. Lisboa: Gradiva; 1997. p. 84-116.
5. Bardin L. Análise de conteúdo, Lisboa, Edições 70; 2009.
6. Ghiglione, R, Matalon, B. O Inquérito. Lisboa: Celta Editora; 2001.
7. Bertaux D. Les Recits de Vie: Perspective Ethnosociologique. Paris: Nathan; 1997.
8. Pires A. Educação e Formação ao Longo da Vida: análise crítica dos sistemas e dispositivos de reconhecimento e validação de aprendizagens e de competências. Lisboa: Fundação Calouste Gulbenkian; 2005.
9. Pastre P, Mayen P, Vergnaud G. La didactique professionnell. Revue française de pédagogie. 2006; (154):145-198.
10. Brownand J., Duguid P. The social life of information. Boston: Harvard Business School Press; 2000.
11. Marsick V, Watkins K, Callahan M, Volpe M. Informal and Incidental Learning in the Workplace. In: Smith M., DeFrates-Densch N., editores. Handbook of research on adult learning and development. Londres: Routledge; 2008. p. 570-600.
12. Gomes M. Referencial de Competências-chave para a Educação e Formação de Adultos (nível Secundário). Lisboa: Direção Geral de Formação Vocacional; 2006.

-
13. Carré P, Charbonnier O. Les apprentissages professionnels informels. Paris: L'Harmattan; 2003.
 14. Schwartz B. Moderniser sans exclure. Paris: La Découverte; 1994.
 15. Canário R. Educação de Adultos: Um campo e uma problemática. Lisboa: Educa; 1999.
 16. Amiguiño A, Valente A, Correia H, Madeiro M. Formar-se no projecto e pelo projecto. In: Canário R. Formações e situações de trabalho. Porto: Porto Editora, 1997, p. 101-116.
 17. Mezirow J. Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning. São Francisco: Jossey-Bass; 1990.
 18. Mezirow J. Transformative dimensions of adult learning. São Francisco: Jossey-Bass; 1991.
 19. Hall M. Getting to Know the Feral Learner. In Visser J., Visser-Valfrey M, editores. Learners in a Changing Learning Landscape: Reflections from a Dialogue on New Roles and Expectations. Dordrecht: Springer; 2008, p. 109-134.