Organisational antecedents of teachers’ perceived time capacity to energise effort: A Norwegian study

Are Turmo*, Eyvind Elstad** & Knut-Andreas Christophersen***

Abstract

Time capacity is defined here as the individual teacher’s perceived time for professional development (e.g., the capacity to develop and renew oneself as a teacher). The pressure of paperwork on the individual teacher should not be so demanding that it goes beyond the teacher’s time for professional development. The purpose of this paper is to explore factors influencing teachers’ individual time capacity at schools that report to external accountability systems. The methodology involved was a cross-sectional survey of 243 teachers from 11 schools in a Norwegian municipality. Structural equation analysis indicates that clear leadership and teacher-principal trustships influence teachers’ perceived time capacity mainly as mediated effects via social exchange. Implications for school practice and directions for future research are discussed.

Keywords: capacity, leadership, teachers’ work, teachers’ experiences

Introduction

The concept of teacher capacity may have a broad content and can be related to the quality of teaching, teacher effectiveness and teacher behaviour in the classroom or in the school more generally. However, in this article we use the concept in a narrower sense, i.e. as teachers’ perceived time capacity – the individual teacher’s perceived time for professional development (e.g., the capacity to develop and renew oneself as a teacher). The purpose of this article is to analyse how trustship and clear school leadership may influence the way in which teachers regard their time capacity. Thus, teachers’ time capacity is the dependent variable in our theoretical framework.

Clear leadership is defined here as the principal’s communication of demands, i.e. the clarity of specified goals that are focused on the academic progress of the students. The principal is in this way working with teachers to ensure that they create academic pressure through the development of high expectations for student achievement.

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Transformational leadership (Leithwood & Jantzi, 2006 & 2008; Bass, 1985) and instructional leadership (Robinson, 2010) have been the predominant conceptual models studied in educational leadership over several decades. In both models, the principals have to focus on creating a shared sense of school purpose (Printy, Marks & Bowers, 2009). This similarity is striking. In this article, we focus on just one dimension of communicating the school’s goals, namely clear leadership. This aspect concerns the principal’s role in working with teachers to ensure that the teachers have clear goals that are focused on student attainment (Hallinger, 2003).

Principal-teacher trustship (or trustship) is defined as the intentional building of relational trust between the principal and teachers. In an intentional way, school principals may establish both respect and personal regard when they acknowledge the vulnerabilities of teachers, actively listen to the teachers’ concerns, and avoid arbitrary actions (Bryk & Schneider, 2002). This relational trust is built through day-to-day social exchanges.

Almost all aspects of life can be conceived in terms of exchange (Homans, 1961). Shore et al. (2006) distinguished between economic exchange and social exchange. These concepts are the mediating variables of our theoretical framework. Social exchange emphasises “socioemotional aspects of the employment relationship, i.e., feelings of obligation and trust” (Shore et al., 2006). Social norms in a school are expectations arising from commitment and loyalty to the school’s culture (Hoy & Tarter, 2011).

Economic exchange focuses on limited and bounded obligations that reflect basic expectations regarding the relationship. “Economic exchange does not imply long-term or open-ended and diffuse obligations, but rather emphasis is on economic agreement, such as pay for performance” (Shore et al., 2006). Market norms are expectations that humans behave in the way they are paid to (Ariely, 2009). One theoretical position is that teachers’ perception of social exchange (via social norms) is a powerful force in explaining the time capacity to energise effort (Bryk & Schneider, 2002). Trust is viewed here as the basis of the relationship underlying social exchanges that entail unspecified obligations. For example, when an individual does another individual a favour, there is an expectation of some future accommodation (Blau, 1986). These aspects are not incorporated into economic exchanges.

The theoretical basis for the design of external accountability systems rests on the premise that school employees need external motivation in order to work effectively (Carnoy et al., 2002). This theoretical basis is founded on principles of rationality. A leader’s articulation of strategic declarations can influence teachers by affecting their expectations. This influence is named “clear leadership” in our analysis. Some people regard these accountability systems as an expression of mistrust in teachers as professionals (Ingersoll, 2003), and accountability (the emphasis on incentives and economic exchange) and professionalism (the emphasis on relational trust) are seen as conflicting perspectives (Tschannen-Moran, 2009). Clear leadership (including
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Administration and management is a factor that can influence both social exchange and economic exchange (Cropanzano et al., 1997), which in turn may influence teachers’ perceived time capacity to energise effort.

In this article, we explore leadership antecedents and the nature of exchanges between parties in the organisation of teachers’ work. Further, we examine the relative impact of these aspects on teachers’ perceived time capacity.

**Assessment-based accountability in the municipality under study**

The empirical material used for this article is rooted in one particular Norwegian municipality. In this city, the local authority has gone the furthest in Norway in terms of accountability devices (Elstad et al., 2009). The local accountability system puts pressure on teachers’ use of time via demands and clear leadership. The governing body of the city municipal schools has given principals the responsibility for attaining clear results-based goals. The attainment of these goals will lead to in local salary bonuses and performance grades. Initiatives within the local authority include methods related to reading-development forms intended to stimulate the schools’ capacity to improve their results in the class-3 reading tests. This remedy seems to have worked as the proportion of poor readers has been noticeably reduced.

A local initiative, related to educational leadership promoting assessment for learning, has led to more paperwork for teachers and thus an increase in their workload. A steadily more bureaucratic role for teachers has been the consequence of this policy. Demands have been made, for instance, that teachers should complete a half-year plan for each individual pupil, including a number of types of goals and strategies adapted to the teaching needs of each pupil. This and other paperwork (for instance, weekly work schedules for classes) has a significant impact on teachers’ use of time (Skaalvik & Skaalvik, 2011a, b). Surveys show that the time spent by teachers on this type of administrative work has increased (Jorfald et al., 2009; Strøm et al., 2009). Research shows that teachers perceive more time pressure than before, resulting in less time for professional development and for renewing their energy and enthusiasm for class teaching (Hargreaves, 2003; Lindqvist & Nordänger, 2006; Skaalvik & Skaalvik, 2010, 2011a & 2011b; Steen-Olsen & Eikseth, 2010). The more bureaucratic role of teachers is mainly imposed at a higher administrative level and is only to a limited extent under the individual principal’s control.

**Theoretical framework**

Several strands in educational research employ the concept of capacity, and these strands exist side by side, without reciprocal reference (Harris, 2001; Oterkiil & Ertesvåg, 2012). Capacity is an extremely complex concept: “A complex blend of motivation, skill, positive learning, organisational conditions and culture, and infrastructure of support” (Stoll et al., 2006). Time, information, teaching resources, and external help are examples of factors that are assumed to be significant for the
perceived capacity of teachers. Research supports the thesis that the teachers’ capacity to perform well in their role is to a significant degree dependent on the individual teacher’s energy (Lortie, 1975). This means that the personally perceived responsibility of professionals who largely operate alone should not be underestimated. *Time capacity* in the present study means that teachers, for instance, do not experience so much job-related paperwork that it constrains their efforts to develop as a teacher, and that the pressure on the individual teacher is not so demanding that it eats into the teacher’s time for professional development.

School leadership influences the beliefs and wishes of teachers (Elster, 2007). Research shows that school management and leadership can influence the results of classroom learning processes (Day et al., 2009; Robinson et al., 2008). However, other research suggests that the leadership factor is not of great significance (Optenakker & van Damme, 2006; Hattie, 2009). Sociological research demonstrates that the quality of relationships between school management and teachers, and among the teachers themselves, is very significant for the standard of teaching (Bryk & Schneider, 2002). To some extent, this can be explained by good relationships providing motivation for effort to perform better in order to create a good impression or to avoid disapproval (Coleman, 1990). Another motivating factor is the moral calling of teachers or intrinsic desire. Our theoretical expectation is that these factors will act positively as regards the available energy and mental power (time capacity) teachers feel they have for their job.

Clear leadership and trustship represent antecedents in our model, while social and economic exchange represent mediating variables. Trustship and clear leadership are obviously only a sample of potentially interesting school factors which could have been included in the study. However, we chose factors which have been shown to be significant in previous studies. Teachers are largely driven by emotions and cognitions, partly to achieve approval or to avoid disapproval among colleagues, pupils, or with the school’s leadership (Elster, 2007). Relational trust between principals and teachers may culminate in social exchanges within the principal-teacher role expectations (Bryk & Schneider, 2002). Inspired by Stoll et al. (2006), we posit that trustship and social exchange may influence teachers’ perceptions of time capacity.

Clear leadership may put more pressure on teachers. Leadership, administration and management are factors which can influence teachers’ perceptions of exchange, commitment and their time capacity to energise effort that concern the academic progress of the school’s students. Meta-analyses (Hattie, 2009) indicate that leadership has only a small effect on student learning. On the other hand, more analytical studies (Day et al., 2009; Robinson et al., 2008) show interesting theories on the influences of leadership. A leader can influence teachers by affecting their expectations (for instance, via strategic moves [Schelling, 2006]). However, clear leadership may also be persuasive and involve feelings of obligation.
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**Question 1:** Does clear leadership – mediated by economic exchanges – influence teachers’ perceived time capacity?

**Question 2:** Does clear leadership – mediated by social exchange – influence teachers’ perceived time capacity?

Given a fixed timescale, more paperwork will mean less time for recuperation and for reflection on one’s own performance. Principals pass on to the teachers the governors’ expectations of results, for which they themselves have been given responsibility (for instance, through average class results in national tests, exams etc.). Some scholars have observed that some principals attempt to absorb some of the pressure put on teachers (“I cannot put pressure on the lower levels in the hierarchy. If I do so ... then things get unhealthy around here” [Elstad, 2009]). Other principals use the new tools (national tests, etc.) as leadership devices: “I am able to monitor learning in the various grades in a completely new way” (loc. cit.). To what extent increased pressure on teachers acts as an incentive for improved effort, as opposed to exhaustion getting in the way of primary tasks such as preparation, teaching, and correcting the work of pupils, is an empirical question. Research into the effects of burnout and stress highlights the fact that employees experiencing heavy workloads need periods of respite in order to maintain long-term capacity (Skaalvik & Skaalvik, 2010).

“Principals play a key role in developing and sustaining relational trust” (Bryk & Schneider, 2002). This kind of leadership is called trustship here, and it “lubricates the necessary social exchanges among school professionals” (Bryk & Schneider, 2002). In human resource management theory, emphasis is placed on these warm-blooded aspects of system design (Pfeffer & Veiga, 1999; Kuvaas, 2008). In this theoretical approach, social norms are of relevance. The theory of social norms (Coleman, 1990) can also be related to the idea that skills in the professional functions of teaching should be vocationally related (Elstad, 2010).

**Question 3:** Does clear leadership directly influence teachers’ perceived time capacity?

**Question 4:** Does trustship – mediated by social exchange – influence teachers’ perceived time capacity?

**Question 5:** Does trustship – mediated by economic exchange – influence teachers’ perceived time capacity?

In the following, we estimate the strength of the pathways between clear leadership and trustship (independent variables), teachers’ perceptions of economic exchange and social exchange (mediating variables), and perceived time capacity (the dependent variable).
Method

Sample and procedures

Eighteen schools participating in a school development project in the Oslo community in Norway were invited to participate in the teacher survey, but only 11 schools responded positively to the invitation. These responding schools are located in areas of different socio-economic composition within the Norwegian capital. Seven are lower secondary schools (grades 8–10), three are higher secondary schools (grades 11–13), while one is an adult education institution providing education to adults at the lower-secondary level. In all, the schools are reasonably representative of the population of schools in Oslo regarding the socio-economic composition of the student population.

After presenting the overall results from the survey in the schools, the principals were asked if there were any systematic differences between the groups of teachers who responded and those who did not respond within the schools. In general, the principals did not consider there to be important systematic differences between these two groups. Time constraint was the most frequently reported reason for not responding. Further, information about education, gender and age did not indicate a systematic respondent bias.

In total, 243 teachers responded to the survey, with 166 in lower-secondary schools (grades 8–10), 59 in higher-secondary schools (grades 11–13) and, finally, 18 teachers teaching adult education (lower-secondary-level school). The response rate among the teachers in the survey was 54% of the total number of teachers working in these schools. This is within the range typically reported in similar surveys.

Measurement instruments

The survey was implemented in the spring of 2009. Teachers were asked to fill out a seven-point Likert-type scale ranging from “Strongly disagree” (1) to “Strongly agree” (7). Two of the measurement instruments had been previously validated in other studies (Bryk & Schneider, 2002; Shore et al., 2006), while two instruments were developed specifically for the present study. The previously validated instruments were translated from English to Norwegian. The translations were made by a highly experienced educational researcher and the quality of these translations was thereafter confirmed by an independent colleague.

The use of teacher self-report measures may be open to criticism. However, Vaisey (2009) found that “well-designed survey questions may measure practical knowledge better (than interviews) because they present the respondent with situations that are homologous with everyday decision-making processes” (p. 1689). Teacher self-report measures have been found to be consistent with other measures such as interviews and observation when the teacher’s feelings and thoughts are linked to everyday judgments (Opfer, Pedder & Lavicza, 2011).
Dependent variable

According to our research question, teachers’ time capacity for professional development is the main concept and dependent variable. The following items used to measure perceived time capacity are consistent with the theoretical definition of the concept: “There is so much paperwork related to my job as a teacher that it constrains my efforts to develop myself as a teacher”, “It is so difficult to be a teacher in today’s school that it goes beyond my endurance to renew myself as a teacher”, and “The pressure on the individual teacher is so demanding that it goes beyond the teacher’s time for professional development”.

Mediating variables

We used the social exchange and economic exchange measurement instruments developed by Shore et al. (2006). Sample items are “My relationship with my organisation is strictly an economic one: I work and they pay me,” and “I try to look out for the best interests of the organisation because I can rely on my organisation to take care of me”.

Independent variables

Bryk & Schneider’s (2002) ‘Teacher-principal relationships’/trustship construct was used. Sample items are: “In this school, it is okay to discuss feelings, concerns and frustrations with the school’s leadership,” and “The principal expresses a personal interest in teachers’ professional development”. Further, we developed a construct called “clear leadership”. A sample item is; “Communication with the management helps me to understand what is expected of me, so as to allow for the school to achieve its goals”.

Analysis and results

The sample analysed consisted of 238 teachers, after the exclusion of teachers with missing values. Some item scales were reversed owing to the substantial meaning of the item in relation to the construct.

Item selection

Confirmatory factor analysis (CFA) was used to identify the best indicators of the different constructs. The assessments were based on the $p$ value for the $\chi^2$-statistic, RMSEA (root mean square error of approximation), GFI (goodness-of-fit index), and CFI (comparative fit index). The standard criteria $p > .05$, GFI and CFI > .95, and RMSEA < .05 were used for a good fit and the criteria $p > .05$, GFI and CFI > .90, and RMSEA < .08, for an acceptable fit between the model and the data (Kline 2005; Brown 2006). The CFA analysis was conducted using AMOS 19.

During the selection process, items that did not meet these criteria were removed. At the end, three items for each construct were used to operationalise the latent variables. The fit values for the final measurement model were $p < .01$, RMSEA = 0.044, GFI
= .941, and CFI = .983. Compared with the standard criteria, these values indicate an acceptable fit between the measurement model and data.

In addition to CFA, Cronbach’s alpha was computed for each scale (Table 1). Coefficients of .70 or higher were considered to be acceptable (Nunnally et al., 1994). For all scales, Cronbach’s alpha was between .77 and .93, indicating satisfactory internal consistency (reliability). The reliability analysis was conducted using IBM SPSS 19.

**SEM analysis**

The main focus of the structure model is the relationship between the dependent variable and the two independent and the two mediating variables. According to Kline (2005), SEM should be used for this kind of data analysis. Because the variables are latent variables measured by item sets, measurement errors were expected. SEM analysis is a way to deal consistently with measurement error. The SEM analysis was conducted using AMOS 19.

**Results**

The same criteria as for the CFA analysis were used for a good fit. These criteria compared with the model values \( p < 0.01, \) RMSEA = 0.044, GFI = 0.941, and CFI = 0.983 indicate an acceptable fit between the structure model and the data. The upper limit (0.06) of the confidence interval (90%) for the RMSEA and the probability (0.720) of close fit (RMSEA < 0.05) support this conclusion. The main SEM results are summarised in Figure 1 and Table 1.

The direct effect of social exchange on time capacity is positive and relatively large (.352) and larger than the direct effect of both economic exchange (-.02) and clear leadership (-.05). Because the direct effect is larger than the correlation between social exchange and time capacity, social exchange has a negative spurious component. In addition, trustship and clear leadership have substantively indirect effects on time capacity, 0.15 and 0.10, respectively. For clear leadership, the indirect effect is almost twice as large as the direct effect.

| Construct | cap | soc | Eco | rel | Shi |
|-----------|-----|-----|-----|-----|-----|
| Cronbach’s alpha | .78 | .77 | .79 | .89 | .93 |

Abbreviations: cap = teacher time capacity; soc = social exchange; eco = economic exchange; rel = trustship; and shi = clear leadership.
Figure 1. The structure model and results. Abbreviations: clear leadership (shi); Economic exchange (eco); Trustship (rel); Social exchange (soc); Economic exchange (eco); Time capacity (cap)

Table 2. Estimated Effect Components for the Structural Model with Time Capacity as the Dependent Variable

|                      | Correlation | Total | Direct effect | Indirect effect | Spurious effect |
|----------------------|-------------|-------|---------------|-----------------|----------------|
| Trustship            | .24         | .20   | .05           | .15             | .04            |
| Clear leadership     | .21         | .04   | -.05          | .10             | .17            |
| Social exchange      | .26         | .25   | .25           | .00             | -.01           |
| Economic exchange    | -.14        | -.02  | -.02          | -.00            | -.12           |

$R^2$ (time capacity) = .07
Discussion

The results of the structural equation modelling can be summarised as follows: trustship via social exchange seems to be the most important factor influencing teacher-perceived time capacity (question 3). Therefore, this may be interpreted in the sense that school principals should develop organisational conditions that promote positive social norms. However, economic exchange and clear leadership do not seem to influence teacher perceptions of time capacity (questions 1 and 2). However, we found some moderate support for the influence of clear leadership on time capacity (the pathway from clear leadership -> social exchange -> time capacity, question 4). Trustship is not mediated by economic exchange -> teachers’ perceived time capacity (question 5). In particular, these results underline the importance of relational trust between principal and teachers. This may be seen as important in an age of accountability. However, accountability repercussions via clear leadership do not destroy perceptions of time capacity, but if market norms (induced by perceptions of economic exchange) replace social norms (induced by social exchange) then commitment to the organisation may diminish (Hoy & Tarter, 2011; Gneezy & Rustichini, 2000). The vital question is how clear leadership is combined with trustship (Printy et al., 2009).

A key result from the research on external accountability in the education sector is that the solution works (Hanushek & Raymond, 2005). When external pressure is increased, the individual teacher secures his own position, as well as possibly adapting to the new conditions, for instance by teaching according to the content of the test etc. This can have undesirable secondary consequences (according to how the system is designed, Elstad & Turmo, 2011). As mentioned earlier, the school authority in this municipality has gone the furthest in the direction of introducing assessment-based accountability in Norway, for which there has been relatively strong external pressure.

Some researchers maintain that capacity in general is an important condition for fostering development in the direction of a vision of the teaching profession as a professional learning community (Elmore, 2004; Stoll, 2009; Fullan, 2009; Watterson & Caldwell, 2011). In educational research, professional learning communities are regarded as an important condition for promoting pupil learning. Therefore, it is a paradox that the schools in the Norwegian municipality in question perform very well compared with schools in other parts of Norway which do not have the same degree of time pressure. Our results show that factors such as the principal-teacher relationship and clear leadership have positive effects on the perception of time capacity. A possible interpretation of this is that relational trust acts as a lubricant that enables individuals to achieve the ‘drive’ necessary to attain the school’s primary objectives. The vision of relational trust is not inconsistent with the vision of external accountability from above, but tensions can arise between the two visions if managerial power is exercised inappropriately (O’Day, 2002). Some researchers argue that external accountability systems may involve too much control, too much bureaucracy and too much management from above (for instance, Ingersoll, 2003). Motivational research shows that
certain forms of extrinsic motivation can remove intrinsic motivation (Deci, 1975). If teachers find that too much time is spent on needless office work and reporting that is felt to be meaningless, an overload problem can arise, leading to burnout and stress (Skaalvik & Skaalvik, 2010; McCormick & Barnett, 2011).

According to this analytical perspective, the teacher does not have a sufficient degree of time capacity to carry out the work that is essential if the pupil is to learn more. The solution prescribed by this perspective is a higher degree of teacher autonomy, greater time capacity and allowing teachers to experience more control and influence over their own working environment (Ingersoll, 2003). A greater degree of professional development can be attained through training (maintenance of professional certification, for example). The ideal is the traditional professional career system, such as that found in the medical profession. However, it has to be underlined that a need for a higher degree of teacher autonomy does not follow directly from our empirical results as such.

**Inferences and needs for further research**

Educational research provides evidence that suggests curvilinear relationships between a number of factors (Creemers & Kyriakides, 2008). A possible assumption is that there are curvilinear relationships between external pressure on teachers (via assessment-based accountability) and the time capacity for professional development and reflective practice. If this assumption gains empirical support in future research, we can imagine an optimal degree of time capacity. However, the role of accountability as a catalyst for educational change is very complex (Darling-Hammond, 2009).

The supply of instrumental tools for teachers’ work in influencing pupils’ learning processes (methods connected to reading development forms, for instance) can lead to an improvement in results along the lines indicated by analyses from England (called “informed prescription” in Fullan, 2003). This can be interpreted as follows: instrumental approaches, in combination with assessment-based accountability, can lead to significant improvement in results up to a certain level, before flattening out (Fullan, 2009).

A possible explanation is that untrained teachers are being given better tools (teaching manuals, detailed teaching plans, openness about results etc.), which contribute to effective learning conditions for the pupils. But this type of initiative will have limited potential for improvement with only the previously mentioned tools. Improving learning conditions beyond the instrumental plateau demands a different set of teaching skills than simply implementing approaches designed by other people. It demands connoisseurship and expertise that capture the minds of teachers. For these kinds of teaching skills, teacher professionalism is required (Fullan, 2003; Hargreaves, 2003).

The path coefficients in the structure model, which illustrate the leadership antecedents of time capacity, are only moderate. One inference is that we need further
research on the impacts that external factors have on time capacity. The primary idea of the initiative “Knowledge Promotion: From Deed to Action”, of which our project forms a part, is management networks or governance structures. What has been envisaged is interaction between governing bodies, experts and schools as a dynamic force in school development. Our experience, however, was limited acceptance of expert advice by the participating schools. It was difficult to arrange meetings with teachers. This may be partly due to schools' limited time for development projects in addition to the daily running of the school. It can also be related to the academic content being in line with the expectations of school staff. A core idea in the school development project was that of self-evaluation and enquiry as a teaching resource. There was a tendency to make one big effort in connection with the schools. These individual efforts of school professionals can be understood as a consequence of an overload problem and a lack of time capacity to handle school development projects.

The intention was that contact between the schools’ self-initiated development projects and the experts (academic researchers) would create positive dynamics and professional learning communities. What happened was that we received very few enquiries from schools about contributing to capacity building. We also saw almost no signs of enquiry-mindedness in relation to the analysis of the school data. If this lack of enquiry is to be understood as a result of their contact with us as researchers, the schools’ reaction could be understood as dissatisfaction. The vast majority of the schools that were followed up indicated little desire for external support. Without having tried it, the schools could not have concluded that the support offered in respect of capacity building was poor in quality. One possibility is that school leaders and teachers are under such time pressure that they could not give time priority to external advice. This was indicated in statements made by principals. If this were the case, then the schools have been subjected to an overload problem. On the other hand, anyone can organise their time in accordance with priorities.

**Limitations**

Several limitations should be made explicit and kept in mind when interpreting the results. Firstly, it should be emphasised that relatively little quantitative research has been carried out in relation to teachers’ time capacity. A cross-sectional study by the sole means of a teacher questionnaire will only represent a snapshot of an organisation. Self-report as a unique source of information induces potential biases. When associations between constructs are independent of the real association between constructs, biases may emerge in the measurement (Podsakoff et al., 2003). Cross-validation of the findings via the judgements of school leaders may improve this kind of investigation. Secondly, causality must be mentioned. It is inherently true that statistical associations are not the same as causality. We can confidently state that beliefs (such as perceptions of exchange) precede action, but it can also be argued that effects from, for instance, leadership towards teachers appear to operate in the
opposite direction to that assumed in our hypothetical model. More research along the same lines will contribute to the understanding of the assumed causal relationships and of the mechanisms that we assume to be responsible for what we are measuring.

There is a need to include factors from outside the school system in order to study which kinds of factors influence the perception of time capacity. One challenge in relation to measuring such factors is that measurement becomes increasingly difficult in proportion to the remoteness of the factor in the hierarchical organisation of the educational sector.

Our empirical material covers 11 schools. Our material is not sufficiently comprehensive to study the differences between different types of schools using a meaningful statistical analysis. Moreover, it is unclear to what extent cultural differences might affect the results. Another possibility for improvement is to examine some cases in depth in order to attain a better understanding of the phenomena being studied. Apart from the questionnaires, we also have material including a student survey, interviews with principals, teachers and students, as well as observations carried out at schools. There is a need to view the results of such surveys in tandem with case studies of schools. Contrasting case studies are an interesting approach (Yin, 2008).

Studying the dynamics within a school is an interesting but demanding research approach. Controlled experiments are normally beyond the realms of possibility for educational researchers, but studying development processes at two schools, which in many respects have substantial similarities apart from the one aspect being studied, can set us on the trail of causal processes. Longitudinal and quasi-experimental studies of this sort are needed in order to come closer to inferences about causality.

A further limitation of this study is the use of self-reported questionnaire data. The possible subjective nature of such data is undeniable. Independent judgements can provide interesting data about an employee’s performance, but it is difficult to carry out this process whilst honouring promises of anonymity.

It should also be noted that the 54% response rate leaves some uncertainty about whether the selection is representative. We conducted a random test on this by investigating one school’s responses to our survey together with a corresponding work environment survey based on corresponding single items. This test suggested a correspondence between the two surveys, and the school’s leadership was of the opinion that the teachers’ response profile was as expected. Nevertheless, we do not underestimate the importance of the difficult task of increasing the response rate for this type of survey.

Implications for practice
In spite of its limitations, this study contributes to our understanding of internal school factors that influence teachers’ perception of time capacity. If the associations between the independent and the dependent variables represent causal relationships, our findings may also have implications for practice. For the principal, the task is to
find an acceptable medium between demands and building good relationships with the teachers in order to enhance productive interactions. The contemporary emphasis on the needs of the knowledge-based society for the type of skills that the schools should be making available demonstrates the importance of the school as a social institution (Schleicher, 2007).

It is difficult to imagine improvement processes that do not involve constructive social norms among teachers. The challenges faced by schools are so complex that the scope for meaningful bureaucratic control and incentive management is not entirely positive (O’Day, 2002). There is, therefore, an entirely central implication that teachers have a personal engagement in their work, and this study, in line with other research in this area, contributes insights in this respect. Research suggests that simply providing more time for professional development is unlikely to be effective (Guskey, 2003), so it is important to consider what type of professional development is most likely to lead to improved instructional practice. Professional development requires commitment and support from middle leaders and school principals, and effective professional development engages teachers in learning opportunities that are supportive, job-embedded, instructionally-focused, collaborative and ongoing. When guided by these characteristics, school principals can design meaningful learning experiences for teachers (Hunzicker, 2010).

Conclusions
This study indicates that the relationship between principals and teachers (trustship) is important for teachers’ perception of time capacity. Insofar as the teachers’ time capacity for professional development is of real significance in relation to the actual performance of the students in core academic subjects, this suggests that the authorities and school leaders should place an emphasis on promoting human relations among employees. Conversely, it is difficult to influence social norms in the workplace, which indicates the complexity of the relationship between the shaping of policy – via the large number of hierarchical levels in the educational sector – and the actual activity of teachers in the classroom.

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Notes

1 Advocates of external accountability make a number of arguments about the value of accountability systems, including their power to attract different kinds of workers into the education system, their ability to promote the clarity of goals (and thereby help teachers figure out how to focus their efforts) and the utility of the information produced by these systems to inform decision making.

2 Teachers may respond strategically to the incentives by not giving low-stake subjects priority and ignoring critical aspects of learning that are not explicitly tested. The incentives may backfire (Jacob, 2005).

3 The health service is an example of a sector in which government management is mixed in a sort of symbiosis with, for instance, doctors’ interest organisations.

4 However, Stoll (2009) emphasises that prescription can lead to diminished capacity.

5 However, the researchers involved were praised by the principals in an enquête after the completion of the project.
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