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ONLINE WORKSPACES TO SUPPORT TEACHER COMMUNITIES IN SECONDARY SCHOOLS

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***Abstract**: Teacher communities are claimed to contribute to the improvement in the practices of teaching and schooling as well as individual teacher development and the collective capacity schools. How to define, design and support teacher communities is however still unclear. In this expert study, experts -both practitioners and researchers- discussed the design of teacher communities in Dutch secondary education. Implications for online workspaces to facilitate teacher communities are discussed.*

***Keywords:** instructional design; teacher community; online workspace; secondary education*

I. INTRODUCTION

Teachers in secondary education mainly feel responsibility for their own classroom practice, resulting in largely autonomous and isolated work and private learning activities. Most teachers teach separate classes behind closed doors and learn about teaching by teaching, often described as trial and error [1][2]. Moreover, teacher professional development mostly takes place outside school, thus removing teacher learning from the workplace [3]. From the perspective of the development of collective capacity of school, this is not a desirable situation. In their work on communities of practice and schoolteachers' workplace learning, Hodkinson and Hodkinson [1][2] conclude that a highly collaborative working culture is accompanied by a learning culture. Teachers learn from one another intuitively, as an ongoing part of their practice. They are happy to move in and out of another's lesson,

seeing the work that is going on. Teachers learn through working with others within a school by asking questions, sharing information, seeking help and seeking feedback [4]. The feeling of support from colleagues is indicated by beginning teachers to matter most in their early experience with teaching [5].

Professional teacher community, broadly characterized as teachers' collaborative learning and work, is claimed to contribute to the improvement of the practices of teaching and schooling [6][7][8] as well as individual teacher development and the collective capacity schools [9][10][11][12][13]. These claims comprise that conditions for improving teaching and learning are strengthened when teachers collectively examine ineffective teaching practice, study new conceptions of teaching and learning, and support one another's professional growth. Moreover, collaboration within teacher communities is a way to counter isolation, improve teacher practice and create a shared vision towards schooling [12][1].

So, teacher communities in schools seem to be a promising constellation to generate teacher learning and support teachers' collaborative work. However, there seems to be no consensus on the definition and indicators of teacher communities, which is conditional for designing teacher communities in schools. In this paper, we will aim at the development of a descriptive model with a definition, indicators and formation of teacher communities in secondary education in the Netherlands, shared by both practitioners and researchers in the field. Implications for online workspaces are discussed as these tools might solve practical issues such as teachers' isolated work, overloaded agendas and busy class schedules as well as help to establish teachers' feelings of cohesion and trust.

II. METHOD

An expert method was used to deal with the complex problem of our study. Results of studies on teacher communities are ambiguous and therefore it seems useful to consult experts from various disciplinary fields. In addition to a review of literature on teacher communities, we analyzed four types of data. First, we performed six interviews with experts in the field of teachers' working and learning in school communities. Secondly, we organized focus group meetings with eight researchers who collaborate in a research program on teacher professional community and teacher social competences. Thirdly, a Delphi study was conducted based on the first two sets of data and the literature review. This Delphi procedure included four iterations of data collection with12 researchers in the field, following the procedures described by Lineston and Turoff [14]. Fourthly, the results of the Delphi study were validated in a round table with an international group of field experts.

All data have been verbalized into written protocols. These protocols were analyzed in three steps. The first step included a content analysis of the interview data and the minutes of the focus-group meetings. The data were grouped into themes that related to definitional aspects of teacher community, aspects that referred to elements or crucial features of the concept of teacher community and the way these features might be indicated. This narrative method of inquiry resulted in summaries and reflections on the data by two researchers negotiating disagreements until the outcomes were agreed upon or disagreements were understood and reflected as such [15].

III. RESULTS

In line with Grossman et al. [10] we were interested in teacher community at the local level, where face-to-face interaction, dialogue and trust are necessary elements of building cohesion. Therefore, inspired by the definition of community by Bellah and colleagues [16], we defined a teacher community as: 'a group of teachers who are socially interdependent, who participate together in discussion and decision making, and share and build knowledge with a group identity, shared domain and goals, and shared interactional repertoire'. This means that we distinguished three core features of a teacher community: group identity, shared domain and goals, and shared interactional repertoire. In line with the landmark work of Wenger [17] we defined these features as:

- Mutual engagement that bind teachers together in a social entity (Group identity);
- A joint enterprise as understood and continually negotiated by its members (Shared domain), and
- Shared practice of and beliefs on how teachers in a group interact (Shared interactional repertoire).

These features refer to the nature of a community (group identity), what a community is about (shared domain), and how it functions (shared interactional repertoire).

On the basis of his case studies in two California middle schools, Westheimer [18] provided rich descriptions of teacher professional communities distinguishing between liberal type of community and collective community. In a liberal professional community, teachers function autonomously with different goals, strategies and practices, and come together primarily for mutual support. In a collective professional community, teachers maintain shared goals, and there is a social contract that draws teacher into community life. Their tasks are intertwined, and participation in the community is seen as important. Contrasting liberal teacher communities with collective teacher communities, Westheimer distinguished 11 dimensions to characterize teacher professional communities, such as relations defined by rights and responsibilities vs. relations defined by caring and interdependence, and individual work vs. joint work. A professional community oriented around liberal individual priorities is clearly quite different from one organized around collective goals. However, both were defined as teacher community [18].

Communities continually evolve and develop. We adapted the three markers of community formation of Grossman et al. [10] that are similar to the first three stages of Wenger et al. [19]. These stages refer to a growth in community formation. This means that the two other stages (4 and 5) of Wenger et al. [19] were not included in our model of teacher community. In these latter stages, activities of the community of practice die out. Like Wenger we think that communities function in a circular process, temporarily might show less activity, restructure itself on particular features, or die out. This means that a community can move back and forth along the three stages of development for each core feature:

- Beginning. The community processes are characterized by limited feelings of group identity, feeling, and some degree of shared patterns, procedures and willingness to be active in the domain.
- Evolving. The community processes are characterized by consciousness of the group identity and development of collective activities.
- Mature. The community processes are balanced, shared and focused on a shared domain and feelings of group identity.

For each feature of our model (Group identity, Shared domain and Shared interactional repertoire) we deduced indicators from our data. Combining the ideas of Westheimer [18] on the diversity in collectiveness and of Grossman et al. [10] on formation of communities, we distinguished markers of intensity for each indicator to measure community development. Now we were able to point out the development of different aspects of a community, instead of trying to indicate the development of a community as a whole. In Figure 1, we present our descriptive model of teacher community.

Each of the three core features of teacher community can be measures along various indicators. Group identity, ranging from identification with individuals or subgroups to identification with the whole group, is indicated by the (perceived) level of emotional safety, mutual trust and responsibility of the community members, the social cohesion of the group, the informality of the group interaction, the dependability of the community members in their work, and the level of sameness in their beliefs, values and norms.

Shared domain ranging from individual or subgroups goals to goals that are shared in the community, is indicated by the (perceived) level of mutual understanding of central concepts, shared or collective targets of collaboration in the community, and shared knowledge and ideas or the willingness to reach a common ground in ideas.

Shared interactional repertoire, ranging from an interactional repertoire that is individually set to a repertoire that is shared in the community, is indicated by the (perceived) level of group dialogue and constructive group communication, a smooth regulation of the group interaction, acceptance of interactional norms, actively and spontaneously role taking which is accepted by the community members, (implicit) consensus about members' effort, and shared rules for conversation and interaction in the community.

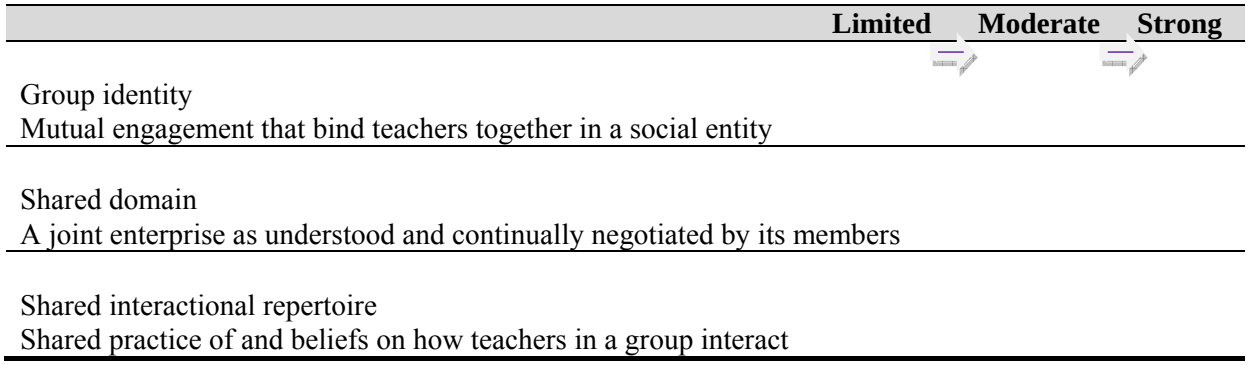

Figure 1. Basic descriptive model of teacher community with core features and markers of intensity development.

IV. DISCUSSION

This expert study led to a definition and a descriptive model of teacher community that can be applied as an analytical framework when studying the design, the description and the effects of teacher communities in secondary education. However, some issues were still open for discussion. The first issue was whether community should be defined by feelings of its members (do the individuals perceive themselves to be a member of a community), behavior (does the community show community-like activities, interactions, and communication) or both. Although no consensus was reached, most Delphi participants considered a teacher community a community if its members feel that they are part of that community and if the community shows behavior that is recognized as typical for a community

The decision to use both sense of community and community behavior as definitional features of a teacher community led to another aspect addressed in the Delphi study. Some participants claimed that the context knowledge of the observer about the particular community is necessary to be able to interpret community behavior. Observers' knowledge about the community is needed to interpret verbal utterances or behavior, but then observers' knowledge about the community may distort the observation, for example if the observed behavior does not align with the knowledge about the community.

Another unresolved issue was the position of the concept of learning in the definition of teacher community. Some participants perceived a teacher community as a group of teachers sharing the aim of knowledge building. This means that the aim of (collective) learning should be part of the definition. Other participants saw the concept of learning as one of the possible aims (and thus outcomes) of the development as a teacher community. In our definition, learning was just of one of the possible aims and effects of a teacher community, and not part of the definition of a teacher community. We decided that knowledge building and individual and collective learning are possible aims and outcomes of forming a teacher

community, in the short-term or long-term. This means that a teacher community might also exist, if short-term learning outcomes are absent.

V. IMPLICATIONS FOR ONLINE WORKSPACES

Technology might be used to various solve practical difficulties in communication and collaboration in teacher communities in school. In Figure 2, we summarized which online tools could be used in order to facilitate teacher communities in schools.

	Group identity	Shared domain	Shared interactional repertoire
Chat	X		X
Instant messaging	X		X
Audio/ video conferencing	X		X
Web conferencing			X
Collaborative writing		X	
Wiki		X	
Web presenting		X	
White boarding		X	
Screen sharing		X	
Mind mapping		X	
Co-browsing		X	
Project management	X		
Event scheduling	X		
Social networking	X		
Group communication	X		
Work grouping	X	X	
Virtual collaboration	X		

Figure 2. Online tools and the three core features of teacher community

The shared interactional repertoire in teacher communities is mostly dealt with in face-to-face interactions in schools, whether it is in collaborative work situations or in informal contact in the common room or cafeteria. However in the Netherlands, large schools have various locations that are sometimes 10-30 Kms away. In that case, the interactional repertoire of a community might be facilitated by tools for synchronous communication such as chat (e.g., Campfire, Google Wave or Chatzi), instant messaging (e.g. Skype, Yahoo messenger or Windows Live Messenger) and conferencing systems (e.g., Skype, Centra or Adobe Connect Now). This kind of synchronous virtual communication also opens the possibility to informally interact and strengthen the group identity.

The group identity of a teacher community is strengthened by collaborative work as well as informal communication. The latter is an essential aspect to create social cohesion and trust. Even in smaller schools with only one location or locations that close together, online tools can be used to strengthen group identity. This is particularly the case for asynchronous tools which focus on informal contact such social networking tools (e.g., Ning, Googlegroups or Yahoogroups) or group communication tools (e.g. Yammer, Friendfeed or Campfire). But also the tools that are designed to share work might support group identity in teacher communities. Project management or file sharing tools such Dropbox or Basecamp can support social cohesion and feelings of dependability.

Shared domains of teacher communities are mostly supported by collaborative activities of teachers. Again these activities will be mostly performed off-line, face-to-face in school. However, exchanging documents and collaborative writing asynchronously facilitate these activities. Wikis, screen sharing, white boarding and co-browsing provide possibilities to create projects such a lesson series collaboratively. This is also the case with collaborative writing tools such as Google docs, Buzzword or Zoho writer.

Empirical studies are needed in order provide evidence on how online workspaces facilitate the development and the maintenance of teacher communities in schools. As the list of online tools – freeware or commercial- is endless, experiments with various tools should be carried out. Probably a European community such as present at the eLSE conference has the potential and the power to perform this kind of research collaboratively.

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