

A Descriptive Model of Teacher Communities

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Abstract

In this paper we develop an innovative model for the development of teacher communities by using existing literature on communities in general and by looking at the specific contexts and characteristics of teaching communities in particular. The model relates different stages of development of teacher communities to different dimensions of their external and internal characteristics. We will furthermore use this model to develop measuring instruments that can be used to give an accurate view on a particular teacher community and its development and to offer information how to facilitate the teacher community.

Keywords

Teacher community, Community of practice, Teacher community mode

Introduction

Educational innovations ask for continuous development of teachers both in behaviour and cognition, as they need to adapt to a wide variety of innovations in teaching methods, due to a constant change in the student population and to new insights in learning. This professional development is not an isolated individual experience. In the Netherlands for instance, the introduction of new legislation for secondary education in 2006, resulted in the introduction of new learning domains that stretch across different subjects. Teachers are required to collaborate, not only within the school, but also outside the school with colleagues from other schools and organizations. Previous research shows that teachers consider interaction with colleagues useful in their professional development (Johnson, 2003; Kwakman, 1999). The importance of teacher collaboration is recognized in standards for the teaching profession in the Netherlands. These standards offer competence descriptions comparable to the propositions for teachers as defined by the American National Board for Professional Teaching Standards. Competent teachers are described as teachers that are engaged and active members of *learning communities* in the school organisation. The term community is used to imply a sustainable form of collaboration that involves certain levels of commitment and dedication, creating “*a social structure that can assume responsibility for developing and sharing knowledge*” (Wenger, 2002, p. 29). Thus, teacher communities not only support the individual teacher in his or her learning, but also form sustainable social structures that share interests and knowledge and develop shared norms, values, and trust.

Teacher Communities

In this paper, the professional development of teachers is studied from a theoretical perspective which regards learning as social interaction with one’s environment. In his thinking on ICT supported learning, Barak (2006) considers learning as a social process. Teacher learning takes place in interaction with others - colleagues, students, school management, parents. Together with Sfard (1998), Putnam and Borko (2000) and Lave and Wenger (2002) we think social learning is a function of the activity, context, and the culture in which it occurs (i.e. is situated). Social interaction is a critical component of situated learning – learners become involved in a community of practice that embodies certain beliefs and behaviours to be acquired. In Sfard’s (1998) participation metaphor for learning, learning is regarded as a process in which the learner is a participant of the community and knowledge is seen as aspect of

discourse and activity. Thus, in practice teachers' learning not only takes place through work-related activities (Eraut, 2004; Straka, 2004), but these activities can be said to constitute learning itself (Hoekstra, 2007). In teacher communities, the professional activities teachers learn and work through vary from concrete actions or production to the exchange and sharing of thoughts.

Taking a situated perspective allows us to identify important influences of the particular context and culture in which teachers work and learn. Shulman and Shulman (2004) present a model of teacher learning and development within communities and contexts in which they distinguish three interrelated levels of analysis: the individual, communal and policy. At the communal level, teacher communities are represented in which shared visions, community commitments, a shared knowledge base, a community of practice and established rituals or ceremonies for joint reflection and review serve the development of community accomplishments. However, Grossman, Wineburg and Woolworth (2001) indicate that it is the school organisation as it is today that obstructs teacher learning in communities in the workplace, as most school-based teacher learning takes place outside the school. In reality, at least in the Netherlands, most teachers still work isolated, feeling responsibility for their own students and curriculum. We argue that teachers who are willing and able to collaborate with colleagues do not only learn themselves, but stimulate a professional learning and working culture in the school. In her review study on innovations in Dutch secondary education, Waslander (2007) underlines the importance of strong social structure in a school as a prerequisite to successful innovations. This social structure can pre-eminently be found or created in the development of teacher communities.

Development of a teacher community model

The study is part of a larger research project on the possibilities of Computer Supported Collaborative Learning (CSCL) for the development of teacher communities. Before starting empirical studies on teacher community, we need a framework for evaluating communities in order to be able to assess the qualities. Although many empirical studies in the area of communities in organisations have resulted in the description of characteristics of communities, few studies have related (theoretical-based) characteristics of communities to stages of development. In this paper we develop an innovative model by using existing literature on communities in general and by looking at the specific contexts and characteristics of teaching communities in particular.

Teacher communities relate to learning in work of practices and in this context people refer to the concept of community of practice (Brown and Duguid, 1991, Wenger 1998). Wenger translated the *GEOGRAPHICALLY ORIENTED CONCEPT OF COMMUNITY TO NETWORKS IN ORGANISATIONS. COMMUNITIES OF PRACTICE ARE GROUPS OF PEOPLE WHO SHARE A CONCERN, SET OF PROBLEMS OR PASSION ABOUT A TOPIC, AND WHO DEEPEN THEIR KNOWLEDGE AND EXPERTISE AND CREATE KNOWLEDGE TOGETHER IN THIS AREA BY INTERACTING ON AN ONGOING BASIS (WENGER, 1998). THREE CHARACTERISTICS ARE CRUCIAL: A JOINT ENTERPRISE AS UNDERSTOOD AND CONTINUALLY RENEGOTIATED, MUTUAL ENGAGEMENT THAT BIND MEMBERS TOGETHER INTO A SOCIAL ENTITY, AND A SHARED REPERTOIRE OF COMMUNAL RESOURCES SUCH AS ROUTINES, ARTEFACTS, VOCABULARY.*

Within our concept of teacher community the community has a learning focus, emphasising the importance of collective knowledge development. *AS INTRODUCED BY BROWN AND CAMPIONE (1994), THE CONCEPT 'COMMUNITY OF LEARNERS' INDICATES COMMUNITIES WHICH HAVE KNOWLEDGE BUILDING AS PRIMARY FOCUS AND IN WHICH KNOWLEDGE IS ADVANCED BY MUTUAL APPROPRIATION AND NEGOTIATION OF MEANING.* Although individual knowledge development is an important aspect of a community of learners, its strength is particularly embodied in the fact that it learns and develops knowledge as a group (De Laet, Lally, Lipponen and Simons, 2006). This is also the case for teacher communities, where members' learning can fulfil individual needs, but it is in the heart of the community that members' learning also contributes to the (functioning) of the community. In teacher communities, learning refers to development of knowledge, skills and attitude. In addition to these cognitive learning outcomes we also think social-emotional outcomes of teacher' community learning, such as status, self-confidence, feeling part of, social role, are significant in the context of the school organisation where teachers need feeling of ownership of activities and innovations.

Except that learning has a central role in teacher communities, it also concerns a specific professional group. Teachers today feel and are loaded with large responsibility for their own classroom practice, resulting in isolated work and learning activities. In the light of recent innovations in education this isolated work of teaching is not advisable and possible anymore. Change in teachers' attitude to shared responsibility for teaching and school improvement is an important aspect for the acceptance and

inclusion of a school innovation. More than in Wengers' communities of practice the group identity plays an important role in teacher communities.

COMMUNITIES OF PRACTICE ARISE NATURALLY AND MEMBERS PARTICIPATE VOLUNTARY. Teacher communities differ from communities in practice in that they do not evolve spontaneously, an essential aspect of a community of practice. In schools, teams of teachers are organised around problems, tasks, innovations, or subject domains. Notwithstanding, we think, that these teams can evolve in groups of teachers having characteristics of communities of practice or learners.

Because of the aforementioned reasons (the focus on learning, the importance of group identity and the lack of spontaneity), the dimensions of communities as described by Wenger do not fit our teacher communities completely. Based on the described specific characteristics of teacher communities and in line with Grossman et al. (2001), we therefore define a teacher community as: *'a group of collaborating teachers with a certain group identity, shared domain and goals, and interactional repertoire that allow them to effectively share and build knowledge'*.

Establishing a dynamic combination of these elements, should result in the sustainable professional development of teachers, both individually and collective.

Characteristics and dimensions of teacher communities

In line with this definition presented above, we have adapted Wengers' dimensions of communities, emphasizing three key elements: 'group identity', 'interactional repertoire' and 'shared domain and goals':

1. Group identity: Activities, and feelings of the group and individuals in the group, and relations in the group through which the group feels itself a social entity (in the school organisation);
2. Interactional repertoire: Shared practice, views and beliefs of the group and individuals in the group used in the interaction;
3. Shared domain: Shared interest, problem, goal of the group and individuals in the group. This is why group members call on each other in the first place to collaboratively learn or work.

Like Grossman et al., we emphasize group identity as teams organised have to grow into teacher communities. Because teacher communities so often miss spontaneous evolvement they probably have to work harder to find shared goals. Moreover these goals should be focused on learning, as 'a key rationale for teacher community is that it provides an ongoing venue for teacher learning' (p. 947). Grossman et al. identify the negotiation of the essential tensions between professional development geared to learning new pedagogical practices and that devoted to deepening teachers' subject matter knowledge, as one of the essential characteristics of teacher communities. The interactional repertoire is more than Wengers' shared practice, focused on the way of communication in the community. Teachers' views, beliefs and perspectives on pedagogy and subject matter can differ strongly and are often so difficult to change. In teacher communities the focus is on understanding these differences (Grossman et al, 2001), finding ways to deal with (communicate about) these differences resulting in an interaction repertoire that is shared.

For each domain, indicators are defined using various studies in the field of communities of practice (Wenger, MCDERMOTT & SNYDER, 2002), teacher communities (Grossman et al., 2001), and sense of community (McMillan & Chavis, 1986, McMillan, 1996; Burroughs & Eby, 1998).

Stages of teacher communities

COMMUNITIES CONTINUALLY EVOLVE AND DEVELOP. COMMUNITIES OF PRACTICE MOVE THROUGH VARIOUS STAGES OF DEVELOPMENT BY DIFFERENT LEVELS OF INTERACTION AMONG MEMBERS AND DIFFERENT KINDS OF ACTIVITIES (WENGER ET AL., 2002). IN THE FIRST STAGE PEOPLE FACE SIMILAR SITUATIONS WITHOUT THE BENEFIT OF A SHARED PRACTICE, ESTABLISH CONNECTIONS. GRADUALLY THIS SOMEWHAT LOOSELY CONNECTED GROUP OF PEOPLE COALESCE INTO A TIGHTER GROUP WHERE A SENSE OF MEMBERSHIP AND BELONGING IS BEING DEVELOPED (STAGE 2). OVER TIME THE COMMUNITY MATURES TO ITS THIRD STAGE, DEFINING ITS BOUNDARIES, ROLE AND FOCUS, ADVANCING THEIR PRACTICE AND DOMAIN BY VARIOUS ACTIONS, TAKING STEWARDSHIP OF THE KNOWLEDGE AND PRACTICES THEY SHARE AND CONSCIOUSLY DEVELOP. For the developmental stages of our model we use Grossman et al. (2001) as the teacher community they studied is comparable in their evolvement to teacher communities we expect to find. In the interpretation of the stages of development we integrated the first three stages of Wenger et al. (2002). Stages of development are:

1. **Beginning:** The group is initiated and starts shaping. The processes are characterized by limited group feeling, shared patterns, procedure, and willingness to be active in the domain. We expect to find three ways a teacher community starts: (1) The group starts spontaneously (not likely); (2) The groups starts by initiative of a teacher or management and teachers show interest/willingness; (3) The groups starts by initiative of a teacher or management and the teachers show little interest/willingness.
 2. **Evolving:** The processes in the group are characterized by consciousness of the group process and development of group activities.
 3. **Mature:** The processes in the group are balanced, shared and focused on the group.
- Wenger, in his stage model, also defines two stages (4 and 5) in which the activity of the COP dies out. We agree with Wenger that communities function in a circular process and temporarily might show less activity, after which more active phases can follow, or phases in which the community has to form and structure itself again on parts, because repertoires have to be refreshed or relatively much new members have entered. As we do not expect to find already mature teacher community in practice, we did not incorporate stages in which community activity slows down.
- Dimensions, indicators and phases are put together in a model that is presented in Table 1. For each of the three phases we describe how the community behaves on each indicator.

Table 1: Teacher Community Model

	Indicators	Beginning Teacher Community	Evolving Teacher Community	Mature Teacher Community
Group Identity	Identification (i,o)	With subgroup or individualistic with artefact or topic	Pseudo-community (false sense of unity: suppression of conflict)	Whole group
	Multi perspective contribution (i,o)	Individuals are interchangeable and expendable	Recognition of unique contribution of individual members	Recognition that group is enriched by multiple perspectives (sense of loss when member leaves)
	Responsibility (o)	Individual responsibility	Recognition of group responsibility	Communal responsibility for group
	Intellectual growth (o)	Individual growth	Recognition that colleagues are resources for one's learning	Collective growth
	Mutual trust and social ties (i,o)	Low level of trust and social connections and more formal interaction	Building interests, commitment and relationships	Established trust and social connections resulting in increased informality
	Emotional safety (i)	Quality and intensity of contacts between members is felt low	Quality and intensity of contacts between members grows	Quality and intensity of contacts between members is felt high
	Spiritual bond (i)	Members have difficulties finding ways to embody or invoke guiding principles based on spirituality, ethics and values	Members start finding ways to embody or invoke guiding principles based on spirituality, ethics and values and translate them in daily actions and decisions	Members find ways to embody or invoke guiding principles based on spirituality, ethics and values and translate them in daily actions and decisions
	Sense of collectivism (i)	Members do not recognize themselves in other members	Members start feeling connected to other members as persons	Members feel connected to the group as similar persons
	Neighbourliness (i)	Group members are not associated as 'good neighbours'	Growing sense of neighbouring among group members	Group is felt like a good neighbour
	Influence-co-worker support (i)	Members do not feel the group or group members can mean something to them or	Members feel they can mean something to other group members and group members to	Members feel they mean something to the group and the group to them

	Indicators	Beginning Teacher Community	Evolving Teacher Community	Mature Teacher Community
		they mean (have influence) something to (group) members	them	
	Fulfilment of needs: social security (i)	No feelings of social security	Feeling that group might provide or sometimes gives social security	Group membership provides feeling of social security (status)
Interactional repertoire	Interactional norms (i,o)	Undercurrent of incivility	Open discussion of interactional norms	Developing (implicit or explicit) new interactional norms
	Management of conflict (on domain) (o)	Conflict goes backstage, hidden from view	Conflict erupts to main stage and is feared	Conflict is expected feature of group life dealt with openly and honestly
	Regulation of interaction (i,o)	Strong , explicit regulation of interaction	Building interactional repertoire by establishing interactional patterns while working or learning together	Common ground in interaction (limited regulation of interaction; implicit, smooth interaction)
	Role taking (o)	Individual role-taking (independent; not with group process in mind)	Recognition of importance taking other roles (building interdependence)	Role-taking for collective purposes (established interdependence by different roles, functions, and 'rhythm' for activity)
	Dynamic effort (o)	Differences in effort not accepted	Recognition that difference in effort can be beneficial for the group	Differences in effort accepted
	Dynamic position (i,o)	Boundary crossing (from outside to inside COP and within COP from periphery to core and vice versa) not accepted	Recognition that boundary crossing can be beneficial to group (letting new knowledge inside and provide members opportunity to dynamically move inside COP)	(new) Group members glide from boundary to core (by initiation and peripheral participation) and vice versa
Shared domain	Differences in educational perspectives (i,o)	Denial of differences (explicit or implicit positioning)	Appropriation of divergent views by dominant positions	Understanding and productive use of differences
	Commitment to domain	No commitment to domain	(re)Negotiation of domain	Commitment to domain
	Common ground in concept	Uncommon ground	Negotiation of common ground	Common ground
	Goal (i,o)	Individualistic or external (learning) goals	Negotiating emerging shared (learning) goals	Shared and appropriated goals or 'sense of purpose'
	Shared knowledge (o)	No shared knowledge	Development of shared knowledge	Sharing knowledge and stewardship of knowledge
	Fulfilment of needs: competence, knowledge (i)	Feeling that competence and knowledge of member is not beneficial to each other	Recognition that members competence and knowledge can be beneficial to each other	Feeling that competence and knowledge of member is beneficial to the group

Measuring instruments

Our model can be used as an instrument for the description of the development of Teacher Communities. The model can be employed to describe the Teacher Community at several moments in time and to analyse how the community develops. It can also be used for a state of the art description of the Teacher Community. Both applications are interesting for research purposes, but the latter also can be of use to the Teacher Community using it as a self-reflective instrument for the community. Instruments are needed to locate the position of the Teacher Community in the model. In locating the Teacher Community, we distinguish two perspectives, reasoning that a true community should both be visible from outside the community ('do the externally visible processes, activities and outcomes resemble a community?'), as well as from the inside ('do the members experience it as a community?'). Even if it is regarded as a community by their colleagues, a team of teachers cannot operate as a community if they don't feel like one. Part of the definition of the teacher community is that its members identify with the group and this sense of belonging is one of the main areas in which a community distinguishes itself from a 'network' or 'team'. On the other hand, a group of teachers all feeling a sense of community may still not be considered a community if they do not share a certain group identity, a shared interactional repertoire or a shared field of interest and knowledge. Moreover, not all indicators can be measured by both perspectives, as some can only be measured by asking members about their feelings, whereas others can only be observed. Therefore, the 'outsider perspective' is mainly used to describe the observable activities of the group and its individual members, whereas the 'insider perspective' measures the sense of community as perceived by the community members.

The outsider and insider perspectives are measured by different instruments. Firstly, the instrument for the outsider perspective is a scoring scheme that can be used to score different sorts of data (such as video, portfolio, diaries, or electronic communication). The scheme includes the different dimensions and indicators of the model itself, with descriptions for each indicator over the different phases. To support the process of scoring the appropriate phase for each of the indicators, they are illustrated with additional examples of observable member behaviour. Some examples can be found in Table 2.

Table 2: Examples of observable member behaviour

	Indicators	Examples
Group Identity	Identification	reference to the group (I, me, mine versus we, us and our)
Interactional repertoire	Interactional norms	no civil discussion versus (reference to) ground rules of civil discussion: listening, no interruption, constructive criticism
Shared domain	Common ground in concept	meaning of central topics is not discussed and understood versus meaning of central concepts is discussed and negotiated and understood (mutual understanding)

Secondly, the instrument for the insider perspective is a questionnaire for the participants of the community that is based on Burroughs and Eby's (1998) questionnaire on the 'Psychological Sense of community at Work' (PSCW scale), and the 'Team Orientation questionnaire' of TeamTechnology, online publishers (retrieved September 2007). Scales and example items of the instrument are included in Table 3. With the insiders perspective we attempt to measure to what extent a community member experiences the community as a community in terms of 'sense of belonging' and 'fulfilment of needs'. Regarding the 'sense of belonging', a member can feel he or she is part of the community in relation to the other community members, but also in relation to other groups. Apart from a sense of belonging, an important aspect of the experience of a community lies in the fulfilment of needs. These can be both individual and collective and can take various forms such as the efficiency in work processes, learning, and social security or status.

Both concepts 'sense of belonging' and 'fulfilment of needs' can be found in the concept 'Sense of Community' that is measured by the PSCW scale of Burroughs and Eby. They used the definition of McMillan and Chavis (1986), who define 'sense of community' in four elements: 'membership', 'influence', 'fulfilment of needs', and 'shared emotional connection'. The PSCW scale, consists of nine dimensions with items on a 5-point Likert scale. These dimensions were based on the four elements of McMillan and Chavis (1986), the concept of spirit (Lorion and Newbrough 1996; McMillan, 1996), and their own empirical work on developing the PSCW scale resulting in the dimensions 'tolerance for individual differences', 'neighbourliness', 'sense of collectivism', and 'reflection'.

The PSCW scale has been the starting point for our insider perspective. We added some items to the dimension of ‘co-workers support’ as we felt the items in this category insufficiently resembled the original category of ‘influence’ of McMillan and Chavis (1996). Moreover, we added two dimensions. More than Burroughs and Eby, we are interested in the fulfilment of needs in terms of learning, work processes and social safety. Their translation of this category of McMillan and Chavis is focused on shared repertoire and mission, something we also find interesting in relation to our dimension ‘interactional repertoire’. We therefore added a dimension with items on fulfilment of needs. The second dimension added relates to the community and its positioning to other groups. This perspective is not present in the work of McMillan and Chavis and Burroughs and Eby, but in our view is a manifestation of members’ feeling of belonging to a group. We used seven items from the Collective Team Competences Questionnaire™ of TeamTechnology, online publishers (retrieved September 2007). This questionnaire measures collective competencies that are competencies which can only be exhibited by a team together when interacting.

In our Teacher Community Model the insiders perspective is strongly related to the dimension of group identity as all aspects of feeling of belonging to the community are included here. In the dimension interactional repertoire, the insiders’ perspective measures to what extent the community members feel the community has its own way of, and norms and values on communication and interaction. The fulfilment of needs is related to the dimension of shared domain (learning, knowledge, procedures, products) and group identity (social security).

Table 3: Insider perspective instrument

Dimension	Description	Example item
Sense of belonging (1)	Feeling of acceptance by the group and a willingness to sacrifice for the group	Membership in this team is meaningful and valuable to me.
Influence or Co-worker support (2)	Individuals ‘ opportunities to work with others, feel free to express ideas and play part in the decision-making process	I feel I play part in the decision making processes in the team.
Team orientation (3)	Individual’s feeling that activities of the group are rewarding, having acknowledgment for various contributions and concern for social support	This team takes time to reflect and discuss how we work together as a whole.
Emotional safety (4)	The quality and intensity of the contacts members have in the group	I feel safe enough to ask for help from others in this team.
Spiritual bond	Relations that go beyond the tasks of the day or the psychological economy of the workplace, but are more communal in nature; when members find ways to embody or invoke guiding principles based on spirituality, ethics, and values.	I feel secure/safe enough in this team to share my spiritual beliefs with others.
Tolerance for individual differences	The way people in the organisation see and accept other people and relate to them	In this team, people usually break-up into cliques.
Neighbourliness	The comfort of the community as the neighbour in your geographical neighbourhood	If I needed advice about something I could go to someone in this team.
Sense of collectivism	The degree to which people are personally attracted to the others in the organisation	I like to think of myself as similar to the people who work in this team.
Reflection	Community takes time to reflect on processes in the community and give attention to its members feelings	During meetings, people call for a “time out” when necessary to deal with potential problems so certain individuals do not go on feeling hurt or unheard.
Fulfilment of needs	The extend the individual and community fulfils its needs in terms of work processes, learning, social safety	I feel the team helps me in my work
Team identification	Positioning of the community towards others	The team acts with one voice when dealing with other teams

McMillan and Chavis (1986): (1) : Membership Influence; (2) : Influence; (3): Integration and fulfilment of needs; (4): Shared emotional connection

Conclusion: Further development

Our model for Description of Teacher Communities is new and explorative, bringing together components from various other studies on communities. The model is based on theories on teacher learning, communities of practice, communities of learners and teacher communities. Testing and validation is needed by data gathering and analysis. First validation activities have taken place by discussion of the model in a professional research group at IVLOS and within the research group this research is part of. Results of these discussions are processed in the model as it is now.

Further validation activities will include gathering data with the instruments of the outsider and insider perspectives. Data will be gathered in some 10 teacher communities of student teachers, teacher educators, teachers from secondary schools, or a combination of student teachers, teachers and teacher educators. The validation will concern several aspects of the model and its instruments.

The results should reveal whether the indicators and descriptions for each phase are relevant, properly expressed and sufficient. Moreover, scoring data into the three phases should give us information on the accuracy of the phases.

To describe the community we use two perspectives: the outsider and insider. A way to validate the model is to check how the insider and outsider perspectives are related.

Because this model is in the first phase of development we can only predict how it will develop. We expect, when scoring a teacher community, to get scores in all three dimensions within one phase or proximate phases, as the dimensions are closely related meaning that for example when the group identity is in the beginning phase, it is almost impossible to find score on the shared domain in the mature phase.

Wenger describes his stage model as a cyclic-like process. Communities of practices can develop into the active phase, then dying out to the low active phase. After this, new life comes in the community and the development of the community starts over again from a certain stage in the model. Grossman et al. on the other hand describe their model more like a linear one. Although we agree with Wenger that communities can temporarily fade away and rebirth again, it is difficult to hypothesize in what patterns teacher communities will develop.

Both the outsider and insider instruments will be checked on their reliability. The instrument for observation will be tested by measuring the inter-rater reliability of two researchers scoring the communities. The changed and added scales of items of the insider instrument will be tested by analysing their reliability in terms of Cronbach's α .

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