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Title of your paper: Patterns of teachers' instructional support quality and the association with job satisfaction and collegial collaboration

Abstract (300 words)

The current study investigates patterns of instructional support quality in Norwegian lower secondary school using latent profile analysis (LPA). A total of 81 schoolteachers participated in the study. The analysis and discussion focused on five identified profiles: *Lower observed quality, higher teacher-reported quality* ($n = 21$); *Low quality* ($n = 21$); *Higher observed quality, lower teacher-reported quality* ($n = 18$); *High quality* ($n = 9$); and *Lower quality in observed analysis and inquiry and instructional dialogue* ($n = 12$). The results indicated that teachers belonging to the *Low quality* profile also were least satisfied with their job and reported lower levels of collegial collaboration. By gaining more knowledge about patterns of instructional support quality and the associations with teachers' job satisfaction and collegial collaboration, actions to support teachers' professional development can be tailored to individual teachers' needs.

Keywords: instructional support quality, systematic classroom observation, teacher reports, latent profile analysis, job satisfaction, collegial collaboration

Extended summary (1000 words, excluding reference list) introduction, theoretical background, methods, preliminary findings/findings, results, reference list.

Patterns of Teachers' Instructional Support Quality and the Association with Job Satisfaction and Collegial Collaboration

Introduction

Instructional support describes teaching practices and strategies hypothesized to enhance students' cognition and learning (Allen et al., 2013; Hafen et al., 2015). Recent studies indicate that the quality of instructional support is significantly lower than the other domains of classroom interaction: emotional support and classroom organization (e.g., Allen et al., 2013; Gitomer et al., 2014; Virtanen et al., 2018). This trend of lower scores is critical because instructional support is the core of teaching practices linked to students' academic learning and engagement (Hamre et al., 2013). Despite the evidence of studies investigating instructional support as one of three domains, less is known specifically about patterns of teachers' instructional support quality. Additionally, little is known about how these patterns are associated with teachers' job satisfaction and collegial collaboration.

Theoretical background

In the current study, instructional support aligns with the Teaching through Interactions (TTI) framework developed by Pianta and colleagues (e.g., Hafen et al., 2015; Hamre et al., 2013). A substantial variation in teachers' instructional quality is observed, indicating that many students are not exposed to high-quality instructional support (e.g., Gitomer et al., 2014; Pianta & Hamre, 2009), but rather to lower quality instructional support implying a singular focus on performing basic skills and providing discrete answers or simple responses. Instructional support is a multifaceted construct, and teachers interact with their students in patterned ways (e.g., Virtanen et al., 2019; Wubbels & Brekelmans, 2005). The TTI

framework provides a structure for identifying the facets of instructional support and characterizing high- versus low-quality practices. Person-centered studies on observed classroom interaction have identified one high-quality and one low-quality teaching profile (e.g., Halpin & Kieffer, 2015; Hu et al., 2018; Virtanen et al., 2019; Yang & Hu, 2019), mixed patterns (Virtanen et al., 2019), or an inconsistency between observations and teacher reports (Hu et al., 2018). Teachers' job satisfaction is associated with their actual performance in the classroom (e.g., Jennings & Greenberg, 2009), and teachers who find their work meaningful and satisfying are more motivated to do their job (Caprara et al., 2006). Collaboration between teachers have been perceived as important for the improvement of teaching practices (e.g., Levine & Marcus, 2010; Meirink et al., 2007). Notably, collegial collaboration could lead to beneficial outcomes, including more positive attitudes toward teaching and instruction (Brownell et al., 1997) and higher levels of job satisfaction (Munthe, 2003; Skaalvik & Skaalvik, 2011).

The aim of the study was to investigate patterns of teachers' instructional support quality. Moreover, the study examines the extent to which the specific patterns of instructional support are associated with teachers' job satisfaction and collegial collaboration. Accordingly, the research questions and hypotheses were the following:

- (1) How many and what kind of profiles of instructional support quality emerge in the sample of lower secondary school teachers? We expected different profiles of instructional support quality to emerge as a result of different perceptions of observers and teachers (Hypothesis 1).
- (2) To what extent are the profiles associated with job satisfaction and collegial collaboration? We expected that high-quality profiles of instructional support would differ from low-quality profiles by representing teachers with higher job satisfaction and higher collegial collaboration (Hypothesis 2).

Methods

The sample included 81 Norwegian lower secondary teachers and their classrooms. The teachers were 70.4% female, ranging from age 24 to 63 ($M = 42.2$ years, $SD = 9.6$ years), and teaching experience varied from 1 to 35 years ($M = 14.2$ years, $SD = 8.8$ years). Teachers and classrooms were based in 15 schools across three counties in Norway, including urban and rural schools, and small and large schools. The classrooms were observed four times during one school year.

Observed instructional support were scored using the secondary version of the Classroom Assessment Scoring System (CLASS-S; Pianta et al., 2012), whereas teachers reported on a web-based questionnaire capturing their instructional support, job satisfaction, and collegial collaboration, at the beginning and the end of the same school year.

A person-centered analysis approach through latent profile analysis (LPA; Muthén, 2004; Nylund et al., 2007) was applied to identify subgroups of teachers with similar patterns of instructional support quality. In LPA, profile membership is unknown but is inferred from a set of measured items whose responses are similar, i.e., instructional support quality reported by observers and teachers (Nylund et al., 2007). To identify the profiles, a series of models with an increasing number was estimated using the following statistical criteria (Nylund et al., 2007; Wickrama et al., 2016): log likelihood, Akaike information criterion (AIC), Bayesian information criterion (BIC), sample-size adjusted BIC (SSABIC), entropy, Vuong–Lo–Mendell–Rubin likelihood ratio test (VLMR), and Lo–Mendell–Rubin adjusted LRT test (LMR-LRT). In addition to the statistical criteria, perhaps the most important aspect to consider, is that the profiles should be interpretable and consistent with theoretical assumptions (Wickrama et al., 2016).

Multivariate analysis of variance (MANOVA) was used to test the differences among the profiles, and job satisfaction and collegial collaboration.

Results

A five-profile solution was chosen, as it best described the differences between low, high, and mixed patterns of teachers' instructional support quality based on observations and teacher-reports. Moreover, the five-profile solution fulfilled theoretical expectations and was substantively meaningful and useful for further interpretations (Wickrama et al., 2016). Moreover, teachers with low-quality patterns of instructional support reported the lowest levels of job satisfaction and collegial collaboration, whereas teachers with high-quality patterns reported highest on job satisfaction but lower levels of collegial collaboration. The teachers reporting of highest collaboration belonged to a profile showing inconsistency between observations and teacher-reports.

Theoretical and educational significance

The results of the current study indicate distinct patterns of teachers' instructional support quality and validate the contention that there is a variation related to instructional support quality, job satisfaction and collegial collaboration. Teachers' varying instructional support quality, job satisfaction and collaboration, may imply differentiated needs for professional development (PD), tailored to the individual teacher, for example through research-based coaching.

References

- Allen, J. P., Gregory, A., Mikami, A., Lun, J., Hamre, B., & Pianta, R. (2013). Observations of effective teacher–student interactions in secondary school classrooms: Predicting student achievement with the Classroom Assessment Scoring System–Secondary. *School Psychology Review, 42*(1), 76–98.
<https://doi.org/10.1080/02796015.2013.12087492>
- Brownell, M. T., Yeager, E., Rennells, M. S., & Riley, T. (1997). Teachers working together: What teacher educators and researchers should know. *Teacher Education and Special Education, 20*(4), 340–359. <https://doi.org/10.1177/088840649702000405>
- Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*(6), 473–490.
<https://doi.org/10.1016/j.jsp.2006.09.001>
- Gitomer, D., Bell, C., Qi, Y., McCaffrey, D., Hamre, B. K., & Pianta, R. C. (2014). The instructional challenge in improving teaching quality: Lessons from a classroom observation protocol. *Teachers College Record, 116*(6), 1–32.
- Hafen, C. A., Hamre, B. K., Allen, J. P., Bell, C. A., Gitomer, D. H., & Pianta, R. C. (2015). Teaching through interactions in secondary school classrooms: Revisiting the factor structure and practical application of the Classroom Assessment Scoring System–Secondary. *The Journal of Early Adolescence, 35*(5-6), 651–680.
<https://doi.org/10.1177/0272431614537117>
- Halpin, P. F., & Kieffer, M. J. (2015). Describing profiles of instructional practice: A new approach to analyzing classroom observation data. *Educational Researcher, 44*(5), 263–277. <https://doi.org/10.3102/0013189X15590804>

- Hamre, B. K., Pianta, R. C., Downer, J. T., DeCoster, J., Mashburn, A. J., Jones, S. M., Brown, J. L., Cappella, E., Atkins, M., Rivers, S. E., Brackett, M. A., & Hamagami, A. (2013). Teaching through interactions: Testing a developmental framework of teacher effectiveness in over 4,000 classrooms. *The Elementary School Journal*, *113*(4), 461–487. <https://doi.org/10.1086/669616>
- Hu, B. Y., Chen, L., & Fan, X. (2018). Profiles of teacher–child interaction quality in preschool classrooms and teachers’ professional competence features. *Educational Psychology*, *38*(3), 264–285. <https://doi.org/10.1080/01443410.2017.1328488>
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, *79*(1), 491–525. <https://doi.org/10.3102/0034654308325693>
- Levine, T. H., & Marcus, A. S. (2010). How the structure and focus of teachers’ collaborative activities facilitate and constrain teacher learning. *Teaching and Teacher Education*, *26*(3), 389–398. <https://doi.org/10.1016/j.tate.2009.03.001>
- Meirink, J. A., Meijer, P. C., & Verloop, N. (2007). A closer look at teachers’ individual learning in collaborative settings. *Teachers and Teaching: Theory and Practice*, *13*(2), 145–164. <https://doi.org/10.1080/13540600601152496>
- Munthe, E. (2003). Teachers’ workplace and professional certainty. *Teaching and Teacher Education*, *19*(8), 801–813. <https://doi.org/10.1016/j.tate.2003.02.002>
- Muthén, B. (2004). Latent variable analysis: Growth mixture modeling and related techniques for longitudinal data. In D. Kaplan (Ed.), *Handbook of quantitative methodology for the social sciences* (pp. 345–368). SAGE Publishing.
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study.

Structural Equation Modeling: A Multidisciplinary Journal, 14(4), 535–569.

<https://doi.org/10.1080/10705510701575396>

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher*, 38(2), 109–119. <https://doi.org/10.3102/0013189X09332374>

Pianta, R. C., Hamre, B. K., & Mintz, S. (2012). *Classroom assessment scoring system: Secondary manual*. Teachstone.

Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education*, 27(6), 1029–1038. <https://doi.org/10.1016/j.tate.2011.04.001>

Virtanen, T. E., Pakarinen, E., Lerkkanen, M. K., Poikkeus, A. M., Siekkinen, M., & Nurmi, J. E. (2018). A validation study of Classroom Assessment Scoring System–Secondary in the Finnish school context. *The Journal of Early Adolescence*, 38(6), 849–880. <https://doi.org/10.1177/0272431617699944>

Virtanen, T. E., Vaaland, G. S., & Ertesvåg, S. K. (2019). Associations between observed patterns of classroom interactions and teacher wellbeing in lower secondary school. *Teaching and Teacher Education*, 77, 240–252. <https://doi.org/10.1016/j.tate.2018.10.013>

Wickrama, K. A. S., Lee, T. K., O’Neal, C. W., & Lorenz, F. O. (2016). *Higher-order growth curves and mixture modeling with Mplus: A practical guide*. Routledge.

Wubbels, T., & Brekelmans, M. (2005). Two decades of research on teacher–student relationships in class. *International Journal of Educational Research*, 43(1–2), 6–24. <https://doi.org/10.1016/j.ijer.2006.03.003>

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Yang, Y., & Hu, B. Y. (2019). Chinese preschool teachers' classroom instructional support quality and child-centered beliefs: A latent profile analysis. *Teaching and Teacher*

Education: An International Journal of Research and Studies, 80(1), 1–12.

<https://doi.org/10.1016/j.tate.2018.12.021>

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