

Dimensions of social learning in teacher education: an exemplary case study

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Abstract

Growing attention can be noticed for social learning in teacher groups as a stimulus for teachers' professional development. Research shows the importance of understanding the role and impact of informal social networks on teacher professional development. This paper describes a rich case study of student teachers, in-service teachers and teacher training educators collaborating in networks. Based on the 'Dimensions of Social Learning (DSL)-Framework' that includes 4 dimensions and 11 indicators of social learning, the present study observes and facilitates the social configuration of a learning group of primary (student) teachers and their educators. The purpose of the case study is 1) to translate the theoretical DSL-Framework into a form recognized by educational practice, and 2) find social configurations that support roles of (student) teachers in learning networks. The following research questions were formulated: 1) In what way can the DSL-Framework help to bring the group configuration into focus? 2) Which social configuration on dimensions and indicators supports student teachers' role in a group together with teachers and educators? These questions are answered by video-recordings of group activities, reflective notes, the use of an online learning environment and semi-structured interviews. Data analyses were accompanied by an intervention with the purpose to translate the theoretical DSL-framework to a practice-based tool for evaluating and guiding learning networks. The research findings demonstrate that teacher groups can reflect on the learning group's social configuration by means of compiling an image with the DSL-framework. The resulting image allows teachers to analyse whether their group's configuration fits its learning goals, or that adjustments are required. In this way, professional development within teacher learning groups can be improved. Besides general recommendations for facilitating social learning in teacher groups, the study explicitly searches for ways to optimise student teachers' role in a group of teacher experts.

(NLC Abstract) Keywords

collaborative learning; professional development; social learning; teacher groups.

Introduction

The use of social networks for learning and knowledge sharing has become an important part of lifelong professional development for teachers and other professionals alike. Teachers develop relationships within and outside schools that help them to learn, solve problems, and innovate their teaching (De Laat, 2012). Access to networks resulting from these informal relationships help teachers to deal with the increasing complexity of their work. Research shows the importance of understanding the role and impact of informal social networks on teacher professional development (Boud & Hager, 2012).

This paper describes a rich case study of student teachers, in-service teachers and teacher training educators collaborating in networks. The purpose of this collaboration is to increase the participants' learning opportunities beyond the classroom walls. Special emphasis will be placed on the role of student teachers in those networks. The purpose of the case study is to translate the theoretical Dimensions of Social Learning (DSL) framework (see below) into a form recognized by educational practice. In this rich case study we take a practice-driven perspective on teacher social learning: "learning activities by teachers in collaboration with colleagues, resulting in a change in cognition and/or behaviour at the individual and/or group level"

(Doppenberg, Bakx, & Den Brok, 2012, p. 548-549). This definition relates to social learning as sharing problems and insights in a constructive way, connecting with familiar concepts and using new knowledge that is collaboratively constructed through dialogues and social interactions (Wenger, Trayner, & De Laat, 2011).

Importance of social learning in teacher groups

Traditionally, most teachers carry out their work individually in their own classroom settings (Doppenberg, et al., 2012), which apparently makes the integration of social learning in schools a difficult manoeuvre (Vangrieken, Dochy, Raes, & Kyndt, 2014). Furthermore, the preparation of student teachers for their social role as colleagues in school is weakly conceptualized in teacher education curricula (Dobber, 2011) and it is therefore relevant to consider the ways in which teacher educators can prepare student teachers for participation in teacher groups.

Social learning is increasingly considered a powerful way to stimulate and facilitate teachers' professional development in educational settings (Lieberman & Wood, 2003). In social learning, teachers interact with peers, students, information and resources by studying authentic problems (Laferrrière, Lamon, & Chan, 2006). Through engaging in learning networks, teachers can gain specific and concrete ideas that are directly related to their own classroom practice (Guskey, 2002). Social learning can thus be seen as social action, and learning networks can be seen as social configurations that enable both collaborative and individual learning. These social configurations include different practices and interactional repertoire, which brings up the question how the social configuration influences the way teachers learn from each other? Social learning in teacher groups can only result in innovative learning if the group's process is successfully facilitated (Wenger, 1998). Within teacher groups, there is an on-going negotiation and search for meaning that provides a certain contingency.

Facilitation of social learning

The 'Dimensions of Social Learning framework'

The 'Dimensions of Social Learning (DSL) framework' was developed as a guideline to support teacher groups in understanding their potential value for professional development (Vrieling, Van den Beemt, & De Laat, 2015). The framework characterizes social learning processes in teacher groups on all-embracing commonalities ('dimensions') and associated characteristics ('indicators'). The characterization does not imply that teacher groups are static entities (Dron & Anderson, 2014), rather it is meant to understand teachers' group behaviours and to help us facilitate social learning within these groups. The dimensions serve as a lens to observe the current social configuration of teacher groups. It helps to view the group's activities from a learning perspective containing aspects of teams, communities and networks. In this way, the group's behaviour in relation to its learning goals can be assessed. Moreover, based on this assessment, group members can reflect on how their social configuration fits with the purpose and learning goals.

The DSL-framework is based on four superordinate dimensions: (1) practice; (2) domain and value creation; (3) collective identity and (4) organisation, each with corresponding indicators. These indicators are measured as the extent to which the group shows specific attitudes and behaviour. In this way, they serve as the foundation for understanding social learning in practice. The first dimension, *Practice*, indicates the necessity for a relationship between the knowledge created and shared in the group and teachers' day-to-day activities. This dimension encompasses two indicators: (1) 'Integrated or non-integrated activities', representing the extent to which group knowledge and activities are integrated in their practice and (2) 'Temporarily or permanent activities', which describes the social learning attitude as reflected in the duration or sustainability of learning activities. *Domain and value creation*, the second dimension, is referred to as the sharing of experience and expertise among group members. Key indicators are: (1) 'Sharing or broadening/deepening knowledge and skills', reflecting the extent to which the group develops collective knowledge and skills through dialogue and (2) 'Individual or collective value creation', which describes the level to which the group develops shared value such as group ownership, mutual inspiration or positive interdependence. When group members work interdependently with a shared purpose and responsibility for collective success, the group can demonstrate a *Collective Identity* (third dimension). This dimension can be characterized by: (1) 'Shared or unshared identity', which is related to group history and social and cultural background; (2) 'Strong or weak ties', which reflects the sense and intensity of general contact among group members and (3) The extent to which group members perceive each other as 'task executors or knowledge workers'. The final dimension, *Organization*, exhibits how the group is organized. Teacher group organization can be indicated by: (1) The extent to which the group shows 'externally directed or self-organized learning'; (2) The focus on 'local or global activities'; (3) The

presence of 'hierarchical or equal relationships' and (4) The extent to which the group shows a shared interactional repertoire, reflected in 'shared or non-shared interactional norms'.

Problem Definition

To enable teacher group facilitation our first aim is to confirm the DSL-Framework as a useful means for characterizing the social configuration of teacher groups. Our second aim is to explore what social configuration can support the development of teacher groups, specifically zooming in on the situation of student teachers. To find answers, a rich case study was found within pre-service teacher education. Overall, the following research questions were formulated:

- In what way can the DSL-Framework help to bring the group configuration into focus?
- Which social configuration on dimensions and indicators supports student teachers' role in a group together with teachers and educators?

Methodology

Setting and participants

An in-depth case study of was conducted between September 2013 and June 2014 in a college of primary teacher education. A group consisting of primary education teachers (N=12) from ten different schools, student teachers in their third and fourth year (N=12) and teacher educators (N=2) was followed. The group's objective was to improve language learning and teaching within the participating schools. The teacher educators as well as two primary teachers had been involved from the very start of the learning network (2012), while the others participated as of September 2013. All teacher educators and primary teachers participated voluntarily. For the student teachers that chose to work on their assignments in the involved schools, network participation was compulsory.

Data collection

The collected data consisted of video recordings, reflective notes, semi-structured interviews and the use of a digital learning environment. Group meetings (N=7) were videotaped and analysed to inform the formulation of observation points. These observation points serve as the translation from the theoretical indicators of the DSL-framework to practice based guidelines. Furthermore, to gain insight into the value of the group learning activities for student teachers, reflective notes of student teachers were gathered after each group meeting. Reflective notes are written accounts of personal reflections following a predetermined activity in the respondent's practice. Because reflective notes are collected immediately after an activity it serves as a tool for monitoring individual developments in skills, knowledge and attitude. In addition, six in-depth retrospective semi-structured interviews were conducted with two student teachers, two teacher educators and two primary teachers. These interviews were held after the final group meeting to ensure an in-depth insight into the object of the study. For the interview guidelines, a biographical approach (Bornat, 2008) was used to activate participants to rethink the social processes from the start towards the present situation of the group.

Data analysis

The collected empirical data were analysed and triangulated to enhance internal validity of the results. The analysis was guided by the DSL-Framework as a coding scheme for elaborating on the social configuration of teacher groups in relation to the group's learning activities. The findings of all data resources were structured in a matrix containing the four dimensions and the eleven including indicators of the DSL-Framework. Per indicator, two researchers independently first analysed all different sources of data collection using qualitative content analysis. The unit of analysis was the process of social learning in the group. Second, similarities and differences in the views of the two researchers were discussed. Finally, the results of the analysis of the data provided by the different sources were synthesized, resulting in illustrating observation criteria for each indicator that provided an image of the group for each indicator of social learning.

Interventions

Based on the analysis of the data of the separate group meetings (video recordings, digital learning environment, reflective notes), interventions were developed by the researchers and the group facilitators in between the meetings, aimed to support professional development of the group. In addition, the analysed image of the group on dimensions and indicators was discussed in the group asking the following questions: Does the group

recognise the image on dimensions and indicators? What different views exist between the group participants concerning the image of the group on dimensions and indicators? Keeping the group goals in mind, on what dimensions and indicators the group wants to develop?

Findings

In answer to **research question 1**, the findings are first presented according to the analysed dimensions and indicators. Besides the synthesized findings per indicator, fragments from the data will illustrate the findings, resulting in an image of the group that represents the social configuration at the end of the research period. Second, in response to **research question 2**, general recommendations as well as recommendations to optimize student teachers' roles in a group with teacher experts are outlined for each indicator.

Dimension 1: Practice

Integrated or non-integrated activities

All group members emphasized the importance of integrating group knowledge and activities into their everyday practice. To do so, the group transformed their experiences into concrete artefacts (tools) to be applied in classroom practice.

Primary teacher: "For me it is important that the meetings are practical. For example, during the last meeting we made a movie and I really enjoyed that. In reaction, I did the same with my students and I learned a lot from them."

Although the meetings resulted in useful tools, there was no mutual agreement about integrating group products in classroom practice. In the same line, experiences in classroom practice were only occasionally shared during meetings. For some student teachers and their corresponding schools, the network activities matched their assignments. In these cases group products were integrated in classroom practice. Other students experienced a mismatch between their assignments and group activities. To enhance the integration between the network activities and student teachers' assignments, student teachers were invited to present their work in the meetings of the group.

Based on these findings two observation points were found illustrative: 1) Group agreement about integrating group work in classroom practice and 2) Communication about experiences with group work. Overall, the case delivered an image of the group showing more non-integrated activities than integrated activities. For teachers it is important that group activities immediately make sense for their everyday practice. Striving for integrated activities can support the student teachers' role in the group. This for instance means that the group needs to make sure that student teachers have finished their working plan at the start of the network meetings, which can enhance the connection between the network activities and student teachers' assignments.

Temporary or permanent activities

The learning network intended to discuss work related topics to broaden and deepen knowledge and skills in cooperation with people who shared the same questions or challenges. The teacher educators described long term (three years) and short term (one year) goals, which were discussed with the group members. The members that participated from the start of the network demonstrated a more permanent social learning attitude, with a focus on developing a sustainable process. The other group members, who started to collaborate this year, were more focussed on temporarily learning activities, i.e. finishing their assignments. Their attitude was more product-centred (short term) instead of process-centred (long term) aimed at getting an immediate return out of networked learning. Although student teachers valued feedback opportunities, they considered it important for improving their work and not for learning as a process.

Student teacher: "For me it is important that I can communicate my ideas and that I receive useful feedback on my ideas."

Based on the findings two observation points were found illustrative: 1) Description of short and long term goals and 2) Relationship between group goals and activities. Overall, the case delivered an image of the group showing more permanent activities. Through the creation of awareness among student teachers of the importance of networked learning for developing their social competences as a teacher, the product-oriented learning style of student teachers might gradually switch towards a more process-oriented learning style, necessary for long-term learning.

Dimension 2: Domain and value creation

Sharing or broadening/deepening knowledge and skills

In addition to student teachers' short central presentations of their work progress, it was common in the network to develop collective knowledge and skills through dialogue in small working groups where feedback was provided and accepted. This way the level of knowledge sharing was demonstrated by the sharing of experience and expertise among group members.

Primary teacher: "It is pleasant to collaborate with student teachers: they have time and opportunities to deepen their knowledge concerning our network theme and their output becomes input for our school. In this way, innovation is achieved."

However, due to different starting situations of the group members, group learning resulting from these activities by sharing a particular interest or (knowledge) domain that brings people together did not occur. The shared interest or domain did not develop into a basis for a 'deep level similarity' among group members.

Based on the findings four observation points were found illustrative: 1) Discussion about the group products; 2) Feedback opportunities; 3) Adjustments of the group products after discussion or feedback and 4) Time investment of all members. Overall, the case delivered an image of the group as being more focused on sharing than on broadening/deepening of knowledge. Group facilitators are advised to create opportunities for listening to perspectives of others in dialogues. In this way, new views can be examined to alter old views. These dialogues, often enforced by questions of novices can lead to reframing: a process of transforming existing perceptions into a new understanding or frame, possibly resulting in the broadening or deepening of knowledge and practice. In this way, the group integrates these views into a new mental construct that is collectively held.

Individual or collective value creation

Individual or collective value creation refers to the level to which the group develops shared value such as group ownership, mutual inspiration or positive interdependence. At the start of the learning network, the group selected and agreed upon a central theme. However, in the course of the year it appeared difficult to hold on to the central goals and participating group members strived for individual instead of common goals.

Student teacher: "With a common goal as a group, we can develop towards a higher level; at this moment however the group members strive for their own individual goals."

Because of the diversity in specific working conditions of group members, no shared goals developed and the collective goals were not reflected upon. In sum, no capacity of the group to create shared value was developed.

Based on the findings two observation points were found illustrative: 1) Shared agenda at the start and 2) Shared agenda in the course of the year. Overall, the case delivered an image of the group value on an individual level rather than on a collective level. To inspire all group members to actively participate in the network activities, a shared vision is necessary. Only members who share mutual values with peers create real learning opportunities and professional growth. A possible way to achieve a shared agenda is for group members to perform collaborative research and consequently generate shared knowledge. In this process, attention is necessary for achieving a balance between individual accountability and positive interdependence linked to group goals. Individual accountability refers to the extent to which the performance of each individual group member is assessed as well as the results given back to the group and the individual.

Dimension 3: Collective identity

Shared or unshared identity

Although the group facilitator stimulated the group to discuss what was meaningful by engaging group members in conversations about needs and objectives, no shared identity evolved. Collective reflection and open dialogue were enhanced resulting in learning within schools. However, group learning in between schools did not occur. The group members did not sense they belonged to the group, did not feel responsible for the group process and did not plan any meetings other than the group meetings.

Student teacher: "I did not have the feeling we were one group. I don't even know the names of the involved primary teachers other than the ones in my school."

Based on the findings three observation points were found illustrative: 1) Group activities to enhance the shared identity; 2) Feeling of belongingness to the group and 3) Contact between the group members other than the group meetings. Overall, the case delivered an image of the group as having an unshared identity rather than a shared identity. Groups that aim to stimulate a shared identity are advised to discuss the questions of who they are and how they can be important for each other. For instance story telling and scanning can create a feeling of belonging to the group. For teacher groups to function and exist, it is important that the participants feel

responsible for their group activity by integrating their perspectives and by ensuring an interwovenness of individual tasks through 'aid and assistance' that allows colleagues to observe each others' teaching practices, 'sharing' or exchanging instructional materials, methods, ideas and opinions, and 'joint work' in which teachers sense a collective responsibility for their teaching.

Strong or weak ties

The indicator 'Strong or weak ties' reflects the sense and intensity of general contact among group members. All group members sensed a strong connection with the group facilitators (teacher educators) who on their turn sensed close relationships with students and primary teachers that showed real engagement by attending all meetings and actively participating in conversations and discussions.

Teacher educator: "I feel strongly connected towards students and primary teachers that work pro-actively on their working assignments and actively participate in the meetings of the group: the critical thinkers."

The relationships between group members of the same school (student teachers and primary teachers) were strong. These strong ties can be characterized as proximal, frequent and reciprocal, which made participants experience a strong inward focus that enhanced deeper knowledge within schools. In between schools, the relationships were shown weak and analysed as distant, infrequent and not reciprocal. Interaction was kept to a minimum outside of the group meetings. Because of the lack of cohesive, interpersonal relationships or ties within the group as a whole, no real knowledge sharing occurred.

Based on the findings four observation points were found illustrative: 1) Frequent interaction between the group members, 2) Proximal relationships between the group members, 3) Reciprocal relationships between the group members and 4) Outward focus of the group. Overall, the case delivered an image of the group as showing weak ties rather than strong ties. If group members aim for long-lasting social relationships related to their practice and domain, it can help to analyse the structure of connections among people. In such learning networks, questions concerning the content, direction, and strength of these interactions can be elaborated by using 'Social Network Analysis'.

Task executors or knowledge workers

In line with the indicator 'temporarily or permanent activities' the teachers that participated from the start demonstrated a long-term attitude towards learning. They shared knowledge within their group in the form of new rules, routines, strategies, best practices, implementation, etc. This attitude enabled the group to develop a long-term perspective with a focus on continuous learning. Although the opportunities for such a long term driven perspective were present, a knowledge-driven perspective did not evolve. A first cause for the lack of a knowledge-driven focus in the group was that the student teachers and starting primary teachers aimed at individual instead of collective value creation, i.e. finishing the learning assignments resulting in improvement within their individual schools. Second it was observed that most group members with a short-term focus sensed their participation in the group as obligatory and members with a long-term perspective as voluntary.

Primary teacher: "Although not facilitated, participating in this learning network felt voluntary. I attended all meetings, even on my day off, because the group products are useful. I really want to remain part of this group the coming years to further extend my expertise."

Based on the findings two observation points were found illustrative: 1) Long term learning attitude and 2) Voluntarily participation. Overall, the case delivered an image of the group as being task executors rather than knowledge workers. To establish a learning situation where the participants can flourish in a self-regulated manner from a continuous learning mode, it is of importance to fulfil diverse positions within groups. Besides more familiar positions such as the 'network star', 'gatekeepers' and the 'technological guru', recent work is beginning to reveal new learning positions in online learning environments, such as 'e-facilitators', 'braiders', and 'accomplished fellows'. These new learning positions are examples of how group members can collaborate as knowledge workers, which stands in contrast to groups where members are focused on execution of given tasks.

Dimension 4: Organization

Directed or self-organized learning activities

The teacher educators directed the group before and during the meetings. They made the agenda and the notes, collected and spread information. One of them was also the content expert of the group. In general, the participants were satisfied with these working conditions and identified the important role of the network facilitator in both providing good leadership and facilitation.

Primary teacher: “We need a chairman who sticks to the appointments that have been made; in this way no precious time for communication is lost.”

Two observation criteria were found illustrative: 1) Spread leadership and 2) Divided roles. Overall, the case delivered an image of the group as a directed organization instead of self-organized. To enhance a shared agenda for the group, leadership activities can be distributed across multiple people. It is of importance for all members to be actively involved to enhance feelings of responsibility for a proper outcome of the group. In such settings, distributed leadership appears an attractive concept to enhance professional development of teacher groups. Based on the expertise of the participants, learning environments can be created in which all members can contribute to problems and challenges concerning school improvement. To formalise this process, tasks and roles can be divided. However, the regulation of group activities amongst group members and more eminent the student teachers, should be a gradual process.

Local or global activities

Overall, the group displayed an inward focus towards local activities within their own schools. No general themes were discussed. Only the group facilitator was more generally oriented and proactively sought for cooperation partners and publication opportunities.

Based on the findings two observation points were found illustrative: 1) Inward focus towards local activities and 2) Orientation towards external knowledge sharing. Overall, the case delivered the following image of the group: local organization rather than global. Although teachers often act local, it is fruitful for teacher groups to share their knowledge and expertise. In this way, small and local teacher groups can be cultivated towards more global oriented groups. Successful groups with a global orientation draw people together from disparate contexts around shared challenges, yet also sustain the ability to stay close to the local needs of their members.

Hierarchic or equal relationships

Different levels of expertise within the group resulted in a learning climate where some group members were observed as dominant in their behaviour. As a consequence the conversation climate within the group meetings did not feel safe for all members, especially the student teachers. No group activities were executed to enhance equality between the group members. In the second semester meetings when the group composition had altered, in general the group participants viewed each other as equal and appreciated the input of others. In the group meetings, student teachers and primary teachers often interacted in small groups where no hierarchical structures were observed. However, some student teachers only felt confident in conversations with group members of their own school.

Based on the findings two observation points were found illustrative: 1) Equal relationships and 2) Group activities to enhance equality. Overall, the case delivered an image of the group as more equally organized than hierarchic. The hierarchical structures within groups can hinder spontaneous learning. Especially for student teachers it is of importance to learn how to discuss different topics in groups with a variety of expertise. Instead of viewing such a situation as less safe, through the use of modelling student teachers can learn how to profit of these circumstances through, for example, dividing roles.

Shared or non-shared interactional norms

Although opportunities were provided to discuss relevant themes within the group as a whole, especially student teachers did not always possess sufficient confidence to freely add to group discussions, ask questions or ask for feedback. This was caused by the size of the group that consisted of 25 members as well as the lack of collective identity. The communication procedure was not discussed within the group. However, to meet with the expectations of the participants, the group facilitator did organize many opportunities for discussion and interaction in small groups during the second semester meetings. In these meetings, different perceptions within the group were openly discussed.

Student teacher: “For me the most valuable output of the meetings are the opportunities to interact with colleagues in small groups.”

Based on the findings three observation criteria were found illustrative: 1) Communication about the procedure to achieve shared goals, 2) Feeling of safety to interact within the group and 3) Tolerance of different perceptions within the group. Overall, the case delivered an image of the group as focused on a shared organization rather than a non-shared organization. Through the use of activities found in the ‘Toolkit Networked Learning’ (Wenger et al., 2011) interactions between group members establishing and maintaining

positive interdependence can be facilitated. In this way, group-members can be supported to find a balance between individual goals and accountability, and group goals.

Discussion

In answer to the first research question, the findings show that learning activities in teacher groups are closely related with the social configuration (practice, domain and value creation, collective identity, organization) of the group. For instance, groups showing non-integrated and temporary activities, and individual value creation may support more superficial and individual learning activities than groups with integrated and permanent activities and collective value creation. Through the investigation of the group's social configuration, valuable insights were gained into why social learning activities are occurring. By observing the group on the four overarching dimensions and their indicators, teacher groups become more aware of the potential value of their group for future development. In this way, the framework extends earlier findings that underpin the importance of facilitating social learning in the educational domain.

As for the second research question, how to support students' role in teacher groups, the results show that a shared domain and identity for all participants is difficult to achieve, nonetheless conditional for learning. Unless goals are clearly stated and agreed upon, teacher groups can easily lose energy and underperform. Even if network leaders develop and communicate goals, it is not guaranteed that these goals stimulate members. To achieve a shared agenda that is relevant for all members, teacher group facilitators can influence group members' behaviour through network design and facilitation. Facilitators are advised to investigate the needs and expectations of group members in an early stage and use this information for co-developing the network. Through dividing responsibilities among group members, the role of the facilitator will evolve into a coach instead of a director of the group. This can imply the difference between enthusiasm and cynicism, illustrating the important role of the facilitator.

Research underpinning the DSL-Framework shows the importance of explicit attention for student teachers' role in learning networks. Student teachers can benefit from collaborative learning opportunities in teacher groups under the condition of sufficient guidance by experts. Collaborating in teacher groups as an integral part of teacher education curricula can provide models for student teachers through which they can learn the practices of working in communities by means of experiencing such practices themselves. Despite the increasing emphasis on developing community competence for (student) teachers, teacher education often remains rather individualistic. The creation of learning networks of (student) teachers and their educators around a central theme is an innovative attempt to stimulate the development of community competence.

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