The Wheel of Writing

A Model of the Writing Domain for the Teaching and Assessing of Writing as a Key Competency

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Abstract

The model presented in this article aspires to represent a theoretically valid and coherent definition and description of writing, as a basis for teaching and assessing writing as a key competency in school. It represents a critique as well as an extension of previous alternatives in that it views writing as a culturally and individually intentional act of semiotic mediation. Its perspective is sociocultural and functional; focussing on the relation between writing acts and their purposes, and its dynamic construction captures flexible relations between these. The communicative aspects encapsulate semiotic tools which written mediation affords. A discussion of curricular and didactic potentials finishes the article, illustrating how the model may form a basis for a varied teaching of writing, as well as being a tool for learning and assessment within and across school subjects.
Keywords: literacy theory, writing constructs, theories of writing, discourses of writing, teaching writing, assessing writing, writing as key competency
The Wheel of Writing: A theoretical Construct of Writing

The model of writing presented in this article is intended to define writing as a key competency in comprehensive school. Its focus is socio-cultural and functional, where a semiotic understanding plays a crucial role. Our approach to developing the model is an interdisciplinary one, where various perspectives merge - semiotics, applied linguistics, textual studies, literacy research, didactics, writing research and pedagogy - represented by the members of a research group. A thorough review of the literature on writing and literacy was part of the methodology for the development of the model (Berge, 2006; Evensen, 2010); however, a full synthesis of relevant research falls beyond the scope of this article.

The Wheel of Writing is developed as a tool for conceptualising the complexity of writing in different cultural and situational contexts that constitute the arenas for writing in a society, including writing in different school subjects (Berge, 2009; Evensen, 2010). Therefore, the model is also developed as a tool for the teaching and assessment of writing: How can writing be conceptualised in a way that yields high construct validity? Which domains of writing should be included in a model that proves useful as a means for formulating assignments for students in schools, as well as for assessing students’ written texts? The model may also be used to control the content validity of writing assessments: When assessing students’ writing, do teachers assess a representative sample of aspects of writing, and do they agree in their assessments? To clarify and define the conception of a phenomenon to be assessed and taught is an essential requirement for achieving high construct validity, and the specification of aspects is necessary for achieving high content validity.

Basic assumptions of the writing model

In addressing construct validity, we argue for an ecological approach, which implies that an educational writing construct should be defined in relation to challenges of writing both inside and outside schools, that is, in terms of the use of writing in higher and further education, work-place oriented writing, writing in activities involved in democratic activities, and in established text cultures such as science and public opinion.

A fundamental challenge is to account for the constitutive characteristics of writing as viewed within a general phenomenological model embedding mental, socio-cultural and historical
dimensions, i.e. the accumulated human experiences of the use of writing (cf. Goody, 1986): What is writing? What kind of mental and cultural activities does writing afford? Does writing as such have mode-specific qualities that enable communication that an oral mode does not? Which functions does writing normally serve, and for what purposes was writing developed? In short, which aspects constitute writing as a semiotic tool (Mertz & Parmentier, 1985; Prior, 2006) for meaning making?

Such questions have been extensively discussed in literacy research across a range of disciplines (Scribner & Cole, 1981; Goody, 1986, 1987; Barton, 1994; Gorman, Purves and Degenhart, 1988; Olson & Cole, 2006). An initial and important example may illustrate a general tendency in literacy research toward viewing writing as more subtly contextualised in social life and cultural practices than has previously often been the case. Until the IEA study of writing was designed and carried out in the 1980s (Vähäpässi, 1988), the dominant view had its focus on formal skills and/or individual cognitive or creative aspects of writing (Ivanic, 2004). In USA in particular, measurement theory had strongly influenced writing constructs, with the consequence that formal features were considered more relevant than functional, communicative aspects of writing (Beck & Jefferey, 2007; Behizadeh & Engelhard jr, 2011). In the IEA-study, on the other hand, interactional as well as socio-cultural aspects were considered and discussed, but still not to the same extent specified. The IEA model of writing was based on a matrix constructed by crossing Roman Jakobson’s communicative functions with different levels of cognitive processing, drawn from various theories of cognitive processes involved in writing. What was crucial in the IEA-model, was that the combination of a dominant ‘intention/purpose’ on the one hand and ‘cognitive processing’ on the other, is realised as different ‘discourses’. As an example, when writing ‘to learn’ the cognitive processing ‘reproduce facts or ideas’ are realised as ‘the discourses’ ‘copying, taking dictation’. In this way particular ‘discourses’ written by individuals are supposed to function as a relevant indicator of a specific cognitive domain. As a result, the assessment focus in the IEA-model of writing was changed from a focus on the text and its semiotic realisation to the specific mental state on the one hand, and text domains that were supposed to represent this mental state, on the other.

Thus, a fundamental phenomenological understanding of writing as a social act related to one or more purposes, constituting the potential functions of writing, was not fully developed in the IEA-project. Consequently, the intersubjectively accessible intentionalities of writing were
not discussed in depth. By developing the Wheel of Writing we wanted to focus on texts representing different acts and purposes. We considered it problematic, however, to understand an utterance and text as representative of a specific mental state. Moreover, for the teaching and assessment of writing the focus should be on the qualities of the text, and not on the mental state that the text was assumed to be a reflection or index of.

Our theoretical choice implied that we needed to draw on the findings and insight of the influential studies in literacy during the 70-ies and 80-ies. These findings emphasized that literacy (and the impact of literacy on mind and mentalities, as well as sociocultural action and development) had to be understood from a socio-cultural point of view. Scribner and Cole’s (1981) seminal ethnographic study of writing in Liberia showed that a decontextualized cognitive approach to the study of writing could not explain the different writing systems used in the Vai society and their impact on behavioural patterns and interactional conventions. A far-reaching consequence of Scribner and Cole’s Vai study was a change in orientation and focus. Rather than studying the possible cognitive impact of writing isolated from its use, literacy researchers became interested in writing as a semiotic tool mediating specific mental states and interactional patterns (Billett, 1998; Hung, 1999; Wertsch, 1997; Ivanic, 2004). In other words, literacy researchers became interested in the social and individual functions of writing in specific cultural and situational contexts (Street, 1984; Barton & Hamilton, 1998), and how the different ways of writing, used as a semiotic tool, had an impact on – and structured – the way people use writing to develop complex thinking and acting (Bazerman, 2009; Prior & Hengst, 2010). An influential example of the socio-cultural approach is Bazerman’s 1988-study of academic writing, Bazerman documented how the historical formation of one scientific genre (the experimental article) was coloured by specific individuals as well as by conflicting needs within a small community of philosophers and natural scientists. This awareness of the importance of local discourse communities was strengthened by a new approach to genre analysis (Miller, 1984; Berge, 1988; Swales, 1990).

A functional approach to writing was further developed and refined in an ethnographic as well as ethno-methodological manner by the English literacy researcher David Barton and the Lancaster school of literacy (Barton, 1994). In different research projects his group of researchers described in detail – and from a participant’s point of view – how a large number of ordinary citizens may take part in a wide range of written practices that are important to
everyday life in a local community. The Lancaster schools’ approach has been followed up by important studies on the everyday practical use of writing in different professions, carried out by the Swedish literacy researcher Anna-Malin Karlsson (Karlsson, 2006).

A functional perspective (focusing on writing acts and purposes) entails an interest in how human beings are empowered as active and competent writers. An example of literacy-oriented research in educational writing studies is Nystrand (1986) who showed how a socially oriented view of writing processes was challenging an earlier cognitive view. A few years later, Nystrand and his associates (Nystrand, et al., 1993) documented how a social view had not only become dominant in the meantime, but had already given rise to separate traditions (one giving priority to dyadic communication processes; the other giving priority to group practices). During the 1990s these research traditions gradually came to be subsumed under a broad dialogical understanding (cf. Bakhtin, 1986), where dyadic written communication is simultaneously interpreted in relation to situation-transcending historical and cultural dimensions of writing (Evensen, 2002, 2013). A dialogic approach to educational writing and literacy has been strengthened by an increasingly influential socio-cognitive and socio-historical approach to learning inspired by among others the Soviet psychologist Lev Vygotsky.

It should also be mentioned that the results and empirical insights obtained by the IEA-study of writing led to a new consensus (Purves, 1992) that writing should be defined as a culturally construed phenomenon. A low reliability of the benchmarked texts assessed in the IEA project led to the conclusion that written texts had to be understood from the viewpoint of what was labelled by the IEA researchers as a ’rhetorical community’ (Purves, 1992). Still, the notion of ’rhetorical community’ was never defined nor operationalized as a model for teaching and assessing writing. In the Norwegian writing model, a rhetorical community is defined as a specific ’text culture’ constituted by text norms defining what kinds of writing are considered relevant (Berge, 2002 a, b; 2008; 2011) Consequently, the assessment of written text should be based on explicit textual norms defined by experienced members of specific text cultures (Berge, 2007). For instance, the assessment of texts written in subjects such as chemistry should be based on textual norms suggested by chemistry teachers, and not on norms of mother tongue teachers.
To sum up: Our strategy is to view educational writing in relation to the writing practices in different school contexts where writing is used as a tool for learning, reflection, knowledge development and interaction. In the next section we shall present a more elaborate version of how we, on this basis, came to define the phenomenon of writing.

*Writing as a culturally and individually purposeful act of semiotic mediation*

In our approach, writing is an issue of meaning and context, cf. the *principle of intentionality* of writing (Berge, 2008). An instance of writing that is understood as intentional is given the status of an *utterance*. An utterance is construed as a meaningful act for some more or less explicit purpose in more or less specific contexts. Also, an utterance is always oriented towards a possible addressee, the *principle of addressivity* (cf. Bakthin 1986). This addressed utterance, furthermore, has to be *semiotically mediated* (Vygotsky, 1978; Wertsch, 1991; Mertz & Parmentier, 1985). When we act through uttering something through language and other semiotic means, the basic function is to make it possible for an addressee to be able to interpret the utterance. Consequently, any written utterance may be understood as an interpersonal invitation to interaction and participation (Luckmann, 1992).

Still, the interactional aspects of writing may be contingent. Written utterances may be auto-poetic (Luhmann, 1986; Berge, 1995) as well as interpersonal, as illustrated in this example of writing from a five year old child (Berge, 2011).

In this case, writing is auto-poetic play, uttered by the child for the purpose of thematising for himself the mediational aspect of writing. Therefore, even if the intentionality of writing is auto-poetic, it is an act as well as an act with a specific function – i.e. meta-communication of writing as such. Thus, writing must in this case be understood as self-oriented. The principle of addressivity must hence also include self-addressivity (Luhmann, 1986).

The combination of the act of writing, the purpose of writing mediated semiotically, constitutes the intentionality of writing. The analytically identifiable differences between these aspects of the communicative intentionality of writing, is the background for our model of the basic constituents of writing, visualised in the Wheel of Writing.
Two levels of context: The context of situation and the context of culture

In outlining constitutive dimensions of writing, we first want to draw a distinction between two levels of context, namely what the anthropologist Malinowski (1923) termed 'context of situation' and 'context of culture'. Any communicative act is, according to this line of thinking, at the first level situated in an actual and existing material and immaterial context where specific humans (inter-) act for some purpose. An act of writing is a meaning making utterance in a specific situation creating and addressing a model reader and an intentional and/or extensional reference (Berge, 2008). Therefore, an act of writing is a communicative event. In this situatedness there is a specific relationship between interacting participants that colours their communication. Similarly there is some topical content that they communicate about. This content is related to some domain of experience. Furthermore, language plays a constituting role in the communicative interaction. This role is of course different in oral and written communication, as well as in multimodal utterances.

Communicative acts are not, however, meaningful only in relation to being situated at this immediate contextual level. Human meaning making always transcends the instant situation. Specific communicative acts are interpreted also in relation to relatively stable language resources, textual norms and historically derived communicative practices like genres (Evensen, 2013). These norms and resources are developed historically in more or less established contexts of culture, realised as 'text cultures', such as scientific text cultures (Berge, 2007). An utterance drawing on relevant and acceptable text norms within a specific text culture, obtains the status of a 'text' in that context of culture. The relation between these two levels of context may be presented diagrammatically as in Figure 2 below.

In this figure, the utterance is seen as primary, in that it is a driving force in feeding the cultural text level, and this influence may account for how culture changes and develops (cf. Evensen, 2001; Berge, 2008). One well-documented example is how Newton developed a new approach to reporting findings from experimental physics (Bazerman, 1988). In his
context of situation, his utterance was very influential and became a major source for the development of a new genre – the experimental article. Similarly, he has also shown (2000) how inter-individual letter writing led to the development of a range of public genres. Another example of the changes from utterances to texts is the establishment of public opinion in 18th Century Europe when freedom of writing was established as a right. Public debate and democratic development led to the development of new text norms and a new text culture constituting how potential participants should write when they participated (Berge, 2014). Utterances that were not formed according to these norms were not considered relevant contributions to public debate.

In an educational context, it is important to focus on the situatedness of writing and written utterances. Children, writing in school, have only limited access to the text cultures constituting the established society, with its range of genres. For this reason, a cultural focus may easily result in a perspective where students’ writing is seen more as a syndrome of shortcomings than as utterances with potential for future development.

On this background, the relation between utterances in communicative events (in contexts of situation and texts crafted in text cultures) is validly depicted in our model in the form of concentric, dotted circles. In Figure 3 an outer circle both represents the situated act of writing and encapsulates a related layer of culturally valid utterances, the circle within it. In our model, these two related circles in turn encapsulate the specific semiotic resources that are used in writing processes. This representation implies that semiotic resources are seen as tools for carrying out acts and their purposes.

The fundamental assumption behind the outer circle in our model is that to write is to utter. Every instance of writing may be understood as an utterance. When a human being interprets an object as written, it ascribes to the instance of writing an author responsible for it as well as a meaning-making intentionality.
Writing in relation to culture

There is a close connection between the permanence of written mediation and the cultural purposes it has developed to serve. Firstly, writing has developed when people have had recurrent needs to stay in contact across limitations of space and time (cf. the Vai example of Scribner & Cole, 1981). One Western example of this is Bazerman’s (2000) study of letters as the historical origin of genres as different as institutional certificates and national charters. By the same core dimension of permanence, writing has secondly developed when people have had a need to document their interaction. Several studies show how writing in early human history was used to document historic events, details of stock or economic transactions. A well-known example is the writing of American plain Indians (Goody & Watt, 1963). Olson (1994) has offered a comprehensive review of both of these sources as historically primary ones for the development of writing. We accordingly see these affordances as the historical basis for our circle of cultural purposes. Writing is, as seen from this angle, primarily a means developed for communication and documentation across space and time.

The permanence of writing gives rise to even secondary purposes, however, as a range of writing practices has been consolidated to serve cultural purposes through history. Due to its permanence, writing is particularly useful for systematisation and classification (Ledin & Mackin, 2015). In ancient history, transactions were of different kinds (payments, debts et cetera), and their documentation varied accordingly. Documentation of property was similarly classified according to type (livestock, crops, equipment et cetera) and stored in separate documents or parts of documents (see Goody & Watt, 1963). Furthermore, descriptive or explanatory comments could be added to link the classification in question to the communicative event where the classification was used (Olson, 1994).

One aspect of permanent documentation is held to be particularly important to the development of Western intellectual culture. As long as historical, cultural or political phenomena were ‘documented’ through oral tradition, the accuracy of renderings was difficult to control. With written documentation, however, this aspect of cultural transmission was transformed. The permanence of writing enabled independent reliability checks, control and critique, once literacy became more commonly accessible. Written documents made it possible for readers who had access to them to go back and find out whether a particular rendering was truthful and accurate or not (Goody & Watt, 1963). One corollary to this possibility was that access to important documents became an element of power.
The permanence of writing as well as its relatively slow process of production invites reflection. It follows from this affordance that writing is not only a process of formulating what has been thought out in advance, but also invites further thinking. In some cases reflection leads us to become aware of uncertainty or detect inconsistencies. We may also, however, see relations or aspects that we have not considered before (Olson, 1994). This aspect of writing has become important in educational contexts, since it invites seeing writing as a strategy for learning. In recent knowledge societies, this aspect is exploited as a strategy for innovation.

Reflection is important also at a different level, in its reflexive effects on a writer’s identity. In this connection, it is thought-provoking to read all those old runes that express only the name of the scribe – ‘NN reist runar þessar’ (NN carved these runes). We may assume that the permanence of writing invited Vikings to use it for what we today might characterise as identity work. Carving of runes is a relatively slow process, one that invites reflection while the process of writing is unfolding. Reflection while writing may also have played a role for developing cultural identity.

In reflecting while writing we may furthermore conceive of what has not yet been, or some fictive alternative universe. Such conceptions are common to phenomena that are rarely considered in conjunction, namely the development of scientific theories as well as the alternative worlds of fiction.

Considering alternatives is, furthermore, relevant for our views, opinions or values. This relevance was exploited already in classical rhetoric. We may try to persuade fellow citizens or authorities that an alternative view may in fact be more valid, true or fruitful than the one currently held. We may thus make a case for our controversial political or intellectual views. The tradition for written argumentation on the public arena that originated in ancient Greece is considered to be a cornerstone in the development toward modern democracy. With this tradition follows authority (a word derived from Latin ‘autor’ – writer). Using writing in this way to develop social authority has recently been important in Paulo Freire’s ‘pedagogy of the oppressed’, thus offering poor peasants opportunities for being influential beyond their very local social contexts.
Having sketched a number of derived functions in literate cultures, we begin to see that the full set of cultural purposes is larger than the core characteristics of writing. Writing is used in literate cultures for purposes of interaction and information, knowledge storing and structuring, knowledge development, construction of textual worlds and purposes of persuasion. Over cultural-historical time, such purposes have given rise to a wide range of writing practices and genres.

_A national curriculum and a theoretical model_

Writing as a key competency, was implemented in the Norwegian curriculum through parliamentary decision in 2006. Every teacher, regardless of subject, is now responsible for the teaching of writing. As a consequence of this curriculum the Norwegian parliament decided that national tests in writing should be developed, assessing the quality of writing after four and seven years of teaching. On an initiative from the Minister of Education in 2003, a group of professors was asked to develop the tests. It was as a result of this invitation that the Wheel of Writing was developed. In the following section of this article, we present the model and discuss its different parts. The Wheel of Writing is presented in Figure 4:

\[\text{INSERT FIGURE 4 HERE}\]

The outer circle of the Wheel of Writing captures that writing is understood as an activity. When writing, we express ourselves through different acts. For instance, when describing something, we try to present to ourselves and others as accurately as possible how something is put together, organised, looks like etc. A working plan is a typical description. It depicts what kind of operations we are supposed to work through, and which parts the depicted consists of. Hence a working plan has to be exact, and be written in such a way that the working operations done with the help of it are completed in accordance with the plan.

The first encapsulated circle represents that when writing, we do it with a purpose. When writing a working plan, to follow up our example, we are doing it to organise and systematise the knowledge we have access to about the described phenomenon. The purpose of the working plan is to organise professionally developed and controlled knowledge.
The third circle represents that when writing, we create meaning with the help of a specific technology. To write is a specific type of semiotic mediation. Through writing we create texts. In creating texts we express ourselves through a written language system and multimodal resources, such as drawings, subtitles, pictures or graphs. The technology also has a material dimension in that we use tools, such as a pencil, a pen or a computer. In our example with the working plan, it will be practical, and perhaps necessary, to use several modalities. For most texts, meaning will be expressed through verbal language. Still, a significant part may be expressed by visual models, schemes and lists.

In the model we have defined six writing acts and six writing purposes, which in a default situation correlate with each other as shown in the figure. For instance, in an act of convincing, the purpose would be to persuade the reader of something written. Still, the relation between the act and purpose should in some cases be understood as contingent. An act of convincing may have as its purpose to develop knowledge. Let us describe these six acts and their default purposes.

If we reflect in writing, we are normally writing I-oriented. We reflect upon own experiences, thoughts and feelings. The purpose of the writing act is normally to develop our own identity or self-insight and understanding. Many diaries or the classical essay genre exemplify reflective texts.

If we convince through writing, our writing is you-oriented. We express a position on how the world is or should be. The purpose is to persuade a reader to share our position. Political utterances are typical examples of convincing writing acts.

The most obvious writing act is the act where we interact through writing, with the purpose of establishing and/or strengthening contacts with other people. Traditional postcards from vacations, where we tell each other where we are and how things are, is a typical example of this kind of writing. Many Internet formats are of this type. For instance, Facebook was originally developed by a group of students wanting to keep in contact after finishing their years at the university.

The Norwegian curriculum is defined as knowledge based. Writing should relate to the kinds that characterise subjects such as history, science, geography and Norwegian. Writing should
also result in learning in school subjects. The Wheel of Writing should therefore be used to develop clear understandings of which writing acts focus on knowledge relevant in a specific school subject. Writing acts that are oriented towards the phenomenon or the object we are writing about – the theme, subject, or referent – are located in the lower part of the Wheel of Writing. These writing acts are *it-oriented*. Let us take a look at the three it-oriented writing acts.

As we have seen, acts where we *describe* things are important for us when we organise and systematise knowledge. A recipe book is a typical descriptive text. The same holds for textbooks and encyclopaedias.

If we write to *explore*, the purpose is to write in such a way that evidence and assumptions about the same subject matter are critically examined. In this way we may discuss and assess what the most valid interpretation of a phenomenon is. We often write exploring texts when we want to develop our knowledge. This is the dominant way of writing in science. It is supposed to be valued in schools by developing students’ critical awareness and attitudes towards knowledge, placing different understandings against each other. For instance students in science may be challenged to write a text where they should discuss whether it is probable that there has been life on Mars or not, on the basis of what researchers have found out about instances of oxygen on the planet. In this way explorative writing may lead to an understanding of what testable knowledge should be.

To *imagine* with the purpose of creating is a writing act where reality is constituted by the text. That is, a reality that does not exist in other places than the fiction construed and expressed in the text. The part of literature that we call novels and short stories is normally examples of this act of writing. But imaginative acts of writing may also be political texts. Utopian texts about society showing how the world may be if we follow a special political program are imaginative texts.

*Semiotic tools for meaning making*

Our approach invites a reading of the model where semiotic resources are seen as meaning making tools for carrying out certain acts for certain purposes. Let us see which tools written mediation affords. The dimensions mediating the semiotic tools are presented in Figure 5:
Manual aspects: Writing tools

The permanence of writing, as well as its slow process of production, are both caused by the nature of written signs and their creations. The craft of writing seems to have developed out of using for example a hard stylus to form signs on wet clay or using a hammer to form hieroglyphs on some stone wall. In modern writing, the permanence of writing remains, even granted recent synchronic technologies like ‘chat’. While chatting we may easily forget about our last ‘posted’ utterance, but it will still be stored on a server. Even if we actively delete the log (which most of us never do), it may in principle always be restored. We may similarly get the impression that writing is no longer a slow and cumbersome activity, granted the keyboard wizardry of many teenagers, but for most of us, the process of writing is still a slow struggle as compared to speaking. We still speak more fluently than we write.

So, a valid model of writing needs to encompass even the most mundane manual aspects of writing as a bodily activity. We need to account for the physical tools that we use in this activity, as well as for their accompanying motor and mental prerequisites. Which material tools do we use – a pencil, a pen, a keyboard or a mouse? And what is our skill in using these?

Modalities

On this material basis, let us start considering the resulting written signs themselves. Which (system of) signs do we use? Having been brought up in a modern verbo-centric culture, most of us assume that we now refer to the alphabetic signs of written language. The historical study of writing, however, points in a different direction. Most historical literacy researchers seem to agree that writing developed out of pictographic signs (see Olson, 1994). Alphabetic writing, based on some sound - letter correspondence, seems to have developed much later than pictographic writing.

The importance of this historical observation is that it invites viewing writing as the simultaneous use of several available sign systems, or ‘modes’. In society, writing has never consisted of only letters and words (as the one privileged verbal mode); it has always contained drawings, figures, tables or other lists – as well as principles of orthography,
punctuation and indentation. In short, writing has always been a ‘multi-modal’ activity. Furthermore, studies of children learning to write before schooling, consistently document a characteristic combination of a pictographic mode and a verbal mode (see for instance Kress, 1994). Therefore, a valid model of writing must contain categories for modalities in the plural, including traditional categories of graphology and orthography. We certainly need to consider spelling, fonts and punctuation, but we also need to consider non-verbal signs like images, tables and layout.

*Lexico-grammatical resources: Vocabulary and grammar*

Having said this, it is still the case that writing has important lexico-grammatical resources available, with the morphology, lexicon and syntax so traditionally central to school grammar. Since writing transcends contextual co-presence and simultaneity, some of the lexico-grammatical tools are different from those used in oral interaction, with a frequently more complex syntax and in some cases a vocabulary adapted to public or professional domains. It follows from this contextual sensitivity that lexico-grammatical resources should not be seen as a fixed entity, as traditional teaching of grammar may lead us to think, but rather as just one more example of semiotic resources that are sensitive to a range of human purposes in different sociocultural domains.

*Textual resources: Text/utterance organisation*

Most written interaction simultaneously reflects a difference from oral interaction in that its’ ‘turns’ are frequently longer, and more elaborated. Whereas turns of speech are normally short, taking only a few seconds to utter, turns of written communication may be in the form of a book, taking years to formulate. This characteristic lies behind the emphasis in writing on textual structure, with explicit semantic cohesion between sections and their sentences, as well as with culture-specific text norms of hierarchy, framing and sequentiality. Where oral interaction is characterised by a principle of ‘local management’, written interaction is typically characterised by planning and ‘composition’, including relatively recent principles of paragraphing.

*The Wheel of writing: A dynamic model*

It follows from our exposition of basic categories of writing that it is not simply a ‘skill’ in any narrow sense; it is an extremely complex set of socio-cultural, verbal, mental and
perceptual-motor phenomena developed through a balanced coherence between adapting socio-cultural styles like genre and different micro-social aspects within experiential reality (Evensen et al., 2005).

Through using concentric, dotted circles in our model we have tried to invite a reading where the different circles are not independent of each other. For instance, even seemingly instrumental tools of expression and interpretation, like orthography or punctuation, are servants of meaning making and contribute to meaning in written interaction. Thus, issues of punctuation are relatively marginal when we write shopping lists or certain forms of modern verse. When specifying a complex phenomenon such as ‘writing’ into analytical sub-categories on such a basis, it becomes possible to see how even instrumental sub-categories of our model are multiply related in ecological ways.

The configuration of layers depicted in the model so far, however, is only the most conventional one. A theoretically valid model should also represent the flexibility that characterises situated acts in sociocultural reality. One familiar example is Aesop’s Fables, where entertaining fictional stories are used for argumentative purposes (the teaching of moral lessons). Therefore, the model is constructed to be dynamic even in such a way that the outer circle may be rotated to uncover less conventional configurations of layers.

**Discussion: Some curricular and didactic implications**

In our work we see the six basic general functions or intentionalities (i.e. act and purpose semiotically mediated) of writing as accessible largely through situated intentional acts of writing. As a consequence, writing, and consequently assessment of writing, in Norwegian schools based on the Wheel of Writing is not anchored in any form of genre concepts or genre pedagogy, typical of the teaching of writing and assessment in many countries, for instance Australia and Denmark, as well as the writing model developed in the IEA-project presented earlier in this article. The primary trait during writing and during assessment is not formal features or indices of textual and/or linguistic form, but whether the text should be considered as a relevant representation of the act and its purpose. In fact, our experience with using the model in teaching and writing demonstrates that the writing wheel is not considered as challenging, neither by the teachers assessing and making assignments nor by the pupils writing. Focus is on specific individual utterances – that is on how the pupil meet the
challenge of the writing task realised as an act with a purpose. Furthermore, from experience we know that many genres are only available in school as quasi genres, since their teaching has the core characteristic of educational discourse (Bernstein, 1996; Ongstad, 1997).

Characteristic of this discourse is its as if nature. A situational embedding is more flexible in this respect. A genuinely micro-social situation will always exist when students write. In organising such situations, the teacher will adjust to the classroom reality at hand within, as well as across, subjects. From a situational perspective, the students’ utterances will appear as immediate, situationally embedded acts of writing, rather than as more or less felicitous attempts at genre. Their writing may frequently not result in a short story, essay, argument, or scientific report, but as an utterance it will in fact describe, interact, explore, reflect, convince, or imagine. Accordingly, we have developed a theoretical model rooted in the actual social and cultural reality where students write their texts, i.e. at school, as well as in the ways writing are used in learning situations in different school subjects.

The model thus provides a suitable basis for formulating written assignments. The assignment is in this case intended to correspond to a specific act of writing, which is related to its purpose. Thus, after the teacher has formulated the expected learning outcome(s) within a certain subject or topic, he or she has to analyse the actual communicative situation: Who will communicate what to whom for which purpose? Remembering that different acts are contingent in relation to goals, he or she will then ask himself/herself which act of writing the assignment should focus on: to interact, to reflect, to describe, to explore, to imagine or to convince.

The Wheel of Writing lays the foundation for a varied teaching of writing as a tool for learning within all subjects and across all subjects. By introducing this model, we challenge the pupils’ as well as the teachers’ established conceptions of what writing in school entails, and thereby motivate them to discover the multiple opportunities represented by the Wheel.

As an example, let us take as a starting point the curriculum for the Norwegian upper secondary school, where consumption, energy and environmental protection constitute an important topic. In natural science, the syllabus states that the subject should contribute to the development of knowledge and attitudes among children and youth, providing them with a reflected view on the interplay between nature, the individual, technology, society and
research. Furthermore, the syllabus for the social sciences emphasises that the subject should highlight natural and human-made conditions on Earth. Working with the subject should stimulate discussions of relations between production and consumption, and the pupils should evaluate which consequences utilisation of resources and self-expression may have on the environment and a sustainable development.

With these superior goals as a basis, the teacher and pupils may together formulate learning objectives with a focus on energy-consumption locally, including economising of energy – for example: *Succeeding the course, the students shall be able to describe energy consumption at home, and discuss various ways of reducing consumption.* How can or should the students work toward this objective through their writing? Going through actual purposes and acts of writing in the Wheel, points to the purpose *Knowledge organisation and storing*, and to the act *To reflect*. The assignment to the pupils could then be formulated like this: *Write a text where you reflect on how you can contribute to reducing energy consumption in your family, and how this will affect your everyday life.*

The students’ texts are assessed in accordance with a ‘primary trait approach’, meaning that the assessment focuses on one dominant trait, and other aspects are assessed in relation to this trait. The results from this summative achievement then form input to formative assessment targeted at the individual student or school class. The assessment procedure is accounted for in the subsequent article in this volume, entitled *Standards as a Tool for Teaching and Assessing Cross-curricular Writing*.

**Summing up**

The Wheel of Writing is an attempt to fill the need for conceptualising the complexity of writing in the different cultural and situational contexts that constitute arenas for writing in society, including writing in school. It forms the basis for the teaching and assessment of writing as a key competency in different school subjects and across the curriculum.

A principal characteristic of the model is that writing is understood as an activity; writing means uttering ourselves through different acts. A second essential feature is that writing is performed with a purpose. A third feature is that when we write, we create meaning by the use of certain semiotic tools, often including a specific technology.
The model consists of six writing acts and six writing purposes, which in a typical situation correlate with each other in a default configuration. However, a valid model should also represent the flexibility that characterizes situated acts. Therefore, the model is constructed to be dynamic even in such a way that the outer circle can be rotated to uncover less conventional configurations of layers, i.e. between purposes and acts.

Teaching of writing in school affords knowledge of what can be expected of pupils at different ages. The Wheel of Writing has proved itself useful as a theoretical frame for specification of standards for writing proficiency. The next article (Evensen et al., this volume) focuses on this aspect of writing.

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