Cross-curricularity in a literacy perspective: Contrast, confrontation and metalinguistic awareness

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A B S T R A C T

In this article we explore similarities and differences between two school subjects, Norwegian and mathematics, taking a phenomenological perspective and a didactic meta-perspective (literacy perspective). Our argument is presented on three levels which together build on the perspective of meta-language. First we consider the level of discourse primarily concerning cultural relations and communities of meaning, for example subject-related communities. The next level is genre, concerning both *common cultural texts and practices and how meanings are framed in linguistic forms*. Finally, we consider arguments regarding the modes of thought which underpin subject-specific learning. Substantiated by data from own classroom research, we argue that cross-curricular work needs to understand both differences and similarities between subjects, and the relationships between them.

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1. Background

> Literacy is the ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society (Unesco, 2004, p. 13).

In Norway, education is a democratic right. Social background should no longer be a reason for lack of education. Yet, despite the democratization which has taken place, social inequalities are increasing within the Norwegian educational system as in many parts of the world: educated parents foster educated children (Bakken, 2004; Bordieu, 1995; Zevenbergen, 2001). There are many reasons for this situation; some are related to school, language and literacy, and these issues we discuss here. We suggest that cross-curricular perspectives may be important steps towards improving the impact of schooling for all pupils, but that teachers need to understand the literacy demands of cross-curricular work itself.

We take increasing social inequalities as a starting point. Our position is that the challenges these present can only be addressed by taking a literacy perspective which recognizes that school subjects draw on a range of discourses. As Olson (1994) points out, "Literacy is, of course, competence with a script; different scripts recruit different competencies" (p. 273).

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School subjects belong to different textual communities, and to master a school subject is to develop the ability to manipulate different texts:

> To be literate it is not enough to know the words; one must learn how to participate in the discourse of some textual community. And that implies knowing which texts are important, how they are to be read and interpreted, and how they are to be applied in talk and action (Olson, 1994).

Thus the use of cross-curricularity as a means of enabling more meaningful access to subjects such as mathematics which are seen as 'hard' or 'abstract' (see for example Ward-Penny, 2011) requires care. We take the stance that, for cross-curricular themes to be supportive of inclusion in education, teachers' awareness of differences and similarities among the subjects involved is crucial. The development of a metalinguistic awareness of discursive marks and distinctions can transform children's understanding. Bruner, whose work on 'modes of thought' we return to later in this paper, makes this his main point when he discusses social inequalities in school:

> If the limits imposed by the languages we use are expanded by increasing our 'linguistic awareness', then another function of pedagogy is to cultivate such awareness. [...] In sum then, 'thinking about thinking' has to be a principal ingredient of any empowering practice of education (Bruner, 1996a, p. 19).

In this paper we explore the differences but also the possible similarities between mathematics and Norwegian. From a learning perspective they belong to totally different discourses and modes of thinking. One is the study of the language and literature of one's home country, that is, of their first language for the majority of children (in this case we focus on Norwegian), the other is mathematics. Focusing on literacy and metalinguistic awareness as key concepts, we argue that teachers need to build a metalinguistic awareness of both similarities and differences between Norwegian and mathematics as crucial resources in both subjects.

Taking a literacy perspective, our argument will take place on three theoretical levels: first, we explore Norwegian and mathematics on the level of discourse, then we turn to the level of genre, and third we examine the implications of Bruner's (1986) concept of 'modes of thought' in terms of ways of thinking and reasoning in the two different subjects. First, we discuss and emphasize the impact of social inequalities for pupils' learning, and the role of their prior understanding about 'the meaning' of typical classroom activities, that is, of playing the school game (Olson, 2003).

2. Literacy and primary and secondary discourses

Pupils start school with different prior understandings about its activities and goals. They have different experiences with books, literature and calculation, and different affinities in relation to letters and numbers. These prior understandings, which encompass experiences, language, habits, affinities and feelings, constitute what Gee (2003) calls their "primary Discourse[2]".

> Primary Discourses constitute our first social identity, and something of a base within which we acquire or resist later Discourses. They form our initial taken-for-granted understandings of who we are and who people "like us" are, as well as what sorts of things we ("people like us") do, value, and believe when we are not in public (Gee, 2003, p. 137).

This quote emphasizes an aspect which, especially in Norway and the Nordic countries, is not very well communicated in curricula and pedagogical writings, and that is 'value'. The primary Discourse is a 'value Discourse' and is part of different networks of meanings. It may, or may not, support school activities. Some pupils feel comfortable at school because of a match with their primary Discourse, while for others school may be more or less foreign. This is a challenge in a learning context. Ideally, school is more or less about constant meetings with new and different thinking and texts, what Gee calls "secondary Discourses". Ideally, the purpose of schooling is to encourage openness to unfamiliar and new secondary Discourses.

Gee (2003) emphasizes the difference between *acquisition* and *learning*. What many pupils have already acquired when starting school, others have to learn actively. Teaching which is mainly based on assumed acquisition, rather than metalinguistic awareness, may reinforce the differences that already exist:

> Teaching that leads to learning uses explanation and analyses that break down material into its analytic bits and juxtaposes diverse Discourses and their practices to each other. Such teaching develops meta-knowledge. While many 'liberal' approaches to education look down on this mode of teaching, I do not; I have already said that I believe that meta-knowledge can be a form of power and liberation (Gee, 2003, p. 145).

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[2] The term 'Discourse' (with a big 'D') is for Gee meant to cover important aspects of what others have called 'discourses'. Discourse, for Gee, crucially involves:

"- ways of performing and recognizing characteristic identities and activities;

- ways of coordinating and getting coordinated by other people, things, tools, technologies, symbol systems, places and times;

- characteristic ways of acting-interacting-feeling-emoting-valuing-gesturing-posturing-dressing-thinking-believing-knowing-speaking-listening (and in some Discourses, reading–and writing, as well)" (Gee, 1999, p. 38).