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Educational sciences and a media ecology perspective

Per-Olof Erixon, Editor

Theories in educational sciences pay little or no attention to the fact that technologies hold deep and crucial implications for what Bernstein (1996) calls “content” and “framing” in an educational discourse. This also applies to Bernstein. It is easy to ignore the fact that tools are always involved in teaching and learning and that today’s teaching is mainly based on old technologies like paper, books and pens. The radical technological shift we are experiencing highlights the major role technology really plays in both what we teach and learn and how we organise it. This must be taken into consideration when developing theories within educational sciences, i.e. a media ecological perspective must be developed.

Ecology is the science of living beings and their relationship with their environment, how one species relates to another; the environments and their structures and contents and meanings. It deals with interaction and dynamics. In line with this, media ecology highlights how different forms of communication media influence human perception, understanding, social roles, feelings and values and the structure of what we can see and say and therefore also what we can do. Media ecology is the study of media environments (Postman, 1970). In this context, it should be mentioned that there is an association, the Media Ecology Association (MEA), which, according to its homepage, is a not-for-profit organisation dedicated to promoting the study, research, criticism and application of media ecology in educational, industry, political, civic, social, cultural and artistic contexts, along with the open exchange of ideas, information and research among the Association’s members and the larger community (http://www.media-ecology.org/#/news/).

An interdependent relationship was developed between church, school and script culture, i.e. literacy already during the 19th century (Erixon, 2010; Johansson, 1977; Tyner, 1998). The relationship between old technology like script and schooling has remained strong, not only concerning teaching content but also written text as a norm for communication. Yet written culture has become increasingly challenged by the rapid development of new media. From having been the primary communicative medium, language has now been transformed into only one of a host of important communicative media (Kress & Van Leeuwen, 1996/2000). This implies a dramatic shift from the linguistic to the visual; from books and book pages to screens and windows. Today’s young people are therefore growing up in what has been termed a “screen
culture” (Livingstone, 2002) or within a changing “media ecology” (Mackey, 2002). The visually represented world is not the same as that represented by writing. It is a different world that creates different subjects and citizens. Kress & van Leeuwen (1996/2000) note that school subjects are undergoing a great transformation, and question whether everything that is communicable with the aid of scientific writing can also be communicated by visually constructed pages. Their question generates a number of issues for theories in educational sciences. What happens in educational discourse when pictures and electronic technology are introduced and the historically dominant textbook, for example, is abandoned in favour of pictorial representation?

Frame factor theory is a Swedish contribution to educational sciences and was originally based upon the canonical writings of Urban Dahllöf’s Ability grouping, content validity and curriculum process analysis (1971) and Ulf P. Lundgren’s Frame factors and the teaching process. A contribution to curriculum theory and theory on teaching (1972). Frame factors represent several mainly external factors outside the teacher’s control that limit or rather establish the conditions for teaching (Broady, 1999). In later research, Lindblad & Sahlström (1999) understand frame factor theory not only as a theory about external factors, but also more internal ones beyond the teacher’s control. While Lundgren (1972) was chiefly interested in macro models of the link between the organisational frames of teaching, the way it is carried out and the result, Lindblad & Sahlström focus on micro models in order to catch frames that apply to classroom interaction. They distinguish between external and internal frames. However, it is obvious that technology also should be regarded as both an internal and external frame factor to be added to the other.

In an American science education context, there has for some years been a theoretical discussion about teaching, learning content and technologies. The starting point is Lee Shulman’s concept of Pedagogical Content Knowledge (PCK) that constitutes a special amalgam of content and pedagogy (Schulman, 1986, 1987). In his theories Shulman identifies the distinctive bodies of knowledge for teaching and refers to the teacher’s interpretation and transformations of subject-matter knowledge for facilitating student learning. But Shulman also does not explicitly discuss how technology relates to content and pedagogy.

There is obviously a need to develop a new body of knowledge that constitutes an extension of pedagogical content knowledge (PCK) into the domain of teaching with old as well as new technology. Koehler (2007) claims that the dynamic, transactional relationship between content, pedagogy and technology lies at the heart of technological pedagogical content knowledge (TPCK). Good teaching with technology requires an understanding of the mutually reinforcing relationships between all three elements together. Angeli & Valanides (2009) suggest that TPCK itself is a body of knowledge that stands apart from its constituent components. From their perspective, teacher educators need to explicitly teach how the unique features or affordances of a tool can be used to transform a specific content domain for specific
learners. In this debate Harris et al. (2009) include an important understanding of the way in which technology and content influence and constrain one another, since content and technology are often considered separately. There are three ways in which technology and content relate to each other: 1) the advent of new technology has often fundamentally changed what we consider to be disciplinary content; 2) technology is not neutral with regard to its effects on cognition. Different technologies (or media) engender different mindsets or ways of thinking; and 3) technological changes offer us new metaphors and languages for thinking about human cognition and our places in the world and new perspectives for understanding phenomena.

A media ecological perspective assumes that, when a (new) medium emerges, the patterns of dependency between people and power structures will change. Meyrowitz (1985/1986) develops general principles concerning the relationship among media, situations and behaviour and explores the potential effects of a shift from “print situations” to “electronic situations” on a broad range of social roles. The mechanism through which electronic media affect social behaviour is a discernible rearrangement of the social stages, he claims, in which we play our roles and the resulting change in our sense of appropriate behaviour. Electronic media have thus rearranged many social forums so that most people now find themselves having contact with others in new ways.

Print is a medium that requires a very special encoding or decoding skill, Meyrowitz asserts, and is more likely to be exploited by an elite class. High status is demonstrated and maintained through control over this knowledge and skill. The diffusion of literacy and printed materials has divided people into different informational worlds based on different levels or reading skills and on training and interest in different literatures. The prerequisites for the educational discourse are thus affected when media ecology in school is changing and written text (script culture) is being replaced by electronic media and pictures. This is certainly leading to a breakdown of the specialised and segregated information system shaped by print (Meyrowitz, 1985/1986). Electronic media and new patterns of access to information through electronic media bypass traditional channels and “gatekeepers” (p. 163) and undermine the pyramids of status, represented by the teacher for example, that were once supported by print. In line with Bernstein (1996), the classification and framing of school subjects as well as the entire recontextualisation apparatus and the educational discourse itself seem to be challenged.

In summary, a media ecological perspective on education draws attention to the importance of media technology for teaching, and for schools as institutions. New electronic media are viewed not only as neutral tools for developing teaching and learning in general but also as a technology that offer other educational experiences such as content, framing, relations etc. School politicians have entertained hopes for new technology over a long period. Media technologies, possibly currently the most important agents of change, are predictive of dramatic changes that schools are
likely to experience following the full impact of new media on educational discourses. The challenge to written culture by new electronic media thus not only destabilises writing cultures in education but the entire foundations upon which education as an institution are built. Therefore, media must be seen as a major and important factor in educational sciences theories that needs to be developed.

**This issue**

Antti Räsänen examines religiousness among Finnish youngsters in “Teenage Religion – religiousness among Finnish 8th and 9th graders”. It is explored using the RJT, an instrument developed on the basis of religious judgment theory. The frame of reference processes teenage religiousness and Oser’s theory. The research data are based on a survey in which 617 adolescents from four different localities participated. In line with the theory of religious judgment, five sum variables are composed to describe religiousness. The results prove a low level of religiousness in adolescence, some gender differences and associations between age and religiousness. The effect of religious upbringing in the home was greater than the effect of school religious education.

In “How the Teacher’s Practical Theory Moves to Teaching Practice. A Literature Review and Conclusions”, Harri Pitkäniemi analyses the relationships between teachers’ static cognition (practical theory, script), dynamic cognition (agenda, interactive thinking) and teaching practice. The study poses the following question: How is a teacher’s practical theory – which is partly also founded on educational theory – realised in teaching practice? Earlier empirical studies on the subject largely have an analytical orientation, i.e., only a few aspects of this comprehensive phenomenon have been researched. Existing research carried out between 1980 and 2009 shows that the relationship between a teacher’s cognition and his/her teaching practice is not a simple one: the basis of all teacher cognition – practical theory – transforms interactively in classroom processes. The more complex the conflict between the curricular objective and pupils’ actions in a teaching situation, the more essential it is for the teacher to employ dynamic cognitions in order to realise his/her practical theory.

In “Rerouting: Discipline, Assessment and Performativity in Contemporary Swedish Educational Discourse”, Joakim Larsson, Annica Löfdahl and Hector Pérez Prieto identify two emerging themes as Sweden drew nearer to the 2006 national election: a concern for order and discipline in schools, and the ambition to raise educational levels of achievement. The objective of this article is to locate these two themes within a broader framework of understanding by: 1) discussing examples of how the reinforcement of disciplinary power in schools was introduced, justified and deployed by right-wing constellations during this time; and 2) to relate these policy changes to both a Foucauldian theory of power and to current discussions on performativity, assessment and governmentality. Considered as attempts to locate students, teachers and schools within networks of performativity, thereby strengthening the image of Sweden as a “performing knowledge nation”, they argue that these policy changes
have a much closer relationship with the art of “perception management” than with any genuine interest in education for human proficiency.

Birgit Andersson analyses in “Introducing assessment into Swedish leisure-time centres – pedagogues’ attitudes and practices” the findings of a survey exploring Swedish leisure-time pedagogues’ experiences of assessment in school and leisure-time centres. Her article aims to boost knowledge of how assessment, as a prominent example of changed education governance, is entering the work of leisure-time pedagogues and how they it is perceived by them. It is concluded that leisure-time pedagogues often assess the development of children’s social competencies, activities in their centre and the leisure-time pedagogues’ own contributions. Possible explanations of why these assessments are mainly based on informal observations without any documentation are discussed, as are the leisure-time pedagogues’ ambiguous attitudes to them.

In “The role of the home environment in phonological awareness and reading and writing ability in Tanzanian primary schoolchildren” Damaris Ngorosho and Ulla Lahtinen focus on the role of the home environment in children’s development of literacy skills. The study examines this relationship in a sample of 75 grade two children from rural eastern Tanzania. It also discusses the role of house building material and domestic facilities, in addition to parents’ education and occupation, in describing socio-economic status in developing countries in general, and in the current study. Most of the factors were significantly (ANOVA) related to phonological awareness and reading and writing. Hierarchical multiple regression analysis identified fathers’ education and mothers’ occupation as strong predictors. The home environment variables accounted for 25% of the variance in phonological awareness and 19% in reading and writing ability. Early screening and support of children in the risk zone of becoming poor readers are proposed. Activities like children’s book projects and school library facilities are suggested, aimed at supporting literacy-related activities in low capacity homes.

Finally, in “Questioning the parental right to educational authority – arguments for a pluralist public education system” Tomas Englund raises the issue of what the principle of a parental right to educational authority could mean for democracy in the long run? Taking three models of educational authority as its starting point, the article questions the current permissive attitude to a parental right in this area. It does so in the light of the shortcomings of such a right with regard to pluralism in education for each child and development towards a democracy with deliberative qualities, which is used here as a normative point of reference. The article develops three arguments for a common pluralist public education system for the public good and analyses different ways in which the parental right to educational authority has been legitimised as a basis for creating independent schools. It also highlights the neglect of the role of political socialisation in political philosophy, while pondering whether it is possible to create a deliberative democracy without future citizens growing into a deliberative culture, with schools serving as the crucial intermediate institution.
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