

# Peer-coaching and inclusive collaborative learning using ICT

Susanne Huber<sup>1</sup> – Rainer Lupschina<sup>2</sup> – Melanie Schwarz<sup>3</sup> –  
Katja Krey<sup>4</sup>

<sup>1</sup> Seminar für Ausbildung und Fortbildung der Lehrkräfte (Gymnasien) Tübingen,  
susanne.huber@seminar-tuebingen.de

<sup>2</sup> Seminar für Ausbildung und Fortbildung der Lehrkräfte (Gymnasien) Tübingen,  
rainer.lupschina@seminar-tuebingen.de

<sup>3</sup> Seminar für Ausbildung und Fortbildung der Lehrkräfte (Gymnasien) Tübingen,  
melanie.schwarz@seminar-tuebingen.de

<sup>4</sup> Seminar für Ausbildung und Fortbildung der Lehrkräfte (Gymnasien) Tübingen,  
katja.krey@seminar-tuebingen.de

---

*The professional dilemmas teachers are facing tend to be complex and unpredictable. Consequently, trainee teachers need a collaborative professional learning area that acknowledges those multifaceted challenges (Beaton et al., 2020). Peer coaching and collaborative learning structures using ICT have been implemented in teacher training with the aim to advance the development of positive attitudes towards inclusion and diversity. In addition, collaborative online learning has been implemented in a grammar school in Reutlingen, Germany, so that trainee teachers and teachers alike learn how to guide pupils to support each other in inclusive settings.*

*Keywords: peer coaching, ICT, collaborative learning, professional dilemma*

---

DOI: 10.37205/TEL-hun.2021.1.05

## Introduction

It has been repeatedly suggested that collaborative professional learning offers opportunities to support teachers to work together to develop the values, competences and knowledge required to support **all** learners in school (Lofthouse & Thomas, 2015). Especially when entering the profession, it is therefore important to develop these competences of working together on challenging tasks, creating ideas together or examining a situation with the support of peers, so that collaboration is used profitably in the classroom, and, moreover, contributes to further professionalization (Pantić & Florian, 2015; Carillon & Flores, 2020). In addition, our recurring impression in teacher education is that collaboration is also an important key to a positive teacher traineeship experience. Since there is rarely a

clear separation of advising and assessment with regard to instructors, we feel that looking at peer collaboration is particularly important.

Teacher training in the federal state of Baden-Württemberg/Germany consists of a BA/MA degree with only a short (12 weeks) practical component. After receiving their master degrees, the former students, now pre-service teachers complete 1.5 years of a two-track practical training: on the one hand at school where they sit in on classes and teach lessons; on the other hand at a Seminar für Ausbildung und Fortbildung der Lehrkräfte (Institute for Pre-service and In-service Training of Teachers) once a week, where they receive lessons in subject didactics, pedagogy, school law and ICT. In the first 6 months of their practical training (January to July) at school, the trainee teachers are always accompanied by experienced teachers. Then, in September, they get their own classes and have to pass several exams to receive their state exam. Unfortunately, peer collaboration has hardly been structurally anchored in the traineeship in Baden-Württemberg. Existing peer-collaboration often only emerges on one's own initiative. This, however, is complicated to foster due to the fact that our trainee teachers are at 40 different schools for their practical training (some a few hour drive from each other). Therefore, remote collaboration must be realized with the help of ICT.

As a consequence, the Seminar für Ausbildung und Fortbildung der Lehrkräfte (Gymnasium), Tübingen/Germany (SAF), a member of the PROMISE project (funded by ERAMUS+, EU) , pursues, among others, the following three goals in teacher education:

- Trainee teachers shall acquire ICT as well as collaboration and coaching competences in order to be able to advance their professional development also on their own responsibility.
- On the topic of inclusion, trainee teachers should collaboratively learn and reflect online in order to consciously experience this form of learning in the role of the learner and thus develop a better understanding of their pupils.
- We aim to transfer the idea of online peer collaboration to pupils in the classroom so that trainee teachers and teachers alike learn how to guide pupils to support each other in inclusive settings.

As the SAF is not a research institute the following report is merely a presentation of innovations implemented at the SAF, – not a scientific research report.

Nevertheless, we are able to provide some data we gathered for evaluating these innovations.

### **Online Peer Coaching – How can constructive collaboration be designed?**

The most obvious options certainly are exchanging information about particular pupils/classes, transferring materials, planning lessons together, peer observation, and debriefing lessons. As it cannot normally be assumed that the prospective teachers have a high level of teaching expertise, giving advice to each other in this context might be difficult for peers. Therefore, a specific concept for peer settings is needed. We've decided to use peer-coaching (Goddard, 2004; Fletcher & Mullen, 2012). The approach is based on an understanding of trainee teachers being active agents (Sachs, 2003) who must seek their own responses to the dilemmas they are facing in their teaching practice. For the coaching session groups of 3 are formed (Figure 1). The coachee (person A) can either describe the topic/dilemma verbally or bring a filmed sequence of their lesson. Instead of giving advice, self-reflection is to be initiated by the coach (person B). Regarding the coaching being given, person C serves as a support and reflection partner for the coach. The roles change until everyone has been coached and has been a coach themselves.



*Figure 1: Coachee, coach and observer of the coaching process communicate via tablet devices.*

In order to make sure that online collaboration and peer coaching can be realized, 54 trainee teachers have been equipped with tablet devices; 38 of them received a short training in coaching during one lesson in pedagogy. The other 16 trainee teachers did not receive a training in peer coaching but were asked to collaborate in the context of their lessons in subject didactics.

During the training in coaching the 38 trainees received an introduction to the topic of coaching (90 min) and were given questions (to get them started) to help them slip into the role of the coach. Some examples of such questions are:

- Making agreements: What would have to happen in this conversation to make it worth your while?
- Goal and change of perspective: What would it be like if you achieved your goal?
- Previous successes and resources: Have there already been initial steps in the desired direction so far? What did you contribute to making these steps possible?
- Making assessment/measurability or future success transparent: Where do you rank yourself at the moment on a scale of 1 to 10?
- Change of perspective: How could others notice that you have already taken a step forward?

The idea behind is that everyone knows their own situation best and thus finds those options for action that they can employ constructively. This promotion of self-responsibility may even have a positive effect on the young colleagues' self-efficacy.

In October 2020 (i.e. after 10 months of practical training) a representative online-survey among the trainee teachers who participated in the project was conducted. Trainee teachers were given time to fill in the online survey during an online lesson (N=51, three trainee teachers were absent during these lessons). The survey consisted of rating questions and two open-ended questions. We asked them how often they prepared their lessons collaboratively, how often they discussed their teaching experiences with peers and whether their collaboration took place online. Answers were given on a rating scale (0-3) with 0=never and 3=regularly.

The results (figure 2) indicate that collaboration is more important for exchange of teaching experiences (0: 2%; 1: 12%; 2: 39%; 3: 47%) than for preparing lessons together (0:21%; 1: 57%; 2: 20%; 3: 2%). Of the trainee teachers who ex-

changed their teaching experiences 86% indicate that they also used ICT for their collaboration.

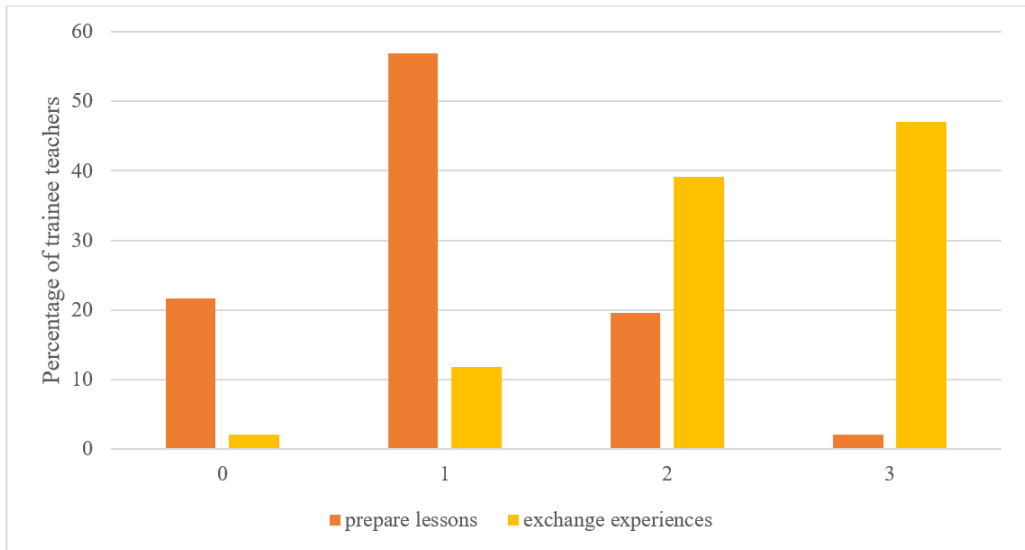


Figure 2: Percentage of trainee teachers (N=51) who indicate that they prepare lessons collaboratively/exchange their teaching experiences.

We also asked them to what extent they applied coaching techniques during their peer collaborations. In the coaching group (these trainee teachers received a short training in coaching) 10 out of 35 trainee teachers claimed that they never used coaching techniques. In the other group (these trainee teachers did not receive a short training in coaching) 13 out of 16 trainee teachers never applied coaching techniques. This shows that coaching techniques were applied more frequently in the coaching group ( $\chi^2 = 12.3, p < 0.001$ ).

The open-ended questions revealed the following responses to the advantages and disadvantages of online peer coaching (see table 1). The coding of the qualitative data was done with AQUAD 8 (a tool for qualitative data analysis, see <http://aquad.de>).

| <b>I found working with the other trainee teachers to be very helpful because...</b> | <b>Number of mentions (N = 51)</b> | <b>I felt that working with the other trainee teachers was unnecessary/destructive because...</b> | <b>Number of mentions (N = 51)</b> |
|--|------------------------------------|---|------------------------------------|
| It is good to hear that others have comparable experiences /Emotional support        | 21                                 | Ideas about lesson planning are too different   | 5                                  |
| Sharing material/ideas for lesson planning   | 12                                 | Exchange is too time consuming  | 4                                  |
| Sharing concrete teaching experiences  | 10                                 | Stress is amplified by exchange   | 2                                  |
| Exchange takes place at eye level (no evaluation)                                    | 8                                  | School conditions are too different   | 1                                  |
| Reflection competence is improved  | 1                                  | Difficult to find a date  | 1                                  |
| Time saving  | 1                                  |   |                                    |

Table 1: Answers to the dis-/advantages of (distant) peer-coaching (Online survey, November 2020, after 10 months of teacher training).

A trainee teacher commented on online peer coaching as follows:

*“Quite frankly, at first, I found the idea of exchanging ideas with my colleagues in a video conference rather absurd. But once I had overcome inner barriers and dared to open up to my coaching group, it was in fact rather simple. [...] Especially by using the tablet, the physical distance to my coaching partners can be easily overcome; I can reach them very quickly and thus clarify urgent questions immediately. I also find it an enormous advantage that the meetings can take place at home in a protected setting.”*

With the onset of the first shutdown, this form of "social connecting in distance" took on a whole new and important relevance, and the online coaching groups became a stabilizing factor in these uncertain times. Another observation is that collaboration among the trainee teachers was not restricted to peer coaching but extended to other areas like exchanging methodological issues, developing ideas for new learning tasks or planning entire lessons together. This aspect reveals the importance of bringing together trainee teachers who have the same subject, – something which we are considering now for the last phase of the project.

## Blended-Learning on Inclusion

Also, on the topic of inclusion, we have used digitization for both collaborative working and collaborative learning. As part of a blended learning module (4 lessons, 90 min each) knowledge transfer (technical terms, definitions, legal framework, etc.) takes place online. In an online collaboration, the trainee teachers use vignettes describing dilemmas on inclusions (see [promise-eu.net](http://promise-eu.net)) to develop practical action options for their own teaching. These professional dilemmas do not have easy answers and the trainee teachers are faced with making a choice between a range of options to respond to them, with none of the actions being perfect to all members of the class. The blended learning module was conducted in 4 groups of trainee teachers, in total 72 participants.

| Item  | mean (sd)  |
|---|------------|
| I got a good overview of the topic.   | 2.4* (1.6) |
| The digital learning environment was clearly designed.                                      | 2.3* (1.4) |
| The learning objectives were clear.   | 2.2* (1.4) |
| The missing attendance phases (due to COVID-19) were well compensated by video conferences. | 2.4* (1.3) |

*Table 2: Mean values and standard deviation (sd) of the ratings (N=45).*

In order to evaluate the blended learning module, the trainee teachers were asked to fill in a short online questionnaire (rating scale 1 – 5, 1 = true, 5 = false). Table 2 shows the items and the evaluation of the answers. The questionnaire was completed by 63% of the participants, N=45). All mean values differ statistically significantly from the middle value 3 (\*  $p < 0.01$  derived from t-test). The results indicate that the trainee teachers feel they have received a good overview of inclusion. With the design of the blended learning module – following flipped classroom principles – we gained time within the (online) face-to-face training session for critical reflection on the handling of the vignettes and also, on the method of blended learning. By doing so, the trainee teachers almost automatically come to terms with their own attitudes and beliefs towards inclusion. A trainee teacher comments on this as follows:

*Honestly, I have the impression that I have taken away more from the independent online course and that I have dealt with the topic more intensively than would have been the case in a regular classroom setting. [...] For the processing of the vignettes, I found the online cooperation in my small group very profitable. A group of 3 is a good group size here.*

*At the same time, I am glad that we discussed the cases in face-to-face sessions. The exchange with all colleagues and the direct feedback from the lecturer is very important to me.*

### **COOL-Groups (COllaborative Online Learning groups)**

The third goal deals with the implementation of collaboration in digital settings in schools. In a class of 27 pupils (approx. 12 years old) it was examined how learners (can) change their learning and collaboration behavior in two subjects: English and history.

The pupils have access to the school-based cloud resources via a learning management system. Within the first six months, they learned, among other things, how to handle the specific possibilities of this working environment, such as real-time synchronization of their digital work results (with the teachers' insights), as well as how to use the video conferencing tool effectively (even before the pandemic). The digitized learning environment thus offered (and still offers) communication channels that are fundamentally different from the ones in traditional classrooms.

Our main questions were:

- How does collaborative working develop in a digital environment after having been systematically introduced to it?
- What are the repercussions with regard to learning performance due to digitally organized and collaborative ways of working?
- To what extent do working attitudes and working methods change due to the (almost) permanent possibility of collaboration?

The project is designed as a scheme in which insights gained in short cycles are to be fed back into adapting organizational structures. After one year, the following conclusions can be drawn:

Students initially (before Corona) reacted hesitantly to the opportunity to share and collaborate. Regular feedback sessions, and later video logs ("video diaries") revealed several reasons behind that attitude. These feedback sessions were done in the following way: Semi-structured interviews were conducted regularly in small groups at 4-week intervals over a period of half a year. The video logs were produced along guiding questions. One third of the students produced one video log per week over a period of 3 weeks. This resulted in a qualitative



evaluation of 30 video contributions of about 2 minutes each. This is, what we found out:

First, in such stable traditional learning environment there was little transfer of digital synchronous and asynchronous communication experiences gathered in the two subjects English and history. Second, the learning opportunities created by other teachers were virtually absorbed by traditional teaching formats, as the new concept was applied in only two of 15 subjects. Third, in our observation, collaborative formats were unfamiliar to the pupils in general. Talking to each other was not part of the common learning repertoire.

We responded to the findings as follows:

- an expansion of digital collaboration formats from 2 to 12 (of the 15) subjects.
- a permanent use of the digital learning environment.
- the installation of an interdisciplinary buddy system to facilitate and promote communication patterns.
- the increase of autonomous learning activities in the class
- the establishment of tasks for metacognition through the institutionalization of reflection periods (coaching conversations, reflection comments,...) and
- on the part of the teachers, weekly consultations on pedagogical issues.

In addition, the changed conditions under the lockdown accelerated the willingness to systematically engage with digital opportunities everywhere.

The evaluation status at the beginning of 2021 showed that the pupils were considerably more reflective in their use of collaborative opportunities. They became better in making decisions for or against collaboration based on their own learning attitude and on the basis of the task formats. Furthermore, many pupils reflect more on their own learning and work processes. Individual communication in distance learning is also more intense than in face-to-face classes in many subjects. This is due to micro-communication with tools that allow for selective individual feedback from peers as well as instructors. On the other hand, 5 of the 27 pupils needed closer assistance. This might be mainly due to the fact that digital distance learning and collaboration is often too much for students with weak learning organization skills.

The consequences we draw from this for the final phase are:

Pupils are ready to think about and engage in the value of collaboration. This change in the learning culture requires a lot of time, trust, and a common teaching approach among all colleagues. Therefore, further attempts are made to provide colleagues with a broader theoretical basis of self-regulated, collaborative learning and its presupposing structures, as well as to develop supportive institutional conditions.

- Collaborative and digital learning concepts are at the same time two high requirements if the goal is to replace the teacher-dominated learning culture. Our considerations are to facilitate the “pains” of change through horizontal collaboration of subject teachers in one school level (creating mutual trust through intra-subject collaboration), as well as to form inter-subject teacher teams, i.e. to make teachers of different subjects cooperate in several classes, resulting in an improved and quickly propagated new teaching culture.

## **Conclusion**

Teacher collaboration is a key element for the support of all learners in school (Lofthouse & Thomas, 2015). In order to collaborate successfully, there are several preconditions: Teachers have to acquire competences to work together, and schools need to establish both a culture of collaboration among the teachers and for their pupils in the classrooms. Not only in times of a pandemic, but of course especially then, teachers and pupils alike need digital learning competences, too. Our results so far make us optimistic that the combination of digital, collaborative (and inclusive) skills training is beneficial and enables (trainee) teachers to support **all** their pupils in the classroom. Moreover, the collaborative training of the pupils further supports teachers in this endeavour.

## References

- Beaton, M. C., Thomson, S., Cornelius, S., Lofthouse, R., Kools, Q., & Huber, S. (2021). Conceptualising Teacher Education for Inclusion: Lessons for the Professional Learning of Educators from Transnational and Cross-Sector Perspectives. *Sustainability*, 13(4), 2167. <https://doi.org/10.3390/su13042167>
- Carillon, C. & Flores, M.A. (2020). COVID-19 and teacher education: a literature review of online teaching and learning practices. *European Journal of Teacher Education*, 43(4), 466–487. <https://doi.org/10.1080/02619768.2020.1821184>
- Fletcher, S. & Mullen, C. (2012). *Improving coaching by and for school teachers*. Sage Publications. <https://doi.org/10.4135/9781446247549.n4>
- Goddard, B. (2004). *Coaching and peer mentoring*. In: Persson, M. *Towards the teacher as a learner: Contexts for the new role of the teacher*. The learning teaching network. 47–54.
- Lofthouse, R. & Thomas, U. (2015). Concerning collaboration: teachers' perspectives on working in partnerships to develop teaching practices. *Professional Development in Education*, 43(1), 36–56. <http://dx.doi.org/10.1080/19415257.2015.1053570>
- Pantić, N. & Florian, L. (2015). Developing teachers as agents of inclusion and social justice. *Education Inquiry, Volume 6*(3), <https://doi.org/10.3402/edui.v6.27311>
- Sachs, J. (2003). *The activist teaching profession*. Open University Press.