Leadership for learning in technology-rich upper secondary school classrooms

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ABSTRACT
The article analyses strategies for classroom leadership in technology rich upper secondary classrooms, arguing that such strategies can involve technical, organizational, didactic and relational involvement elements. It suggests that these elements can be captured in an interactive, ecological model of classroom leadership. The findings are discussed in the light of theories on leadership as distributed influence, the classroom as a collaborative community of practice, and learning as collaborative, multimodal knowledge creation.

Key words
ICT, Classroom management, Secondary, Schools, Student involvement

INTRODUCTION

There are so many simultaneous impulses you must relate to, so much you have to do at the same time. Your attention is drawn in so many different directions: Is the guy in the corner on Facebook? What's going on back there? Students need more of your attention.

This is how an upper secondary teacher describes the complexity of teaching in classrooms with a 1:1 student-computer ratio. The ubiquity of mobile, digital technologies in schools is applauded by some teachers for the learning affordances it provides (Monitor School, 2016; van ’t Hoft, 2013; Shuler, Winters, & West, 2012; Wong, 2012), and resented by others as a source of distraction (Karsenti & Fievez, 2013). The challenges to leading learning in the classroom are augmented when students, apparently suffering from “continuous partial attention” (Rheingold, 2012, p. 58), resort to off-task activities such as Internet surfing and online gaming in class (Blikstad-Balas, 2012; Krumsvik, Egelandsdal, Sarastuen, Jones, & Eikeland, 2013). Students may be distracted because new technologies are often integrated into traditional classroom practices (Cf. Law, Yen, & Fox, 2011). Blikstad-Balas (2012) found that students resort to off-task digital activities during Powerpoint-supported lectu-
res. Krumsvik and colleagues (Krumsvik, Egelandsdal, Sarastuen, Jones, & Eikeland, 2013) found off-task technology usage a particular challenge in classrooms with weak leadership.

Off-task classroom activities seem to be gaining ground at the expense of activities defined by the teacher (Kirschner & Karpinski, 2010). Such activities can also be understood more positively, as meaning-making activities defined by the students themselves (See Krumsvik, 2014). Schools do not, however, acknowledge the informal competencies developed through activities defined by students as legitimate learning, even if these competencies are required for the twenty-first century (Johnson, Levine, Smith & Smythe, 2009). Consequently, students as well as teachers seem to agree that off-task technology usage in class is detrimental to learning (Halvorsen, 2014).

A majority of students find computers motivating and helpful to their learning, even if a considerable number admit that they cause distractions in class (Hatlevik, Egeberg, Gudmundsdottir, Loftsgarden, & Loi, 2013). Classroom leadership is often invoked as a key remedy for restoring good learning conditions when technology usage gets out of hand in technology-rich classrooms (Krumsvik, 2014; Kunnskapsdepartementet, 2011). There is, however, no universal agreement on what good classroom leadership is. The present article is an attempt to analyse what it may look like in technology-rich environments.

THEORETICAL PERSPECTIVES ON CLASSROOM LEADERSHIP

In this article classroom leadership is preferred to classroom management, albeit the latter predominates in the international literature. Leadership is understood as influencing others to act in ways that support the core objectives of an organization (cf. Robinson, 2009).

Two major trends in the literature on classroom leadership can be distinguished: a behaviourist tradition and a more holistic tradition, which will be outlined presently. Dichotomies of this kind simplify complex matters; they represent bird's-eye views, revealing interesting patterns which may compensate for the loss in detail. As such, they may serve as useful analytical tools. In the behaviourist tradition, the focus is primarily on regulating student conduct to establish and preserve orderly conditions in the classroom, by emphasizing discipline and behaviour control, assuming – presumably – that these are primary prerequisites for student learning. The behaviourist tradition verges on instrumentalism, in the sense that measures are prescribed to achieve ends which do not necessarily support the core objectives in technology-rich classrooms. In what this present author has chosen to call the holistic tradition, relational and motivational aspects of classroom leadership are emphasized. The link between leading and teaching becomes more transparent because classroom leadership is understood as leading learning to develop intellectual, practical, social and emotional competencies in students (Evertson & Weinstein, 2006; Postholm, 2013). Thus, classroom leadership is explicitly connected to the core objectives of schools. The relational aspects of the holistic tradition are taken to more profound levels when classroom leadership is enlightened by theories of distributed leadership, as situated interactions between all actors involved (Spillane 2006, 2013; Gronn, 2000, 2002, 2003). Relational in this respect transcends traditional conceptions of establishing sound, humane student-teacher relations based on mutual respect, and becomes a constitutive factor in classroom leadership.
The behaviourist tradition maintains a focus on preventing misbehaviour and rewarding good behaviour (Evertson & Weinstein, 2006) as such. O’Neill and Stephenson (2011) represent this tradition when they define classroom leadership as “the decisive, proactive, preventive teacher behaviours that minimise student misbehaviour” (p. 35), and prevent disruptions when they arise, and so do Barbetta, Norona and Bicard (2005) when they describe “A Dozen Common Mistakes” in classroom behaviour management. Wubbles (2011) and Allen (2010) belong to the same tradition when they both highlight the importance of discipline.

The National Council on Teacher Quality (2014) has identified the “big five” of classroom management, where four of the five deal with discipline and behaviour control, and the fifth with teaching interesting lessons and providing active student participation. Simonsen, Fairbanks, Briesch, Myers and Sugai (2008) take a slightly broader perspective when they sort evidence-based classroom leadership into five categories, where two of the five deal with encouraging appropriate and discouraging inappropriate behaviour. In technology-rich classrooms, behaviourist measures like restricting Internet access tend to be focused on (Cf. Clarke & Svanaes, 2014).

Evertson and Weinstein (2006) argue along more holistic lines, maintaining that our conception of classroom management should be broadened to include all actions taken by teachers to establish an environment conducive to academic, social and emotional learning. Osher, Bear, Sprague and Doyle (2010) maintain that good learning conditions are brought about through classroom activities and interactions, and not through extraordinary, instrumental measures. Thus, holistic approaches connect classroom leadership to the core, educational objectives of schools (Cf. Robison, 2009).

According to Krumsvik (2014), Nordic traditions highlight democratic aspects of classroom leadership, contrasting the focus on conduct control in behaviourist approaches inspired by American research. Ogden (2012) maintains that the research focus has gradually shifted from behaviour control to the building of motivational student-teacher relations. In Norway, Drugli (2012) and Nordahl (2004) both underscore the significance of sound student-teacher relations, whereas Christensen and Ulleberg (2013) point out that the student-teacher dialogue also relates to subject matter. Relational classroom leaders treat students as active, independent and resourceful human beings (cf. Biesta, 2014; Nordahl, 2004). Consequently, Biesta (2014) argues for the open student-teacher dialogue.

Researchers who take a relational approach to classroom leadership often do so from a psychological perspective, indicating, for example, that the teacher must know himself and others in context (see Postholm, 2013), that he must be mindfully present in the situation (Marzano, 2009), or that he must see all students and treat them individually (Nordahl, 2004). Nordenbo and colleagues (2008) describe a good classroom teacher as one who is able to establish sound relations to his students, in addition to knowing his subject and how to teach it. All apparently agree that establishing good relations in the classroom is a teacher responsibility (cf. Utdanningsdirektoratet, 2013).

Distributed leadership in the collaborative classroom

The theoretical approaches we have considered so far are all teacher-centred in the sense that classroom leadership is conceived as something the teacher does to the students. On
the one hand, theories on distributed leadership represent a variant of relational theories. On the other hand, they constitute an alternative perspective, where leadership is co-constructed through the situated interactions among all actors involved in the situation (Gronn, 2000, 2002, 2003; Halvorsen, 2012; Spillane, 2006, 2013). Accordingly, classroom leadership understood as situated interactions between teacher and students takes relational classroom leadership to new levels, because it inspires a redefinition of the student role and, consequently, of student-teacher relations. This becomes particularly interesting when we define leadership as influencing others to act in ways that support the core objectives of the enterprise (cf. Robinson, 2009). In the classroom, such influence is exerted by students as well as teachers. Understanding classroom leadership as co-constructed, distributed influence underpins the close connections between leadership, teaching and learning in the classroom, and paves the way for a new understanding of classroom leadership, particularly in technology-rich upper secondary schools where students are young adults with considerable relevant expertise. In a distributed perspective classroom leadership is no longer the sole responsibility of the teacher, although – as formal leader – the teacher will always have a special responsibility (Spillane, 2006). Furthermore, a distributed perspective on leadership in the classroom paves the way for considering the classroom as a learning community, building on Wenger’s (2001) concept of the community of practice, where each and every actor has a share in the same project, and what they do is recognized as competence.

CONTEXT, METHOD AND SCOPE
The categories used in the analysis of findings in this article were developed in a pilot study investigating strategies for classroom leadership used by teachers at an urban, upper secondary school with a 1:1 student-laptop ratio (Halvorsen, 2014). Fifteen teachers and twenty students were interviewed in five focus groups of teachers and five focus groups of students. The interviews were conducted as semi-structured research interviews in an informal atmosphere at the school of the informants. The sampling of informants was conducted by the school leadership to include a cross section of the teaching staff and student population at the school. The selection criteria were defined by the author and included sex, age, length of experience (teachers), class (students) and study program (teachers and students) to achieve what Strauss and Corbin (1990) call a theoretical sampling of individuals that can provide material for coding. All interviews were recorded and transcribed.

The analysis was based on grounded theory (Cresswell, 2007), and started with a process of open coding, identifying representative teacher and student statements illuminating the informants’ views on leadership in technology-rich classrooms. This process of open coding was followed by axial and selective coding (Strauss & Corbin, 1990). Through a method of constant comparison (Glaser and Strauss, 1967), the following four core categories of strategy were developed: technical, organizational, didactic and humanist strategies (Halvorsen, 2014). The outcome of the pilot study was sent to the informants for member checking (Creswell, 2007).

The pilot study inspired the present study, where the ambition is to analyse how competent teachers conceptualize their leadership in technology-rich classrooms. Three heads of
upper secondary schools were asked to name teachers who successfully integrated digital technologies in their teaching practices in ways that support student learning. The schools, which were known to have worked actively with the integration of digital technologies in teaching and learning for approximately five years, were of approximately the same size, situated in three different small to medium size cities in different parts of Norway. All the three schools had a 1:1 student-computer ratio. In one of them, laptops had been replaced by iPads. The present study is guided by the following research question: How do teachers who are considered to be successful technology users in the classroom conceptualize classroom leadership?

A list of thirteen informants was generated, consisting of four male and nine female teachers ranging in age from approximately thirty to forty-five, representing different subject areas and study programmes. In this phase of my investigation, individual interviews were chosen, which made it possible to pay closer attention to individual differences based on personality, as well as the contexts they were working in. Thirteen semi-structured interviews were conducted, taped, and transcribed. The interviews were inspired by an ambition to approach the informants with as few preconceptions as possible. Prior knowledge will, however, always influence the way informants are approached, the questions they are asked and the analysis of their responses. With an awareness of this dilemma, interviews were conducted according to a thematically organized interview guide with open questions focussing on attitudes to and use of digital technologies in teaching and learning; student-teacher relations; student motivation to learn; and teacher motivation to teach. The atmosphere was informal and conversational, and the informants were allowed to speak their minds without too many interruptions. When informants tended to stray too far from the researchers’ agenda, they were pulled back on track with follow-up questions inspired by the four core categories from the pilot study.

The initial analysis of the transcriptions was carried out as open coding (Corbin & Strauss, 2008), looking for key statements and patterns in the material without – as far as possible – relating to the outcome of the pilot study. This process revealed, however, that the four core categories developed in the pilot study provided convenient analytical tools for the present study, with one slight modification. The fourth, “humanistic” strategy, was renamed “relational strategy”. The transcriptions were then analysed deductively, using the following categories: technical, organizational, didactic and relational strategies.

This study is based on teachers’ own statements. One significant consequence is that our research design only uncovers the informants’ articulated practice theory, the theory they use to describe their own practice, not the theory embedded in it (Ertsås & Irgens, 2016), their theory-in-use (Argyris & Schön, 1978). Thus, our findings may represent informants’ ideals rather than classroom realities. To get to the latter, observations would have been necessary.

**KEY FINDINGS**

**Technical strategies**

Technical strategies involve removing physically the opportunity to indulge in off-task activities, by confiscating digital devices or restricting Internet access (Halvorsen, 2014).
We often read about such strategies in the media, for instance when schools ban the use of mobile phones. In the pilot study, several of the informants were strong advocates of technical strategies. Interestingly, none of the informants in the present study promote technical strategies to any significant extent. They express positive attitudes to technology and to student use of it. Furthermore, they integrate a wide variety of digital technologies in their teaching practices as educational tools, arguing that ubiquitous access to technology has become an integral part of students' daily lives. Attempts to deprive them of these tools disturb student-teacher relations: “Why should we block the Internet, or Facebook, for that matter? Students often see this as a declaration of war. You never win a war in the classroom.”

Organizational strategies

Organizational strategies involve attempts to structure student conduct by formulating and enforcing rules and by using highly structured lesson plans. Interestingly, my informants argue for a differentiation of rules according to contexts constituted by subject, didactics, and teacher and student personalities. Some expect students to start every period with the screens down, some with the computers stowed away, others with the computers online and ready for use. Some expect students to use their computers to take notes; others prefer students to take notes by hand. Rules may differ across classrooms since they are expected to support learning in contexts which vary from subject to subject. In the social science classroom, students may search the Internet for supplementary information during lectures, while the biology teacher orders “Screens down!” because computer usage is inconvenient.

Rules must, however, be unambiguous and consistently enforced because students quickly discover "what they can get away with". One of my informants put it like this: “I follow them quite closely, physically. I move around the classroom.” Teachers relate to their students in a variety of ways, however. One of the interviewed teachers rushes in to give formal notices, while others remain in the doorway to avoid giving formal notices. Establishing and enforcing rules is a teacher responsibility. However, involving students in defining the limits of acceptability is the most effective way of committing students to the rules: “We have to agree on the limits.”

Some of the informants take deliberate care to organize their teaching to avoid student indulgence in extracurricular activities rather than rely on rules. Some accomplish this by giving their students directions through well-planned and highly structured lesson plans: “As a teacher you need to give your students directions. You can’t let them loose on their own. You must provide the structure.” One way of doing this is by providing a plethora of tasks and written assignments with very short deadlines: “In this way students simply have no time to waste.” These two examples show that the divisions between our categories are blurred, making it impossible to draw hard and fast lines between, for instance, organizational and didactic strategies.

Didactic strategies

Didactic strategies encompass teaching practices utilizing the learning affordances of digital technologies. Classroom leadership, understood as distributed influence on others to support the educational objectives of schools, is inevitably linked to didactics, which
involves both the choice of subject matter and methods of teaching: the what, why and how of teaching. We shall now see how the informants employ digital technologies in ways that counteract extracurricular student activities. As we shall see, they accomplish this in a variety of ways, which all seem to share some basic features. Building on curiosity with regard to the innovative affordances of technology in education, and a fundamental trust in students’ inherent motivation to learn, they facilitate innovative learning scenarios in close collaboration with their students, who find these scenarios meaningful because they require – and inspire – initiative, creativity and autonomy in their knowledge creation. This is accomplished in a wide variety of ways.

Video is often used, by the teacher as well as the students, to visualize and concretize abstract concepts and processes, for example to explain the intricacies of German grammar or workshop instruments, or as a tool for students to research the origins of the Second World War, and subsequently share their findings on YouTube. According to the informant history teacher, the learning outcomes are fantastic:

After our last oral group assessments, which we also filmed to enable students to go in and assess their own contributions, I had to ask myself: can I really give these grades? They were just SO good! Before the video project practically nobody said a word in class. It was a nightmare. Now they have started doing homework.

Many of the informants take great care to inspire student curiosity by catering to the researcher who resides in all of us when we start school. All too often this persona is allowed – or forced – to retire into a state of lethargy in early school years. The informants typically formulate open-ended assignments that require students to use a variety of technologies in their research process as well as their presentations. They do not ban social media, but make constructive use of them to get closer to the student, faster. A craft teacher among our informants organized a hairdresser’s shop for her students on Facebook and invited her students to advertise their services there. An industrial arts teacher made students document the meticulous process of constructing tools and then publish the result on YouTube.

Students in flipped classroom scenarios become more active students both at home and at school: “That’s why they do more school work at home, because they want more dialogue at school. You can enter any classroom and in eighty per cent of the cases there’s a monologue, I’m sure.” Using technology to make room for dialogue is one way of activating students. Others achieve similar effects by using technology platforms to give interactive lectures, where ALL students are expected to respond actively – at the same time, instead of the usual three or four. Several of our informants use quiz programs like Kahoot to engage students, not only in answering questions but in making them as well.

There is practically no end to the list of relevant examples. They are all grounded in a firm belief that digital technologies can be used to advance student learning, a realization that we are still in a phase which requires explorative trial and error, and a conviction that finding the good ways of teaching with rapidly evolving technologies is a collaborative and participative process for teachers and students. Technology usage that appears to be innovative when this is written may be highly traditional by the time it is read. Besides, we must
Relational strategies
The teachers I interviewed build student-teacher relations through their interactions with students. These interactions are based on their positive attitudes to their students. One of my informants felt quite strongly about this issue: “I hate it when colleagues talk about students in negative terms, as if to make up for not succeeding as teachers.”

Teachers use relational strategies in classroom leadership when they take deliberate measures to develop good student-teacher relations in their classroom leadership, explicitly or implicitly. This is accomplished explicitly through verbal statements, implicitly through the way they act in classroom situations. The latter is more important than the former. Good student-teacher relations are not primarily supported by what you say. What you do is far more significant. The teachers I interviewed conveyed a clear message: good teacher-student relations rely on genuine respect for students as fellow human beings, combined with a recognition of the student as a partner in learning.

In this material, relationship building is rooted in a genuine interest in the situation of the students in a wide sense, combined with a strong sense of respect and care for students as learners and fellow human beings. The informants emphasize the importance of talking with their students rather than talking to them. They use technology to get closer to the students: “Technology strengthens my contact with the students. It provides a better overview of what their strengths and weaknesses are and enables me to provide more correct and immediate feedback.”

The classroom is described as a community of practice where students and teacher participate in ways that diminish the gap between them: “I point out that WE are the learners, that learning is fun, that English is fun. I enjoy that. Using computers for learning bridges the generation gap between me and my students”. Students are invited into shared projects, where teaching and learning become teaching-and-learning: “I use the technology to give students real influence and a sense of genuine participation”.

Active student participation and genuine student contributions to the teaching-and-learning project are welcomed with professional enthusiasm: “I ask them how and when they learn best. Students often contribute by suggesting new ways of doing things, or new material that they find interesting on the Internet. They are good at that. They find things that I don’t find”. In the shared learning project, students are treated as resourceful partners, whose contributions are solicited, welcomed and made use of. Their contributions matter.

Meeting students with respect implies not only meeting the student in the capacity of a teacher about to set a grade. Respect requires a recognition of equality as human beings that transcends inevitably asymmetric student-teacher relations:

Let’s say a student hasn’t handed in her assignment. Then it is important to me to find out why, without accusations. Let’s say she has really, really tried – without making it – or she is having a bad time in her life. I would hurt her if I showed no interest in her situation. That would be really sad. Therefore I take the extra two minutes to find out what happened, and I listen as any responsible grown-up person
would do. Is this wasting time? I do not think so. It also gives me the opportunity to explain why we have deadlines, and we may not need to have this conversation again.

Teaching-and-learning in school is seen in a wider, humane context and related to life long learning in a genuine sense: “WE must all learn to carry our own suitcases through life. I talk to my students about that. They have to learn that. My job is to help them with the part that has to do with English”.

We all carry different suitcases, with different contents through life. Relationally oriented teachers take this circumstance into account. The following statement occurred in a previous study conducted by the author (Halvorsen, 2014). The recognition of student expertise and the emphasis on humane relations do not get in the way of the teacher awareness of the particular responsibilities of the teacher as formal leader in the classroom:

I am the boss. That comes very naturally to me, very! My authority is grounded in my competence and in the fact that I facilitate a sense of security and well-being in the students. I am also a member of the team (with the students). Sometimes I look upon myself more as a team leader than a teacher.

BRINGING IT ALL TOGETHER …

In previous paragraphs the commonalities in our informants’ conceptualizations of classroom leadership have been analysed in terms of the four strategies, one by one. In their articulated theory as well as their classroom practice, teachers will blend strategies in proportions differing according to personality and context. In order to understand what good classroom leadership may look like in technology-rich classrooms, we need to see how the four strategies interact. In the following, we shall consider how they interact and how this interaction relates to our theoretical framework.

In the literature review, two major trends in theories of classroom leadership were outlined, a behaviourist tradition with an emphasis on regulating student conduct (e.g. O’Neill & Stephenson, 2011) and a holistic tradition highlighting relational aspects of classroom leadership to promote the development of intellectual, practical, social and emotional competencies (Evertson & Weinstein, 2006; Osher and colleagues, 2010). The concepts of distributed leadership (Spillane 2006, 2013; Gronn, 2000, 2002, 2003) and community of practice (Wenger, 2001) were linked to the holistic tradition. Leadership was defined as influencing others to act in ways that support the core objectives of an organization (Robinson, 2009). Leadership measures not legitimized by their support of core objectives are understood as instrumentalist.

The prevalence of the four strategies in our material is mirrored by the order of presentation: technical, organizational, didactic and relational. Didactics deals with the what, how and why of classroom activities. Consequently, this is the category which is most obviously connected to core classroom objectives. In the following, I will argue that the articulated theory on classroom leadership to be collated from the material is grounded in the way the informants conceptualize student-teacher relations. This study therefore reflects the movement from behaviour management to motivational relationships in theories on classroom leadership (Ogden, 2012).
Relational classroom leaders treat students as active, independent and resourceful human beings (cf. Biesta, 2014; Nordahl, 2004). Student-teacher relations in this study are characterized by mutual respect combined with a fundamental trust in students’ motivation to learn. These relations go beyond constituting a feel-good atmosphere in the classroom. Recognizing students as actors, teachers involve them in developing didactic as well as organizational strategies. The contrast to the classrooms investigated by Blikstad-Balas (2012), where students and teacher seemed to have conflicting agendas, is striking. One of the informants put it like this: “They know that I want the very best for them. They know that I am on their side.”

The teacher informants apply organizational measures, such as classroom rules of conduct and period plans. Organizational strategies seem to be meted out under the influence of student-teacher relations to support student learning. We see this in the way students are involved in formulating classroom rules of conduct, in the way these rules are differentiated according to teaching and learning context, and in the way they are administered. Admittedly, this is the big picture, the bird’s-eye view. A closer look at individual classrooms might reveal interesting variations. If – or when – organizational strategies do not support didactic strategies, they easily become instrumentalist ends in themselves.

Notably, technological strategies are virtually non-existent in our material, which indicates that the informants in this study take technology for granted as educational tools. In this respect, they differ from the informants in the pilot (Halvorsen, 2014). Technical strategies easily become instrumentalist – and counter-productive – since they bar students from acquiring the intellectual, practical, social and emotional competencies needed to live and work in a wired world with ubiquitous digital technologies. In our material, teachers refrain from technical strategies because they would disturb teacher-student relations by causing “war” in the classroom. Besides, their didactic strategies depend on student access to technology.

Spillane has observed that “new technologies are not simply accessories that make practice more (and sometimes less) effective and efficient, they fundamentally transform the very nature of practice (Spillane, 2013, p. 68)”. Classroom leadership in technology-rich environments is a complex matter (cf. Blikstad-Balas, 2012; Karsenti & Fievez, 2013; Krumsvik et al, 2014; Rheingold, 2012). The purpose of leadership in any classroom is to support the intellectual, practical, social and emotional development of students. The understanding of leadership as situated interactions between all actors involved (Gronn, 2000, 2002, 2003; Spillane, 2006, 2013), influencing others in ways that support the core objectives of classroom activities (Robinson, 2009), indicates that classroom leadership and teaching are intimately intertwined. It is time to return to our research question: How do teachers who are considered to be successful technology users in the classroom, conceptualize classroom leadership? In the articulated practice theories of our informants, technical, organizational, didactic and relational strategies are interwoven in a classroom ecology where teaching-and-learning becomes a shared student-teacher project. However, against the background of the present study, it can be argued that “the very nature of practice” has been transformed by student-teacher interactions, not by the new technologies. It is the nature of these interactions that has made it possible to explore the challenges and affordances of digitally rich classrooms.
The interaction between our informants and their students can be understood in a distributed perspective on classroom leadership, which allows for a fresh look at student-teacher interactions as constitutive elements for the teachers’ formal leadership. In this perspective, students become constructive collaborators and responsible partners in learning, not “passengers on a bus driven by the teacher” (Irgens, 2013). The recognition of students as partners does not threaten the teacher’s position as formal leader. Rather, it becomes a professional obligation that strengthens the teacher’s professional position in the classroom, as well as the students’ motivation to learn.

A distributed perspective on classroom leadership has particular relevance to the technology-rich upper secondary classroom, where students are young adults, some of whom exert considerable influence by force of their expertise, as resourceful, informal teaching assistants and co-leaders with shared responsibilities for developing the learning environment. The teacher, as formal classroom leader, still has particular responsibilities (Spillane, Halverson & Diamond, 2001, 2004). The student-teacher relationship will always remain asymmetrical to some extent. Even so, the way students exercise their role as students, is a significant premise for the construction of the teacher’s role as formal classroom leader.

My informants describe innovative learning scenarios developed in close student-teacher collaboration, which inspires initiative, creativity and autonomy in student knowledge creation. The contradiction between teacher authority and student autonomy is challenged in various ways: when students and teacher formulate rules of conduct and develop technology-based didactic strategies in close collaboration, and when the teacher’s administration of classroom procedures is recognized to be in the students’ best interest. Classroom structures thus provide predictability, strengthen relations, and support learning. Students and teacher know what is expected of them, and what to expect from each other. This predictability is a prerequisite for good classroom relations that are not always provided in technology-rich classrooms (Halvorsen, 2014). When they do happen, the potential contradiction between student autonomy and teacher authority is transcended by the way students are involved as resourceful and active collaborators in planning and implementing learning activities. In the collaborative community, classroom rules of conduct do not primarily reflect a hierarchical organization. They support the core objectives of schools as integral elements in teaching-and-learning.

Preparing young people to be active, open-minded and enquiring citizens in a living democracy is a major objective of education in Norway (Opplæringsloven/Education Act, §1.1). The construction of leadership in the classroom must inevitably be legitimized in this perspective, as an integral constituent factor in establishing sustainable learning environments whose relevance extend far beyond the classroom. According to Thomas (2011), there is a pedagogic chasm between the mono-modal practices dominating most classrooms and the multimodal practices that children increasingly engage in. This article has attempted to show how this chasm can be bridged by multimodal classroom practices inspired by professional open-mindedness and forged through close student-teacher collaboration. This has been achieved through the development of participatory, dialogic transformative pedagogies (Thomas, 2011), giving “serious consideration to pupil voice” – a prerequisite for developing effective pedagogies according to Husbands and Pearce (2012, p. 3). With a view to the theoretical dichotomy sketched initially, and the research
question guiding the study, it seems legitimate to position our study in the holistic tradition, in opposition to behaviourist instrumentalism. Matters may, however, not be as simple as that. After all, leadership involves attempts to influence and ultimately alter the conduct of others. So does teaching. Successful technology usage in the classroom requires, depends on and varies with teacher competence (Krumsvik, 2014). This seems to be a generally accepted truth, based on the assumption that knowledge and skills relating to the technology are the prime factors in this teacher competence. This need not be so. This study indicates that teacher attitudes to technology, to teaching generally, and most of all to the students, play a far more significant role in the construction of successful leadership in the technology-rich classroom than we have realized thus far.

The ambition with this article has been to contribute to informed reflections on a theme whose complexity is, in the opinion of this author, underestimated. It has not been to provide a representative study of actual practices. Based on interviews with a fairly limited selection of informants, the study has explored what successful leadership in the technology-rich classroom may look like. In the process, a conceptual framework which may be useful in further investigations has been tested out. Such investigations should include observations and quantitative studies involving students as well as teachers.

LITERATURE


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