

This is an electronic reprint of the original article. This reprint may differ from the original in pagination and typographic detail.

Crosscurricular teacher collaboration actualizing teacher professionalism: Revising a didactic model

Mård, Nina; Hilli, Charlotta

Published in:

Developing a Didactic Framework Across and Beyond School Subjects

DOI:

[10.4324/9781003367260](https://doi.org/10.4324/9781003367260)

Published: 01/12/2023

Document Version

Final published version

Document License

CC BY-NC-ND

[Link to publication](#)

Please cite the original version:

Mård, N., & Hilli, C. (2023). Crosscurricular teacher collaboration actualizing teacher professionalism: Revising a didactic model. In S. H. Klausen, & N. Mård (Eds.), *Developing a Didactic Framework Across and Beyond School Subjects* (1 ed.). Routledge. <https://doi.org/10.4324/9781003367260>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

5 Crosscurricular teacher collaboration actualizing teacher professionalism

Revising a didactic model

Nina Mård and Charlotta Hilli

Introduction

This chapter examines crosscurricular teacher collaboration, meaning that teachers with different subject affiliations develop the curriculum and teach together. Recent trends suggest that many international and national policy documents expect crosscurricular teacher collaboration but leave it to the schools and teachers to organize the efforts (Horn et al., 2017; McPhail, 2018). Policymakers and school leaders sometimes set overly optimistic goals for crosscurricular teacher collaboration and expect it to enhance a range of matters, such as teachers' professional and school development, student learning, and professional learning communities (Admiraal et al., 2016; Lysberg, 2022).

Crosscurricular teaching is considered an approach to linking distinctive components of two or more subjects (for conceptual clarifications, see Chapter 2). Crosscurricular teaching and teacher collaboration have traditionally been under-theorized (Mård, 2021). The research is often descriptive, and there are few didactic theories to support teachers in jointly planning and implementing crosscurricular activities in school. To meet this need, we developed a didactic model for crosscurricular teaching (Mård & Hilli, 2020). The model provides a framework by highlighting decisional (subjects, competences, values and aims of education, student needs and interests, contemporary issues, and methods) and conditional (curriculum, collaboration, and school culture) factors (for an extended explanation of the model, see Mård & Hilli, 2020). In the first version, we did not further examine collaboration as it was one of many important factors raised in the empirical cases analyzed. In this chapter, we will revise the didactic model while considering crosscurricular teacher collaboration, its potential and pitfalls. Hence, other forms of crosscurricular collaboration are excluded, such as student collaboration, teacher–student collaboration, and collaboration with the surrounding community.

We suggest that crosscurricular teacher collaboration creates new didactic tensions as teachers negotiate which subjects to include and the scope of the collaboration, depending on the available resources (Haapaniemi et al., 2020). Several interpersonal, individual, and organizational factors affect

collaboration, including the support of the educational leader, available resources, and teachers' attitudes (Toikka & Tarnanen, 2022). Adding to the complexity is the lack of guidelines for collaboration, as it has been realized in multiple ways, from sharing materials and ideas to planning joint teaching. The collaborative interventions can be short- or long-term and may, to various degrees, support teacher autonomy and constructive group discussions and activities (Hargreaves, 2019; Vangrieken et al., 2015).

Working together in shared practices may enable teachers to develop professionally by gaining new insights into their teaching and student learning, potentially increasing the effectiveness of education and teachers' professional wellbeing (de Jong et al., 2019). However, teachers may question and mistrust collaborative initiatives for different reasons. The goals may be ill-defined or unrelated to teachers' professional practices, the conditions may be unfavorable, or collaboration may challenge the individualistic culture teachers are accustomed to. Even productive collaboration may add to teachers' workload with increased risks for exhaustion and burnout (Little, 2007). Hence, cross-curricular teacher collaboration must be critically examined to avoid common mistakes.

In the following sections, we discuss relevant studies on crosscurricular teacher collaboration and elaborate on Mård and Hilli's didactic model (2020). Since studies have shown that conflicts and negotiations often relate to teachers' didactical positions and worldviews (Frederiksen & Beck, 2013), we argue that teacher professionalism frames crosscurricular teacher collaboration. Our inquiry led us to revise the didactic model and include teacher professionalism as a conditional factor for crosscurricular teaching, besides collaboration, the curriculum, and school culture (see Figure 5.1). Before entering the literature review and discussion, we will define teacher collaboration in general and in relation to Bildung-didactic theories, which make the theoretical framework of the model (cf. Mård & Hilli, 2020).

Teacher collaboration and professionalism

Teacher collaboration is not a uniform or static concept but rather an umbrella term for different types of collaboration with varying depths. Vangrieken et al. (2015) define collaboration as a joint group interaction concerning all the activities needed to perform a shared task. The authors distinguish mainly between collaboration and cooperation, the latter referring to partners splitting their work and combining the partial results for the outcome. The idea of collaboration is instead that shared activities characterize the process. Different types of teacher collaboration have been identified to describe the degree of team entitativity (Vangrieken et al., 2015). The depth and focus of collaboration range from whether it pertains to practical arrangements, such as sharing ideas and materials (i.e., decisional levels), or whether there is room for deeper didactic discussions on classroom practice, such as underlying teacher-related beliefs and values (i.e., conditional levels).

Similarly, Havnes (2009) suggests four levels of collaboration: preserving individualism, coordination, cooperation, and sharing. When *preserving individualism*, the focus is on individual teacher responsibility and autonomy. The second level of collaboration refers to *coordinating* duties and tasks without discussing the substance of teaching. *Cooperation* alludes to establishing a common ground for the joint enterprise by focusing on the content and process of classroom activity. *Sharing* entails clarification of pedagogical motives that direct how the teaching and learning are structured. In teacher collaboration, individual freedom is generally negotiated while developing shared ideas and responsibilities.

However, questions remain regarding the quality of teacher collaboration and how it impacts teachers' professional development. Teacher collaboration can be not only ambitious and rewarding but also tension-ridden and filled with conflicts. The collaboration may challenge the teacher's professional attitudes toward content, knowledge, assessment, and a school culture of individualism (Hargreaves, 2019; Little, 2007). The quality of teacher collaboration relies on opportunities to express different and possibly contradicting views rather than to favor consensus or avoid conflicts during interventions (Hargreaves, 2019). Collaboration may also become challenging because of teaching conditions, such as classrooms, schedules, and curricula. Overly controlling school leaders that want to manage when, where, and how teacher collaboration happens have also restricted or hampered the efforts (ibid.).

To develop schools and teaching practices, teacher collaboration can be initiated either on the district and government level or the school and teacher level (Hargreaves, 2019). The school leader's navigation, coordination, support, and encouragement are needed to establish collaborative cultures (Hargreaves, 2019; Kim & Lee, 2020). Equally essential is trusting and empowering teachers to address and change problems in their teaching and schools. Teacher collaboration benefits from teachers identifying problems they want to solve as a professional community rather than individuals (Little, 2007).

Teacher collaboration thus seems to need professional freedom and trust, as well as organizational and emotional support, for it to become effective for the school's results and meaningful to the professional development of teachers. The discussion so far has paved the way for the next section on Bildung-oriented Didaktik as a multilevel framework that trusts and respects the professionalism of autonomous teachers but lacks concepts for collaborative school cultures.

Bildung-oriented Didaktik as a framework for crosscurricular teacher collaboration?

The didactic model revised in this chapter builds on theories of Bildung-oriented Didaktik. The Nordic and German Didaktik traditions are based on pedagogical and philosophical assumptions of teacher autonomy and abilities

to reflect critically on teaching. According to Didaktik, teaching is related to teachers' instructional practices and study practices and consequently learning of students (Uljens & Ylimaki, 2017). Didaktik aims at open-ended and Bildung-oriented processes for a better society by offering students possibilities to become more knowledgeable and capable of participating in society. However, in this chapter, we turn the attention to the teachers and their professional processes of Bildung as they collaborate. Didaktik points to the complexity of teaching because it is determined by many interpersonal factors (i.e., teacher–student relationships) and the cultural and political contexts that influence and regulate the aims, contents, and methods (i.e., the curriculum). Rather than providing definitive answers, Didaktik leaves it to the teacher to reflect on the content and context of teaching (for an extended discussion on Didaktik and Bildung, please see Chapter 3). In crosscurricular teacher collaboration, these reflective processes are extended to the faculty members and the aim becomes to change teaching individually and in groups.

Didactic models can reduce teaching complexity by identifying relevant teaching factors, for example, aims, contents, and methods (Jank & Meyer, 2006). According to Sjöström (2021), didactic models bridge theories and practices. A good didactic model can help teachers to face complex teaching situations by operationalizing didactic theories and making them more concrete.

Numerous didactic models exist, most addressing teaching at the classroom level. The model we discuss here similarly considers concepts related to instruction and conditional factors that determine and frame crosscurricular instruction (see Figure 5.1). Inspired by the so-called Berlin Didaktik (Jank & Meyer, 2006; Keiding, 2013), the two-level model contains decisional factors (e.g., subjects, aims, methods), which need to be selected by teachers for every teaching activity, and conditional factors (school culture, curriculum, collaboration), which regulate crosscurricular teaching activities and affect the decisional factors.

Didactic models may also include political and economic reasonings behind teaching, for example, the values imbued in curricula documents and steering mechanisms (e.g., funding) in education (Uljens & Ylimaki, 2017). Crosscurricular teacher collaboration is often initiated on policy levels. In recent years, policymakers in many countries have decided to include principles for crosscurricular teaching in national curricula. Teachers are encouraged or forced to collaborate across subjects to provide students with holistic and meaningful learning experiences (Frederiksen & Beck, 2013; Haapaniemi et al., 2020; McPhail, 2018). Enhancing student learning and promoting teachers' professional learning and schools as learning communities are among the main ambitions of crosscurricular teacher collaboration (Adams & Mann, 2020; Admiraal et al., 2016; Lysberg, 2022).

In many cases, schools and teachers are free to implement policy guidelines and decide how to realize teacher collaboration in their schools (Lysberg, 2022; Lähdemäki, 2018). Crosscurricular teacher teams may be established

temporarily to work with short-term projects (cf. Haapaniemi et al., 2020) or long-term projects to restructure the whole school organization (cf. Lysberg, 2022). No matter the approach, teachers may welcome or doubt collaborative efforts (Adams & Mann, 2020; Frederiksen & Beck, 2013; Toikka & Tarnanen, 2022).

The increased policies for crosscurricular teacher collaboration call for critical reviews of Didaktik as a teaching framework. The individualist culture, typical for Didaktik traditions, which signifies individual teacher's planning and realizing teaching within one classroom with a group of students (cf. Hopmann, 2007), is challenged by the collaborative or community-based school culture that crosscurricular teaching implies (cf. Hargreaves, 2019; Kim & Lee, 2020). For didactic theories and models to be timely, there is a need to address aspects of teaching where teachers collaborate and what kind of professional Bildung-processes this may enhance.

Crosscurricular teacher collaboration: navigating teacher professionalism

This section discusses previous studies on crosscurricular teacher collaboration. In the literature, we identified two central factors: *organizational factors* and *factors related to teachers' didactical positions*. After discussing the literature and the two factors, we will present a revised version of the model that includes a conditional factor of teacher professionalism (see Figure 5.1) and elaborate on its premises for crosscurricular teaching. Our discussion will suggest that teacher professionalism informs all factors of crosscurricular teacher collaboration on both conditional and decisional levels.

Organizational factors for crosscurricular teacher collaboration

Crosscurricular teacher collaboration requires teacher teams to negotiate curricula-related decisions when combining contents and aims of different subjects. In subject-structured systems, schedules, physical spaces, teaching employment, and other resources are related to different subjects. In crosscurricular teacher collaboration, these *organizational factors* can be reconsidered and rearranged (cf. Trent, 2010). Depending on the context and aims of crosscurricular teaching, the number of teachers and subjects included can be many or few. Studies suggest that fewer teachers and subjects involved may reduce the complexity and ease the planning and implementation processes (Braskén et al., 2020; Haapaniemi et al., 2020).

No matter the number of teachers involved, crosscurricular collaboration requires time. To avoid the risk of teachers considering it time-consuming or an additional workload, researchers suggest that school leaders should plan joint time for collaboration within teachers' ordinary work hours (Adams & Mann, 2020; Admiraal et al., 2016; Haapaniemi et al., 2020). In Pöntinen's study (2019), many participating student teachers did not see crosscurricular

collaboration as an integral part of a teacher's work, but rather as a voluntary work outside regular working hours. Thus, crosscurricular teaching and collaboration must be part of the schoolwork to gain teachers' credibility. Otherwise, there is a risk that it becomes an ideal positively viewed by teachers but rarely implemented in teaching practices due to organizational obstacles (cf. Toikka & Tarnanen, 2022).

Organizational factors such as time allocation are often regulated by laws, work agreements, and national curricula (cf. Little, 2007; Lysberg, 2022). In the United States, there are significant differences in how teachers in elementary and secondary schools can allocate time for collaboration, due to the number of employed teachers and state agreements on planning time (Little, 2007). The national curriculum and work agreements in Norway allow school leaders to organize joint time for teacher collaboration (Lysberg, 2022). In Finland, the national curricula require crosscurricular teaching in primary and secondary schools. However, teachers may need to organize it within their regular work, which can be challenging because of teachers' different schedules (Pöntinen, 2019).

The outcomes of crosscurricular teacher collaboration are thus related to conditional factors at the school level (schedules, teaching resources) and political decisions on national or regional level (curriculum, work agreements). As already stated, the school leaders should plan for joint time for teacher collaboration to ease the teachers' workload and support the initiative (cf. Hargreaves, 2019). With little time for mutual planning, the collaborative efforts will likely stay on a coordinative basis (cf. Havnes, 2009) since the available time is spent on teachers agreeing on organizational issues. Deeper forms of collaboration, such as cooperating and sharing (cf. Havnes, 2009), require time for teachers to discuss and negotiate their didactic positions.

Factors related to teachers' didactical positions

The aforementioned organizational factors relate to the most influential variable for crosscurricular collaboration: teachers' professional attitudes or didactical positions (Frederiksen & Beck, 2013). *Didactical positions* are indicators of teachers' professional inclinations (e.g., views on teaching, the learners, and socialization). In a study of Danish secondary teachers, Frederiksen and Beck (2013) found that didactical positions were not related to specific variables of gender, seniority, or teaching subject. Variations in positions and attitudes did not have the same distribution pattern at all schools, but different perceptions existed. Therefore, it is essential to consider what happens in a heterogeneous teacher group when implementing crosscurricular reforms.

Teachers have different attitudes to crosscurricular teaching and collaborating with their colleagues (Toikka & Tarnanen, 2022). For example, studies revealed that teachers with different subject affiliations had contrasting views on the aims of students learning the content in crosscurricular projects. Content teachers identified strongly with their discipline and were more

inclined to follow the syllabus, while language teachers negotiated the meaning of the content with their students and viewed knowledge as less sure than the content teachers (Arkoudis, 2007; Creese, 2010; Davison, 2006; Trent, 2010). The studies suggested that the teachers needed to negotiate and challenge their epistemic beliefs to reach a shared understanding that supported teacher collaboration. Thus, rather than highlighting the differences between subjects, crosscurricular teaching benefits from finding common ground among teachers and perhaps even a collective identity for the whole school (cf. Trent, 2010).

Similarly, Finnish home economics and mathematics teachers had mixed feelings about the effectiveness of crosscurricular teacher collaboration (Haapaniemi et al., 2020). Some teachers in the study felt that the amount of time spent on the crosscurricular lessons resulted in quite a low efficiency when considering the objectives met in the subjects involved. They suggested that fewer subjects and teachers should be involved in a crosscurricular collaboration to reach the different subjects' objectives (cf. Braskén et al., 2020).

In contrast, Lysberg (2022) reported on Norwegian teachers gaining respect for their colleagues' knowledge and work through crosscurricular teacher teams. Content teachers benefitted from language teachers' knowledge of reading strategies and gained new insights into teaching strategies in their subjects. Teachers having students with challenges in their subjects could find out that the same student was managing well in other subjects. The collaboration thereby increased the teachers' motivation to find new supportive teaching methods for those students. Hence, shared knowledge in crosscurricular teacher teams can enrich teaching in different subjects if teachers recognize and value their colleagues' subjects and work (cf. Pöntinen, 2019).

In profound forms of collaboration, such as cooperation and sharing (Havnes, 2009), teachers need to negotiate their didactical positions. Deep engagement is required for successful collaboration, implying a change of attitudes and inspiring others (de Jong et al., 2019; Toikka & Tarnanen, 2022). It might be relevant for teachers to explore the concept initially and aims of collaboration collectively since realizing it can take many forms (cf. Vangrieken et al., 2015). If teachers have not decided on didactic aims for their collaboration, the negotiations may focus on solving practical problems or organizational issues rather than planning joint lessons or projects (cf. Horn & Little, 2010).

In successful crosscurricular teacher collaboration, the outcomes for teachers' professional development are promising. Several studies report on teachers' increased motivation as they get new ideas (Haapaniemi et al., 2020; Horn et al., 2017; Lysberg, 2022). Positive effects such as teachers' professional development, increased wellbeing, and reduced workloads have been identified when teachers collaborate toward a mutual goal (e.g., joint lesson planning) and everyone feels included and valued. Teachers' openness to differences of opinion and willingness to learn together and from each other may benefit professional development, as they develop new perspectives and

strategies for teaching (de Jong et al., 2019). This may, perhaps surprisingly, increase the sense of teacher autonomy in collaborative practices (Haapaniemi et al., 2020).

Crosscurricular teacher collaboration relates to conditional factors such as resources, professional inclinations, and the quality of collaboration. If teachers have the autonomy and time to plan crosscurricular activities and develop a shared focus to engage in meaningful discussions with their colleagues, the collaboration can become professionally meaningful and engaging. Developing new ways of teaching together means identifying possible conflicting views, organizational issues (e.g., number of teachers, subjects), and shared problems to address. The reviewed studies confirm that collaborative cultures indeed build on teachers respecting and trusting their colleagues' professionalism (cf. Hargreaves, 2019; Little, 2007). Establishing professional communication open to different views on decisional factors (e.g., aims, methods, themes) may be challenging but necessary as teachers mediate between the curriculum, their didactical positions, and collaboration with their colleagues.

A revised didactic model for crosscurricular teaching: adding the factor of teacher professionalism

Crosscurricular teacher collaboration actualizes professional negotiations and possible conflicts on decisional and conditional levels grounded in the teachers' ontological and epistemic standpoints (see also Chapter 15). Teacher professionalism covers the didactical positions of individual teachers, which form the teacher's identity and agency. The professionalism of involved teachers will most likely be (re)negotiated when developing crosscurricular collaboration. In this process, teachers' conflicting views and understandings need to be addressed for two reasons; they help focus the collaboration and challenge a deeper and more meaningful collaboration. Crosscurricular teacher collaboration brings didactical tensions between the individual and the collective to the fore and calls for critical examinations of existing practices, structures, and forces influencing teachers' work. Similar tensions can be explained as *Bildung*-oriented processes where teachers reflect on their didactical position while they adapt to the collaboration with other faculty members. Successful collaboration suggests that teachers communicate respectfully and purposefully to realize the possible positive effects, such as professional development and school improvement, increased autonomy and wellbeing, and reduced workloads (cf. Chapter 3).

In the previous model version (Mård & Hilli, 2020), we did not highlight the individual teacher's attitudes to and views of crosscurricular collaboration or teaching. Accordingly, we added teacher professionalism to the conditions for crosscurricular teaching in the revised didactic model. The theories of *Didaktik*, which inspired the model, also include aspects of teacher professionalism to encourage, for example, teacher students, teachers, and researchers to analyze how a teacher's background and inclinations frame and affect teaching

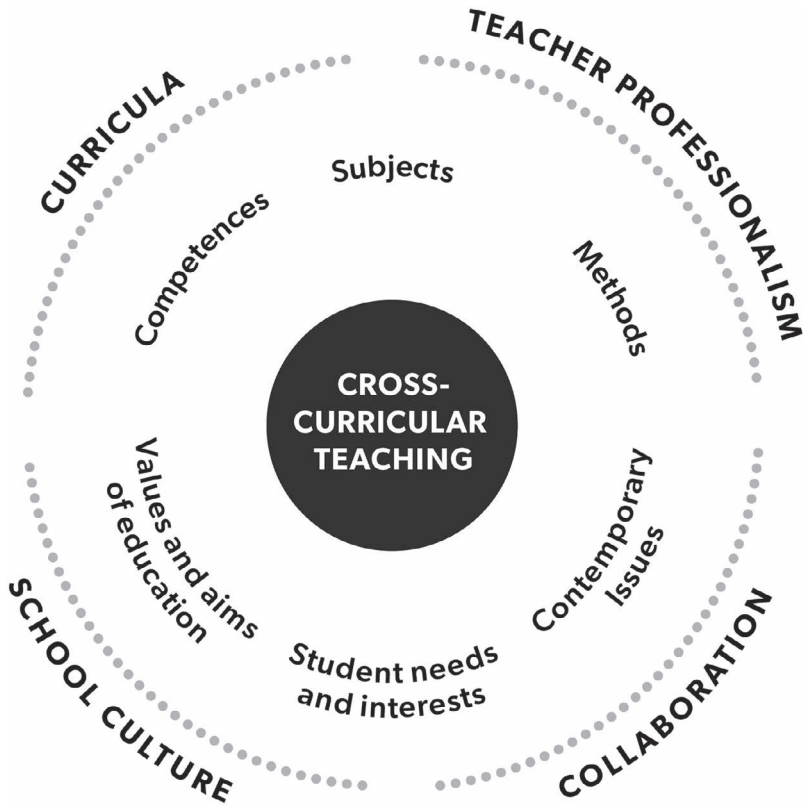


Figure 5.1 A revised didactic model for crosscurricular teaching.

(Jank & Meyer, 2006; Keiding, 2013). The revised model is presented in Figure 5.1.

In the revised model, teacher professionalism, curricula, school culture, and collaboration offer a conditional framework for crosscurricular teaching. One could argue that teacher professionalism is an overarching meta-factor that should be placed on a third factor level since it influences all teachers' choices and actions. Related to the model, teacher professionalism influences teachers' decisional choices of considering different subjects, competences, values and aims of education, student needs and interests, contemporary issues, and methods in crosscurricular teaching. Teacher professionalism also influences how teachers interpret curricula and contributes to developing the school culture and collaboration with colleagues. However, in our understanding, the model's conditional factors make the framework for crosscurricular teaching within which teachers are expected to act.

Despite the various conditions of teachers worldwide, the conditional factors of teacher professionalism, curricula, school culture, and collaboration will

inevitably frame crosscurricular teaching. The model can provide a framework to analyze relevant conditional factors for crosscurricular teacher collaboration since the factors may hinder or support crosscurricular initiatives in schools. Further, due to the hermeneutic nature of the model, the conditional factors are nonhierarchical and have different interconnections depending on the contexts of crosscurricular teaching (cf. Mård, 2021). Previous research suggests that similar issues occur despite contextual and cultural differences. Therefore, the model is a flexible framework that may support teachers in various contexts and school systems to reflect on, develop, and adopt it according to their practices.

Crosscurricular teacher collaboration is often initiated and framed by policies and curricula. Teaching resources or work agreements are rarely something teachers or even school leaders can control. However, organizing joint planning time has been shown to ease the teacher's workload and support the collaboration. The model encourages school leaders and teacher teams to assess the quality of collaboration related to teachers' didactical positions and team communication. Ideally, crosscurricular teacher collaboration challenges teachers to reconsider their didactical positions as they get new insights into teaching and learning. Learning from and with their colleagues can support teachers' *Bildung* processes as they develop collaborative skills and get new perspectives on their teaching (see Chapter 3).

Finally, we want to make some terminological clarifications. Following the standards of this handbook (see Chapter 2), we have changed the concept of multidisciplinary to crosscurricular in the model core (see Figure 5.1). The original version used multidisciplinary teaching as a concept contextually related to Finnish education and curricula (Mård & Hilli, 2020). By replacing the core concept, we want to further emphasize the model as an international didactic framework for school teaching compatible with different cultural and curricular contexts.

Concluding remarks

This chapter has revised a didactic model for crosscurricular teaching. Decisional factors relate to instructional matters such as *subjects, competences, values and aims of education, student needs and interests, contemporary issues, and methods*. The revised model added *teacher professionalism* to the original conditional factors of *curricula, school culture, and collaboration*. We suggest that the conditional factors can hinder or support crosscurricular teacher collaboration; therefore, they are all important to consider. Crosscurricular teacher collaboration suggests that teachers negotiate the decisional factors to develop new teaching practices, often challenging their professional identity, attitudes, values, or didactical positions.

Crosscurricular teacher collaboration is supported by a school culture which respects teachers' professionalism, provides resources to transform the curriculum, and supports the development of new shared teaching practices. Successful collaboration is worth considering as it can lead to several positive

effects, such as reducing teachers' workload; increasing their professional well-being, motivation, and engagement; supporting their professional development; and improving education. For these reasons, the chapter and the revised model suggest that crosscurricular teacher collaboration can be understood as Bildung-oriented collective processes.

References

- Adams, P., & Mann, K. (2020). Teacher professional learning and professional update in Scotland. *Education 3–13*, 49(5), 592–605. <https://doi.org/10.1080/03004279.2020.1751228>
- Admiraal, W., Kruiter, J., Lockhorst, D., Schenke, W., Sligte, H., Smit, B., Tigelaar, D., & de Wit, W. (2016). Affordances of teacher professional learning in secondary schools. *Studies in Continuing Education*, 38(3), 281–298. <https://doi.org/10.1080/0158037X.2015.1114469>
- Arkoudis, S. (2007). Collaborating in ESL education in schools. In J. Cummins & C. Davidson (Eds.), *International handbook of English language teaching* (pp. 365–377). Springer.
- Braskén, M., Hemmi, K., & Kurtén, B. (2020). Implementing a multidisciplinary curriculum in a Finnish lower secondary school – the perspective of science and mathematics. *Scandinavian Journal of Educational Research*, 64(6), 852–868. <https://doi.org/10.1080/00313831.2019.1623311>
- Creese, A. (2010). Content-focused classrooms and learning English: How teachers collaborate. *Theory into Practice*, 49(2), 99–105. <https://doi.org/10.1080/00405841003626494>
- Davison, C. (2006). Collaboration between ESL and content teachers: How do we know when we are doing it right? *International Journal of Bilingual Education and Bilingualism*, 9(4), 454–475. <https://doi.org/10.2167/beb339.0>
- de Jong, L., Meirink, J., & Admiraal, W. (2019). School-based teacher collaboration: Different learning opportunities across various contexts. *Teaching and Teacher Education*, 86. <https://doi.org/10.1016/j.tate.2019.102925>
- Frederiksen, L. F., & Beck, S. (2013). Didactical positions and teacher collaboration: Teamwork between possibilities and frustrations. *Alberta Journal of Educational Research*, 59(3), 442–461. <https://journalhosting.ualgary.ca/index.php/ajer/article/view/55749>
- Haapaniemi, J., Venäläinen, S., Malin, A., & Palojoki, P. (2020). Teacher autonomy and collaboration as part of integrative teaching – Reflections on the curriculum approach in Finland. *Journal of Curriculum Studies*, 53(4), 546–562. <https://doi.org/10.1080/00220272.2020.1759145>
- Hargreaves, A. (2019). Teacher collaboration: 30 years of research on its nature, forms, limitations and effects. *Teachers and Teaching*, 25(5), 603–621. <https://doi.org/10.1080/13540602.2019.1639499>
- Havens, A. (2009). Talk, planning and decision-making in interdisciplinary teacher teams: A case study. *Teachers and Teaching: Theory and Practice*, 15(1), 155–176. <https://doi.org/10.1080/13540600802661360>
- Hopmann, S. (2007). Restrained teaching: The common core of Didaktik. *European Educational Research Journal*, 6(2), 109–124. <https://doi.org/10.2304/eerj.2007.6.2.109>

- Horn, I. S., Garner, B., Kane, B. D., & Brasel, J. (2017). A taxonomy of instructional learning opportunities in teachers' workgroup conversations. *Journal of Teacher Education*, 68(1), 41–54. <https://doi.org/10.1177/0022487116676315>
- Horn, I. S., & Little, J. W. (2010). Attending to problems of practice: Routines and resources for professional learning in teachers' workplace interactions. *American Educational Research Journal*, 47(1), 181–217. <https://doi.org/10.3102/0002831209345158>
- Jank, W., & Meyer, H. (2006). *Didaktiske modeller. Grundbog i didaktik* [Didactic models. Handbook of Didaktik]. Hans Reitzels Forlag.
- Keiding, T. B. (2013). Læreteoretisk didaktik [Learning-theoretical Didaktik]. In A. Qvortrup & M. Wiberg (Eds.), *Læringsteori og didaktik* [Learning theory and Didaktik] (pp. 358–378). Hans Reitzels Forlag.
- Kim, T., & Lee, Y. (2020). Principal instructional leadership for teacher participation in professional development: Evidence from Japan, Singapore, and South Korea. *Asia Pacific Education Review*, 21, 261–278. <https://doi.org/10.1007/s12564-019-09616-x>
- Lähdemäki, J. (2018). Case study: The Finnish national curriculum 2016 – A co-created national education policy. In J. Cook (Ed.), *Sustainability, human well-being, and the future of education* (pp. 397–422). Palgrave Macmillan.
- Little, J. W. (2007). Professional communication and collaboration. In W. D. Hawley (Ed.), *The keys to effective schools: Educational reform as continuous improvement* (pp. 51–66). SAGE Books.
- Lysberg, J. (2022). Unpacking capabilities for professional learning: Teachers' reflections on processes of collaborative inquiry in situated teamwork. *Journal of Workplace Learning*, 35(1), 1–16. <https://doi.org/10.1108/JWL-01-2022-0008>
- Mård, N. (2021). *Mångvetenskaplig undervisning i klassläraruppdraget: Mellan autonomi och normativitet* [Multidisciplinary teaching in primary teachers' practice: Between autonomy and normativity]. Åbo Akademi University.
- Mård, N., & Hilli, C. (2020). Towards a didactic model for multidisciplinary teaching – a didactic analysis of multidisciplinary cases in Finnish primary schools. *Journal of Curriculum Studies*, 54(2), 243–258. <https://doi.org/10.1080/00220272.2020.1827044>
- McPhail, G. (2018). Curriculum integration in the senior secondary school: A case study in a national assessment context. *Journal of Curriculum Studies*, 50(1), 56–76. <https://doi.org/10.1080/00220272.2017.1386234>
- Pöntinen, S. M. (2019). *Cross-curricular collaboration in teaching practice: A case-study in subject teacher education* [Doctoral thesis, University of Helsinki]. <http://hdl.handle.net/10138/300159>
- Sjöström, J. (2021). Didaktik. In M. Holmqvist (Ed.), *Teorier för undervisning och lärande* [Theories for teaching and learning] (pp. 49–72). Gleerups.
- Toikka, T., & Tarnanen, M. (2022). Understanding teachers' mental models of collaborations to enhance the learning community. *Educational Studies*. <https://doi.org/10.1080/03055698.2022.2052809>
- Trent, J. (2010). Teacher identity construction across the curriculum: Promoting cross-curriculum collaboration in English-medium schools. *Asia Pacific Journal of Education*, 30(2), 167–183. <https://doi.org/10.1080/02188791003721622>
- Uljens, M., & Ylimäki, R. (Eds.). (2017). *Bridging educational leadership, curriculum theory and Didaktik – Non-affirmative theory of education*. Springer.
- Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. *Educational Research Review*, 15, 17–40. <https://doi.org/10.1016/j.edurev.2015.04.002>