
The Rhetoric of ICT and the New Language of Learning: a critical analysis of the use of ICT in the curricular field

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ABSTRACT This article focuses on how we perceive new technology and technological development within educational settings, and seeks to establish a critical link between the rhetoric of information and communications technology (ICT) and what Biesta called 'the new language of learning'. Within this 'new language' the learner is a consumer, with needs that must be fulfilled by the teacher. This rhetoric implies that 'teaching' has been replaced by 'learning' and challenges the conventional curricula in many respects. The article applies Biesta's perspective to a concrete scrutiny of current trends in education and the introduction of ICT in education in particular. The analysis gives support to Biesta's main hypothesis, but it also indicates that the radical shift from teaching to learning is accompanied, and we might possibly say influenced, by the rhetoric connected to the use of ICT. In recent Norwegian curricular texts ICT takes a position as the rationalising tools by which teaching can be made efficient, individually designed and flexible. The intention is to critically examine the way in which teaching is more or less automatically replaced by learning, the influence the rhetoric of ICT has had, and how ICT and learning seem to be connected through merely rhetorical couplings.

Gert Biesta coined the term 'The new language of learning' in a seminal article in 2004. The article initiated our interest in finding out how his analysis of the 'new language of learning' can be applied to an analysis of changes in the general language of education in Norway. A particular interest was to trace the relations between the 'new language of learning' and information and communications technology (ICT). One aspect of our interest is how it has influenced the formation of the curricular texts regarding ordinary school subjects of the Norwegian National Curriculum issued in 1997 and its implementation. Since then, there have been a number of initiatives to speed up the process of making ICT a more widely used tool in schooling: a national Research-Development-Diffusion institution has been established, and national plans for the use of ICT in education, as well as in teacher education, have been published. We suggest there is a close connection between the introduction of new ICTs and the new language of learning. In the following, we will briefly outline Biesta's perspective and apply it to a more concrete scrutiny of current trends in Norwegian education and the introduction of ICT in education in particular.

We will do this in four steps. First, we will focus on the relation between the rhetoric accompanying ICT and 'the new language of learning' by using 'interactivity' as an example. Second, we wish to demonstrate how one particular contemporary tool for learning management, used by an overwhelming majority of Norwegian educational authorities, from primary to higher education, is conceptualised in the 'new language'. Third, we will describe how this change in language is measurable in bibliometric terms, and demonstrate the empirical effects of the change in wording, and fourth, we will show how recent educational policy documents are making the connection between ICT and the 'new language' a very intimate one. Our claim will be that ICT in education can be seen as a driving force of itself in the formation of the 'new language', and this brings new aspects to Biesta's perspectives. We will also comment on Biesta's suggestion that the new language is part of an overall change in society. Biesta mainly focuses on the effects of

postmodernism. We regard the current changes rather as results of an ongoing 'struggle' between postmodernism on the one hand and traditional modernist perspectives on the other.

The New Language of Learning

There has been a significant change in the way we speak about education and in education over the last two decades. In his first presentation at the Nordic Educational Research Association's conference in Copenhagen in 2003, later on printed in *Nordisk Pedagogik*, Gert Biesta (2004) summarises some of these rhetorical changes and terms them 'the new language of learning': 'teaching' has been changed to 'facilitation of learning', 'education' is being replaced by 'provision of learning opportunities (or experiments)'. There are numerous examples demonstrating that the notion of 'education' is taking on connotations of 'learning': adult education becomes adult learning, recurrent education becomes lifelong learning, etc. In Norway the national initiative to support and coordinate the higher education institutions' involvement in 'lifelong learning' was originally, in 1990, named the 'Norwegian Agency for Distance Education'. In 1999 the name of the institution was changed to the 'Norwegian Agency for Flexible Learning'. Then in January 2004 the Agency merged with the Norwegian University Network for Lifelong Learning and formed 'Norway Opening Universities' to address 'the field of lifelong and flexible ICT-supported learning in higher education'.^[1]

By presenting these examples we do not intend to question the usefulness of a change in perspective from teaching to learning per se. However, we want to draw attention to a radical shift regarding the key concepts of education that has hardly been commented or reflected upon so far. We wish to critically examine the way in which teaching is more or less automatically replaced by learning, and to some extent go into the processes and ideas underpinning these profound changes.

Biesta claims that the growing significance of the 'new language' is linked with underlying tendencies in the current society: (a) the theories of learning, (b) the effect of postmodernism, (c) the effects of individualism, and (d) the erosion of the welfare state. The current focus of learning theories is centred on the learner as an active constructor of his/her own learning. Postmodernism has diminished the belief in the single truths that could be found in written curricula, operated by teachers in monolithic fashion. Individualism is a result of high living standards and the potential of individuals to shape their own future: sculpturing their bodies, choosing careers, changing partners, and using information and learning as their tools. The eroding welfare state changes the relationship between governments and citizens into a relation between provider and consumer. All these trends are vital to understand why the 'old' language is being replaced by the new. What we have at hand, according to Biesta, is a situation where the process of education is redescribed in terms of an economic transaction, in which:

(i) the learner is the (potential) consumer, the one who has certain needs, in which (ii) the teacher, the educator, or the educational institution becomes the provider, that is, the one who is there to meet the needs of the learner, and where (iii) education itself becomes a commodity to be provided or delivered by the teacher or educational institution and to be consumed by the learner. This is the 'logic' which says that educational institutions and individual educators should be flexible, that they should respond to the needs of the learners, that they should give the learners value for money, and perhaps even that they should operate on the principle that the consumer is always right. (Biesta, 2004, p. 74)

Biesta illuminates these trends by quoting idioms and slogans for a particular United Kingdom Internet offering: *Learn Direct*. This product emphasises that learning is easy, without bother, and with a helpful staff who will assist you at any perceived obstacle. We believe that Biesta's example is not chosen randomly. In our case we will emphasise the role of ICT as an independent transforming factor, and we will challenge the assumption that this change of language can be reduced to postmodern discourse. We will argue that public policies in these matters still exist within a modernist rhetoric. We do acknowledge that Biesta's is not necessarily either a linear or a coherent set of explanations or an exhaustive description of causalities. We rather accept the creative and heuristic dynamics of his ideas. It is indeed difficult to measure the effects of, for instance, 'postmodernism'. And while 'individualism' might be an identifiable factor on a societal level, we can easily agree on the fact that the shift from constructivism to social constructivism in

'learning theory' contradicts 'individualism' on a practical and pedagogical level. In the following section we will apply this perspective to a broader historical account of the rhetoric of ICT.

The Rhetoric of ICT and the Case of 'Interactivity'

The rhetoric accompanying the new technological devices in education seems to have been very influential, and it has certainly confirmed new ways of thinking and talking about teaching and learning. An illustrative example might be how 'interactivity' was promoted as a key concept and phenomenon from the middle of the 1980s and throughout the 1990s. Developers, designers and marketers of educational programmes were using this concept constantly. Almost every programme, every technology and every approach was labelled 'interactive'. The term and the vague ideas surrounding it apparently bridged the gap between quite different ideological and political positions, between former opponents regarding the use of technology in education in general and also between diverging learning strategies as found in behaviourism and constructivism. Somehow it seemed like 'interactivity' possessed magic powers (Jensen 1998; Haugsbakk 2000).

'Interactivity' was obviously quite useful for marketing the new technology. The term had no commonly accepted meaning or definitions, but a whole range of positive connotations made it acceptable for most people. One of the prominent ideas was interactive technology establishing and supporting quite new ways of learning in contrast to the established ones. Interactive technology should open up student activity, user control and dialogue. The focus was put on learning rather than teaching. The concepts of 'teaching' and 'learning' were introduced as a dichotomy, to a large extent based on quite simple stereotypes of the two phenomena – teaching as something bad we had to get rid of and learning as something good that we have to promote.

'The point of these new instructional forms is to make the learner active, rather than allow them to be a passive recipient of knowledge', was one of Diana Laurillard's main conclusions regarding interactive media, strengthening the sharp contrast between teaching and learning (Laurillard, 1987, p. 12). Alfred Bork made this quite explicit: 'education has been dominated for the last two thousand years by modes of learning that are *not* interactive. ... My aim, using interactive technology, is to move to an interactive learning environment for *all* students, in all parts of the world' (Bork 1987, p. 30). These statements are clearly critical of the established educational system. The assumptions that most students were 'passive recipients of knowledge', while using technology turned them into active creators of knowledge, are distinct rhetorical ideas used to promote the introduction of ICT.

This example of 'interactivity' quite clearly supports the notion of a new language of learning that was developing from the 1980s. For many years, however, the rhetoric using 'interactivity' as a key concept was mainly based on the *promises* and *visions* of what new technology might bring to education. The interactive programs actually available during the 1980s and the beginning of the 1990s were dominated by drill and multiple-choice, human-machine interfaces characterised by quite simple structures and rather 'weak interaction'. The dominant rhetoric was influenced by a profound technology optimism, by the commercialisation of education and vague ideas of how to be successful members of the new information society. According to Koschmann, who aligns the development of computers and software with the development of learning theories, this phase of technological development was strongly associated with individualism, but also with a cult of efficiency (1996).

The Introduction of Learning Management Systems

During the last few years the universities and colleges in the Nordic countries have implemented different types of 'learning management system' (Paulsen, 2003). The arguments and presentations accompanying these kinds of systems seem to confirm the same tendencies as presented above. In Norway most of the colleges and universities have decided to make use of Classfrontier. Classfrontier is developed in Norway, but to a large extent is very similar to any of the other learning management systems which are in use around the world. As far as we can see, our reflections concern these kinds of systems in general, not only Classfrontier.[2]

The descriptions of Classfronter are concentrated on three main elements: (a) flexibility and freedom, (b) simplicity, and (c) being at the forefront of technological and educational developments. It is made perfectly clear that the system 'focuses on learning rather than teaching – meaning that Classfronter to a great extent facilitates learning on the students' own terms'. The system is described as 'flexible and highly effective', giving a maximum of freedom to the students: 'Thanks to Fronter, you can work on your tasks at any time and from anywhere'. But there is more to it. We get to know that Fronter is designed to match the 'dynamic future': 'As your needs change, you can add new Fronter tools to the rooms where you are working'. Fronter might satisfy most of your needs: 'There are more than 50 flexible Fronter tools to choose from!' And it is quite simple: 'it only takes a brief moment'. In this case the arguments of 'flexibility' and 'simplicity' are combined (Haugsbakk, 2004).

Simplicity as a key concept is elaborated even further: 'You will find it just as easy to navigate and work in Fronter's virtual building, as to move around in a physical building'. Classfronter is designed to make it easier for the teachers and administrators to monitor the students' activities. They are offered reports and statistical material on the students' progress. When they feel prepared, students can test their skills and knowledge and immediately receive the results. Classfronter makes it easy to design good tests. These can be automatically corrected, giving students valuable feedback immediately, but teachers can also add helpful comments to individual students. Classfronter offers comprehensive and detailed progress reports for individual students, classes, or the learning institution as a whole: 'Automatically!' This way teaching and learning are being made parts of technical matters. To a large degree the key questions concern how to pick the right tool.

Finally, Classfronter is presented as the result of an advanced educational development. The system is described as 'ideal for problem-oriented learning and group collaboration', and the ambition of being at the forefront of developments in technology, teaching and learning is made increasingly clear throughout the presentation of the system: 'In Fronter, development is always an ongoing process! Four times a year, we improve Classfronter, so that it always reflects the latest developments in technology and modern education'.

This rhetoric, originally introduced by the marketers and salesmen, is seldom questioned at all when ICT and learning are discussed. On the contrary, it seems like the concepts and arguments used by, for instance, Classfronter, are rooted within a commonly accepted way of describing and understanding the use of new technology within teaching and learning. This includes the most prominent politicians, the Government, the Ministry of Education, and most of the largest and influential educational institutions and projects.

The official presentations of the learning management systems are closely linked to the dominating new ideas of teaching and learning, fitting in nicely with the expected demands and needs of the future. However, the statements and promises remain mainly slogans, and the descriptions also contain obvious contradictory statements. There is a dramatic contrast between the learning processes promoted as being at the forefront of educational development, characterised by complex processes of problem orientation and group collaboration, and the attitudes regarding tests and evaluations within Classfronter, where learning is mainly concerned with rather simple processes of absorbing and reproducing knowledge in ways that may be easily and quickly detected with automated tests. These contrasts regarding learning strategies are not commented on at all. We suggest that what the producer of this learning management system is doing is simply using a rhetoric of advertising, most likely relying on common assumptions of what are the dominant trends and expected developments in the future. A partial conclusion is that this learning management system certainly uses the same rhetoric as the United Kingdom-based *Learn Direct* (as is Biesta's example), and – most likely – as most of its contenders (Virtual U, WebCT, Blackboard, etc.) do.

The arguments of flexibility and freedom connected to the learning management systems to some extent seem to support 'the effects of individualism' as outlined by Biesta. Any material effects of postmodernism are harder to detect, except on a merely rhetorical level. The arguments of simplicity and the benefits of technology might more easily be related to a traditional modernist and instrumental understanding of technological and societal development.

We clearly see that the factors identified by Biesta are difficult to make operational if one has the aim of verifying or falsifying any of his claims. If we, however, follow the track we suggest by

using ICT as the mediating factor, we might find stronger evidence of a connection. In short, we claim that we can identify a rather clear change of language when ICT is understood as a vehicle for this transformation.

A Bibliometric Analysis

Using the rhetoric of the market is a necessity when you are in a market. But how does this rhetoric relate to the academic world? And is this new language of learning possible to detect in other areas than in the market? To explore the empirical effects regarding the development of the language of learning, we conducted a bibliometric analysis. We searched different databases to try to detect some popularity curves for the terms 'teaching' and 'learning'. [3]

Our main efforts have been concentrated on BIBSYS and ERIC. The BIBSYS Library database contains information about books, periodicals, etc. held by the Norwegian University Libraries, the National Library, the college libraries, and a number of research libraries in Norway. The database contains about 8 million copies. ERIC, the Educational Resource Information Center, is a national information system supported by the US Department of Education, the National Library of Education, and the Office of Educational Research and Improvement. It provides access to information from journals included in the Current Index of Journals in Education and Resources in Education Index. ERIC provides references for additional information and citations and abstracts from over 1000 educational and education-related journals.

We searched for 'learning' and 'teaching' used in titles, and our findings rather clearly support the tendencies presented above. The total results of the search in BIBSYS were nearly 7400 hits for 'learning' and a little less than 5800 for 'teaching'. When the hits were organised by the years of publication in the period 1950-2003, some interesting figures appeared. 'Teaching' was the most popular term all the way up to almost the middle of the 1980s. We then registered a shift between 1983 and 1984. During the 1990s the differences are quite remarkable – our material contains on average more than double the amount of hits each year for 'learning' than for 'teaching'.

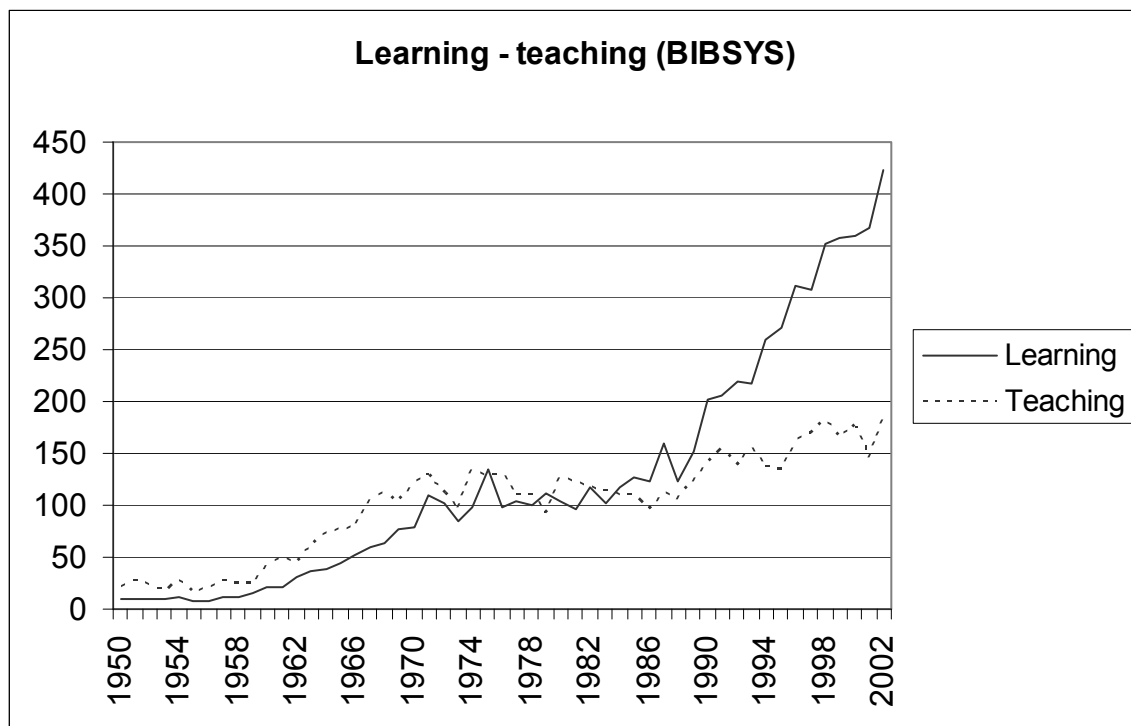


Figure 1. History of frequency of learning and teaching in BIBSYS.

We observed quite similar curves when we did the same kind of exercises based on the corresponding Norwegian terms, 'l ring' ('learning') and 'undervisning' ('teaching'). However,

there are at least two differences worth mentioning. The Norwegian 'undervisning' has a more dominant position through the 1970s and 1980s than the English term. And, secondly, the shift from 'undervisning' to 'læring' does not occur until the middle of the 1990s. Maybe this is an indication of a delayed development of the new language of learning in Norway? The search for 'learning' and 'teaching' in ERIC ended up with very similar figures to the search for the English terms in BIBSYS.

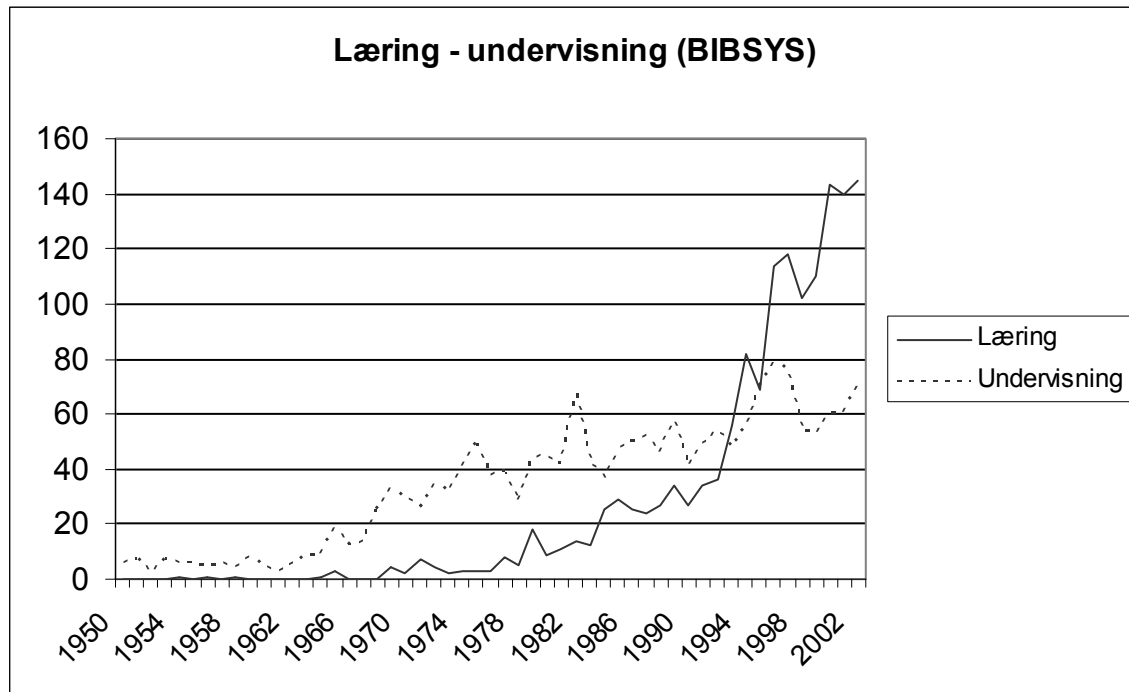


Figure 2. History of frequency of 'læring' and 'undervisning' in BIBSYS.

Trying to find some correlations between the two terms, 'learning' and 'teaching', and other key terms within the educational settings, we put some efforts into doing combined searches in ERIC. The combination of 'learning'/'teaching' with 'classroom' and then 'computer' turned out to be rather interesting. During the 10-year period 1970-79 we registered a similar number of hits for both 'learning' and 'teaching' combined with 'classroom' and 'computer' respectively. During the next decade there seems to be a rather small change regarding the case of the classroom, but the combination of 'learning' and 'computer' takes a fairly dominant position. We observed a similar tendency for the combination 'learning' and 'classroom' in the 1990s, but then the position of 'learning'/'computer' is even more strengthened. These observations give reason to believe that the new language of learning appears at a later stage when the classroom is addressed than is the case with the computer. A slightly more daring suggestion is that the new language of learning is partly introduced for the classroom setting through the use of the computer.

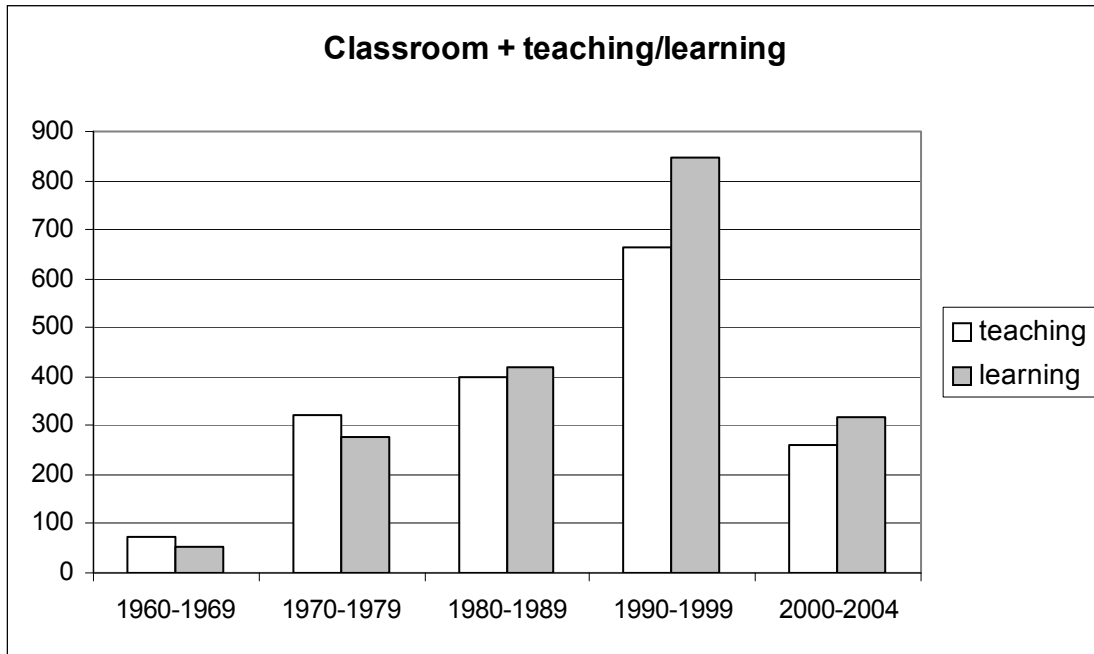


Figure 3. History of frequency of classroom and teaching/learning combined.

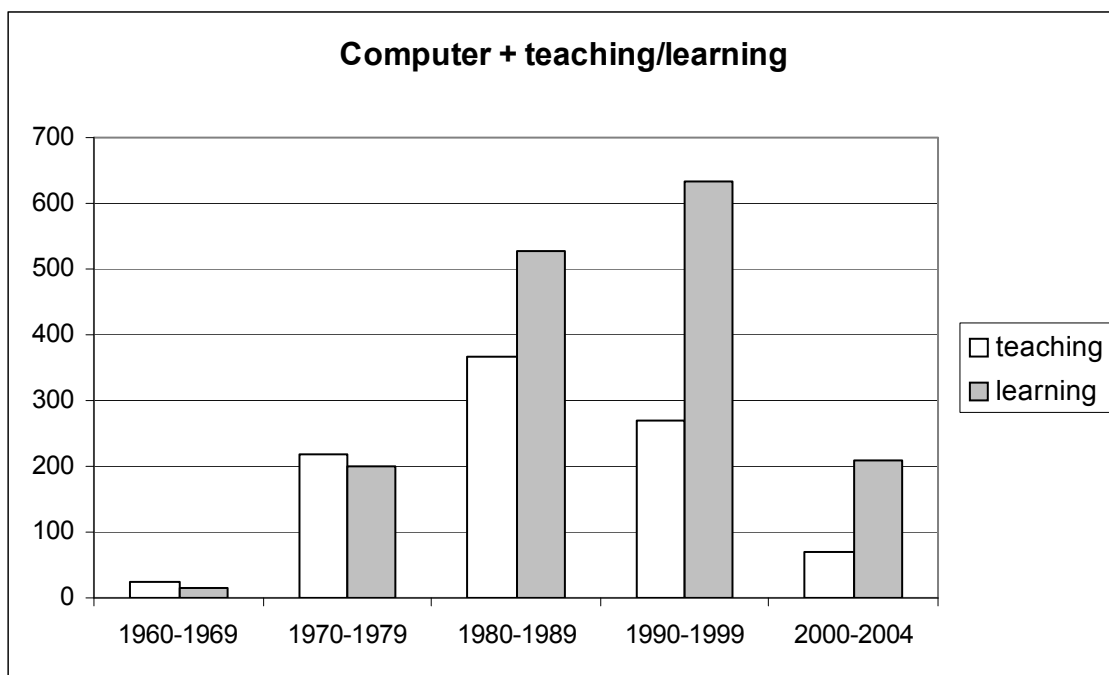


Figure 4. History of frequency of computer and teaching/learning combined.

As documented by the examples of ‘interactivity’ and the learning management systems, the introduction of new technology has rather heavily supported the ‘learning perspectives’. In this respect we might talk about a ‘technology push’ regarding the development of the language of learning. If the technological development has an independent influence on the formation of the new language of learning, it might also be detected in the actual curricular texts. In the next section we will analyse what sorts of conceptions of technology dominate in this transformation.

The Curricular Texts and ICT: arguments for using ICT in Norwegian schools

The intervals between curricular reforms on the national level in Norway are becoming increasingly shorter.

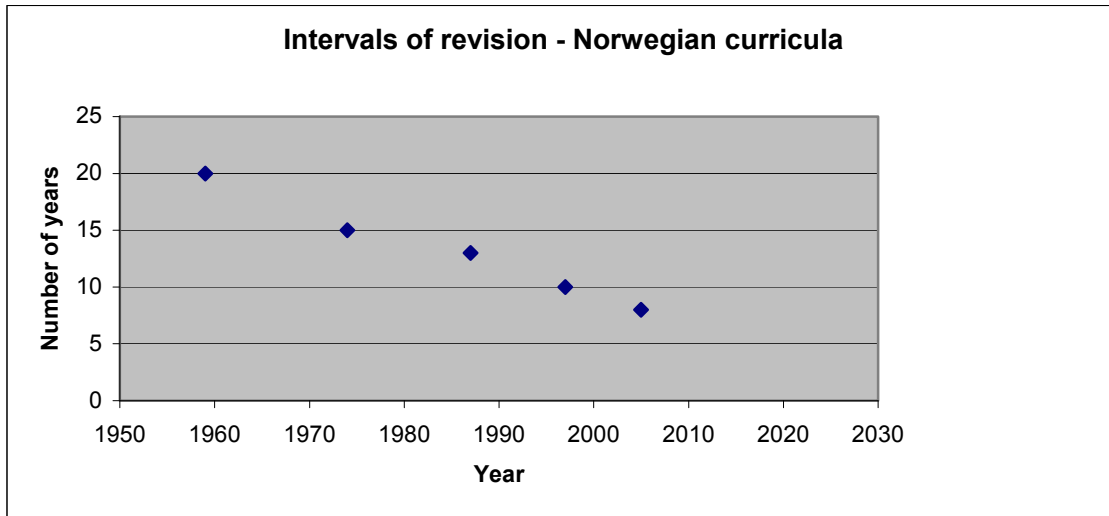


Figure 5. Intervals between curricular reforms in Norway after the Second World War.

Each reform introduces a new rhetoric. The fundamental argument for rapid shifts has been the changes in knowledge, skills and attitudes in contemporary society. Various governments have employed terms and notions suitable in current discourses to describe the future and past of whatever change they were discussing. Since the curriculum reform of 1939, rhetoric about the need for learners to become actively engaged in their own studying, using more 'student-active' forms of learning, has been prevalent. The curricular reforms of 1959, 1974, 1987 as well as 1997 have increasingly emphasised the need for a more 'active learner'. 'Teaching' has lost much of its aura during this process. Increasingly, teaching is associated with boredom and ineffectiveness, and the current reform pedagogy clearly downplays 'teaching' and underlines 'learning'. However, this change of focus from 'teaching' to 'learning' seems to be restricted to the ideological level, and it is not noticeable linguistically until the late 1980s in the curriculum reform of 1987. This is confirmed by searches for the current concepts. The number of hits for 'teaching' and 'learning' respectively in the curriculum reform of 1939 are in a ratio of 15:1. The corresponding ratios regarding the following curriculum reforms are: 1974 – 16:1, 1987 – 2:1 and 1997 – 1:5.

Since the beginning of the 1980s the Norwegian educational authorities have gradually included texts about using educational technologies in schools. Textbooks or audiovisual equipment have hardly been even mentioned, but after the personal computer, introducing ICT into schools has become a major trend. White Papers, as well as action plans, for the introduction of ICT in education have been issued regularly since 1983. For 10 years the Ministry of Education ran a separate development agency for ICT in education (1983-93). It is a general impression from reading the White Papers and Action Plans that ICT is an important part of what is considered 'visionary' and connected to the 'future'. The potential for ICT in teaching and learning is given a very uncritical description: 'to improve the learning situation of students, create a basis for new forms of teaching and ease the working conditions for teachers' (Stortingsmelding nr. 24 (1993-1994): 'Om informasjonsteknologi i utdanningen' [Parliamentary report no. 24 (1993-1994) 'About information technology in education]).

Concurrently with the aforementioned White Paper, the written curriculum, 'Læreplan 1997' ('L-97') was under development. Its general first part was issued in 1993, covering primary, secondary and adult education as a whole. The second part – with syllabi for each subject of primary and lower secondary school – was issued in 1997. Other analysts have described the general part as having overtly modernist features, with strong emphasis on science and technology,

echoing trends from the 'Enlightenment'. Positive assumptions about technology are dominant, mixed with minor notions of ambiguity and scepticism: students must become critical users of media and develop awareness of ethical challenges posed by technological development. In the curricular texts, however, there are surprisingly few concrete descriptions of how ICT could or should be employed. As general statements about the necessity of using ICT, there are numerous examples, and for several subjects there are concrete suggestions that ICT could be used. However, the level of concreteness is merely suggestive, without methodical advice. In English, for instance, second grade students are supposed to 'use the computer to play with creative writing', and in science students of 11-12 years are supposed to 'experiment with hobby-electronics and acquire knowledge about technology for steering and control'. Compared with other competing issues and perspectives, such as environmental education, equity matters, or internationalisation, the ICT dimension has reached a more concrete level. Furthermore, we do find the same tendency as outlined above concerning 'learning' and 'teaching'. 'Learning' has got a totally dominant position.

The use of ICT has been included in the curriculum text, but primarily in an 'instrumentalist' manner. The 'usefulness' and 'significance' of using ICT are the dominant arguments. ICT in education is most often described in a 'human capital' perspective. Instead of analytical perspectives on the 'information society' or similar notions, the key arguments are primarily written within a modernist, late-industrialist frame of reference. The 'Action-plan for implementation of ICT in education 1996-1999' issued by the Ministry in 1996 was meant to support the implementation with financial support to local initiatives nationwide by local education authorities. In the following two years more than 300 projects received support. In an evaluation reported in 1998, the general impression was that these projects were mainly based on instrumentalist approaches, where ICT was understood primarily as 'tools for learning' with its main focus on making students learn faster and more effectively (Erstad 1998).

Shortly after the introduction of the 'L-97', steps were taken to prepare for the formal evaluation of the curriculum reform. From 1999 a research-based evaluation scheme was established and a final report delivered in 2003, shortly before a new White Paper suggested a new reform, purportedly to take place in 2005. Strangely enough, the introduction of ICT was barely touched upon by the evaluation project. The White Paper, however, discussed the significance of introducing ICT in a separate chapter. What was a significant new element in the White Paper was the treatment of the term 'basic competency' related to the use of ICT. Inspired by numerous projects run by the European Union, as well as the Organisation for Economic Cooperation and Development, it suggested that the use of ICT should be introduced as the '4th cultural technique' in the coming reform. Learning faster and supporting 'deeper learning' is one of the crucial arguments in the recent government papers. The main argument for introducing ICT in schools can be found in the results of the British *Impact 2* research-group.[4] This report has become well known because it supposedly proves that students who use ICT in their schoolwork do achieve significantly better results in major subjects (ITU, 2003).

Basic Competency, Cultural Technique, Basic Skills or Digital 'Bildung'

The new language of learning is definitively traceable in the government papers about the introduction of ICT, but the set of arguments used oscillates between the industrial, or rather instrumentalist, perspective and more pragmatic arguments.

The Ministry played with several notions to cover the challenge from the 'new society', and contemplated using more – and less – presumptuous terms. While the notion employed by the Ministry essentially was the use of ICT as 'basic competency', the Ministry ordered an in-depth-analysis on the topic by their own 'think-tank' in these matters: the ITU-institute at the University of Oslo (Competency network for the use of ICT in teaching). ITU was established in 1997 to become the Ministry's Research Development and Diffusion Unit for ICT in education. This unit wrote a report in which they underlined the need for a more profound change in teaching and learning in general, and argued that the more prestigious – or demanding – term 'Digital Dannelse' – or 'Digital Bildung' would cover the more comprehensive dimensions of the digital age.

In short, the government papers were about to inject a more profound rhetoric related to the effects of the information age for schooling in general. This suggests that the instrumentalist

rhetoric of previous years was about to be replaced by a changed rhetoric about the qualifications, attitudes and perspectives needed in the digital age (Haugsbakk & Nordkvelle, 2004). In the end, the Government concluded by using the less presumptuous notions of 'digital skills', meaning that the industrial metaphors still reign. This step was in our opinion a clear message that a rational modernist understanding of technology was still dominant, and that, on a political level, competing notions leaning towards a more postmodern rhetoric were rejected.

What consequences these changes have for education are many and important to monitor. We think that the industrial/instrumental notion of technology still carries 'the technocratic dream' of education (Burbules & Callister Jr, 2000). One very concrete effect might be that the significance of the teacher is devalued in the longer run. As suggested by Elstad (2006), the use of ICT in classrooms might lead to teachers giving in, surrendering their vocation and subordinating their professionalism to the machines. In this sense 'the new language of learning' fulfils the belief that machines might replace the teacher, which is a very concrete deduction from the technocratic dream. Reducing the focus on teaching might be a sound development, but, as Elstad suggests, one must look carefully into what replaces 'teaching' – it is not necessarily 'learning'.

But on a more general level it implies that the changes Biesta points to, such as the erosion of the welfare state, individualism and what might be seen as materialised effects of postmodernism, are not sufficiently understood and brought into consideration when new curricula and school reforms are designed. There seems to exist a complementary understanding that implementing ICT takes care of these adjustments, e.g. that ICT is a neutral tool in it self. The riddle is how to interpret the changes in learning theories as a factor in this play. We will only briefly note that relying on the collective to such an extent that is suggested in social constructivism might point in the direction of restoration and 'Gemeinschaft', rather than towards individualism and postmodernism.

Concluding Remarks

The new 'language of learning' is a notion that carries a large number of possible interpretations. According to Biesta this 'new language' is linked with underlying tendencies in the current society: the theories of learning, the effect of postmodernism, the effects of individualism, and the erosion of the welfare state. We have discussed primarily two aspects: the claim that the introduction of ICT has been based on a rhetoric typical of marketing and advertising, most recently demonstrated by the introduction of a typical learning management system, and that the introduction of ICT has been the driving force for the rhetorical shift from teaching to learning. We have supported Biesta's main hypothesis, mainly because the content of the rhetoric emphasises the easiness, the smoothness, the individuality and flexibility on behalf of the learner. The student as a consumer of services provided by facilitators is an illusion reproduced by the learning management system vendor in question. We also think that the shift from 'teaching' to 'learning' has been a process strongly induced by the introduction of ICT. The rhetoric of this kind is clearly associated with what Biesta terms 'postmodernism'.

This does not exclude the possibility that reminiscences of what still can be seen as a 'modernist discourse' are still important. The emphasis in Norwegian policy documents regarding ICT in education – on skills, tools and efficiency as results of the introduction of ICT – points in this direction. The reservations the Norwegian Ministry has demonstrated regarding a more profound elaboration of what 'the information age' might have for teaching, learning and upbringing in this context suggest that a postmodern rhetoric is not politically viable.

However, we will not suggest that giving in to a postmodernist rhetoric would supersede the problems inherent in this discourse. Despite the changes we point at concerning the ideas underpinning the rhetoric of ICT and education, our findings as a whole confirm the assumption of a new language of learning developing from the 1980s. It will be difficult to single out one or more tendencies as the most important to explain the described changes. However, in this article we have wished to draw attention to a part of the picture that has hardly been focused on so far, namely, the consequences of the introduction of computers. As pointed out above, we might talk about a kind of 'technology push' regarding the language of learning.

Notes

- [1] <http://norgesuniversitetet.no/>
- [2] The presentation of Classfrontier that we are referring to is taken from the Internet, February 2004, and had been accessible on the web for several years (<http://fronter.info/>).
- [3] We could have made a richer analysis, tracing other terms like 'flexible', 'individualised curriculum' or 'lifelong learning' in similar veins. However, we have abstained from doing so in this context. Older curricular texts are not digitalised. Therefore we are currently in the process of scanning and digitising governmental policy papers, national curriculum texts, etc. to perform more elaborate tests on the changing rhetoric of the texts.
- [4] <http://www.becta.org.uk>

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