



# European Journal of Educational Research

Volume 11, Issue 2, 1009 - 1022.

ISSN: 2165-8714

<http://www.eu-jer.com/>

## The Contribution of Professional Learning Community of Pedagogical Instructors, Training Teachers and Teaching Students within a Clinical Model for Teacher Education to Their Professional Development

Tareq Murad 

Sakhnin Academic College for Teacher Education, ISRAEL

Nabil Assadi\* 

Sakhnin Academic College for Teacher Education, ISRAEL

Mahmoud Zoabi 

Sakhnin Academic College for Teacher Education, ISRAEL

Seham Hamza 

Sakhnin Academic College for Teacher Education, ISRAEL

Muhammad Ibdah 

Sakhnin Academic College for Teacher Education, ISRAEL

*Received: October 20, 2021 • Revised: December 27, 2021 • Accepted: February 20, 2022*

**Abstract:** The purpose of the present study is to examine the contribution of professional learning community of pedagogical instructors, training teachers, and teaching students in clinical model for teacher education to their professional development. The prior is carried out through examining a variety of categories: namely, collaborative learning, personal responsibility, collective responsibility, reflective pedagogical discourse and action research, knowledge development and learning processes. Thirty-three members of the learning community constituted the study community. The research tool is a multiple-choice questionnaire that was developed for the requirements of the research and personal feedback on open-ended questions. The quantitative data collected by the questionnaire indicated that the learning community of the clinical model for teacher education contributed greatly to the professional development of all participants regardless of field of knowledge, role in the training process, and the curricular activities offered by colleges and schools. The findings revealed a negative relationship between the field of teacher education among the participants on the one hand, and professional development on the other hand.

**Keywords:** *Pedagogical instructors, professional learning community, professional development, teacher education, training teachers.*

**To cite this article:** Murad, T., Assadi, N., Zoabi, M., Hamza, S., & Ibdah, M. (2022). The contribution of professional learning community of pedagogical instructors, training teachers and teaching students within a clinical model for teacher education to their professional development. *European Journal of Educational Research*, 11(2), 1009-1022. <https://doi.org/10.12973/eu-jer.11.2.1009>

### Introduction

Teacher professional learning is considered crucial for improving the quality of education. Teacher collaboration in professional learning communities can contribute to the effectiveness of professional development efforts. In the past decade, there has been a shift from within-school to between-school professional learning communities. However, results regarding their effectiveness have been inconsistent (Prenger et al., 2018). Besides, identifying specific content areas for which weaknesses in the teachers' knowledge persisted is important for the improvement of this particular professional development program (Paolucci et al., 2021). Today, many countries adopt the model due to various incentives that shape the characters and goals of the community. The need to prepare teachers and students to deal with standardization, multiculturalism, globalization and the age of knowledge is of urgent nature. Within any education system, both learners and educators are required to exhibit a considerable degree of self-direction, the ability to adapt to ever-changing conditions and to operate in an environment where sources of knowledge are unlimited, and where the society is driven by a culture of constant learning, thinking and informed choices (Kougoumtzis & Patriksson, 2009). Gedera and Williams (2016) were more specific and informative where they focused on the study of practice in teaching within the same prior context.

Traditional pedagogic instruction is based on a "triangular instruction model" consisting of: student, teacher trainer, pedagogic instructor (Naifeld & Nissim, 2020). This reality creates a *pedagogical continuum* between college and school while building a common language, and dynamic work patterns that require work planning while building reality which

#### \* Corresponding author:

Nabil Assadi, Department of Mathematics Education at Sakhnin Academic College for Teacher Education, Sakhnin, 2173, Israel.

✉ [nabilgood1@sakhnin.ac.il](mailto:nabilgood1@sakhnin.ac.il)



enables interactions and conflict management and decreases the feeling of professional loneliness and isolation (Hadar & Brody, 2010).

In teacher education there is a need to heighten the awareness of what it means to be a teacher, with both the personal 'being' and the professional 'becoming' as essential and interrelated dimensions of career development. There has been a tendency to emphasise the 'becoming' at the expense of what it means to 'be'. The person the student teacher is becomes of the utmost relevance to how they develop professionally (Malm, 2009).

The available literature of the clinical model in teacher education dealt with the concept of *partnership*. (Castle et al., 2006) examined the partnership settings in Israel, and comparatively around the world. Ridley et al. (2005) addressed partnership models, and their role in reducing the dropout of teaching students. In the same context, (Paolucci et al., 2021) performed a *critical examination* of the impact and lessons learned from a professional development program for out-of-field mathematics teachers.

There is currently a lack of operational tools that allow assessing professional development in learning communities. For such tools to allow diagnostic approach to communities, only one or two aspects of the prior are insufficient (Jaworski, 2003). However, it is important to examine numerous dimensions in order to provide a broad view of the community and be well- anchored in the existing research literature presented in this study.

The study was conducted within a learning community for teacher training in elementary school track at Sakhnin College/Israel. The research population consisted of 33 participants; pedagogical instructors from different teaching fields, experienced training teachers from diverse fields in elementary schools from various backgrounds, and students from different disciplines. The research paradigm is based on the *quantitative-qualitative* approach. The research uses questionnaires and feedback on open-ended questions. The participants can use the findings as a control tool for the process of their professional development in the community.

## Literature Review

### *Professional Learning Community (PLC)*

The formation of learning communities began in universities and colleges in the United States and extended to all age groups and in quite a few education systems (McMillan & Chavis, 1986). At its core, the concept of a PLC rests on the premise of improving student learning by improving teaching practice (Vescio et al., 2008). In addition, that learning community is an effective dialogue-rich environment for improving achievement in school (Harris & Sass, 2011) and improving the practice at large (Jappinen et al., 2016).

Three characteristics of an effective learning community were stated by Harris and Sass (2011). First, Community members share a common mission, vision, values and goals. Second, they are collaborative and focused on Learning: community members learn to work together to test and improve their practices. Third, Members of the learning community hold a reflective dialogue, inquiry and self-examination that address the extent of teachers' involvement in professional dialogue on specific educational issues and creating a new research voice.

Learning within communities makes it possible to examine teaching patterns and update thought patterns, it also allows for a new and more flexible view of the disciplines and ways of teaching them. In the learning process, there is constant interaction between environmental, cognitive factors and constructivist behavioral factors (Sfarad, 2000).

Continuous learning in the community in order to develop expertise, aims to encourage teachers to ask questions, solve problems and explore their work. There is a combination of the development of the group as a collective and the individual professional development of each member of the group.

Community-based learning makes it possible to get out of the routine and experience new and unfamiliar situations in the school. As far as the affective aspect is concerned, teachers who participated in communities were more creative; they also reported an increase in ability and self-confidence. The researchers also reported changes in the emotional characteristics of science teachers following participation; including improvement in leadership skills, peer relationships, sense of responsibility, and satisfaction response to the sense of isolation in the processes of decision-making (Vescio et al., 2008).

Slavin (1986) noted that following participation in the learning community meetings; teachers learned how to improve students' written communication skills in math and science, how to encourage students to ask questions, how to help students reflect on their teaching and how to increase the use of research-based teaching.

### *Learning Community as Part of Professional Development*

The perception of learning communities as a tool for professional development in teaching stems from a social theory that is concerned with learning processes through an evolving discourse among partners. This discourse is based on shared observations, discussion, and involvement in shared practices, assuming that knowledge was built by community members and is spread by them (Kelly, 2006).

A teacher's professional development is not considered a result of spontaneous processes, but an outcome of continued learning and experiential processes, aimed at acquiring complete and coherent knowledge, acquiring insights, clarifying attitudes, and procuring a repertoire of activities a teacher needs as a basis for daily activities (Calderhead, 1988).

Studies from around the world show that professional development of teachers in communities contributes to the improvement of teaching. Furthermore, studies from around the world show that professional development of teachers in communities contributes to the improvement of teaching, because within the community, the focus is on the core of the teaching practices which tackles both deals with the content and context. Professional development suits teachers' needs and allows them to feel ownership of the process and the knowledge. This is performed by selecting the topics and by re-examining and reformulating concepts and ideas related to their work (Blaschke & Haze, 2015).

Personal and collective professional developments are diverse learning opportunities that contribute to the construction of content, practical knowledge, and improvement of teaching methods. The research literature shows that teachers learn best when learning is based on teaching methods in the context of their learning environment. When teaching is a continued process, it enables collaborations with peers inside and outside the school, enables reflection and develops the cognitive knowledge and skills needed to improve teaching (McLaughlin & Talbert, 2006).

#### *The Pedagogical Training Triangle in the Clinical Model in Teacher Training*

The partnership between the college and the school is based on the idea of creating *learning communities*; communities in which all those involved in the field are: teaching students, pedagogical supervisors, training teachers and other officials in the school. The model is based on four main objectives. The training for teaching according to the model of clinical training is based on active collaborations between all those involved in the training processes (Willemse et al., 2016).

#### *Pedagogical instructors*

Pedagogical instructors are in charge of training teacher-students in colleges for teacher education. Thus, they are a very important constituent in the training process. Their role develops from accompanying students during their studies and in creating a connection between the theories taught in colleges and how they are applied in schools (Zeichner, 2010). They are partners in the organizational culture of the school; they are also responsible for monitoring the students' behavior in the training process. In addition, they have a role in helping the student shape a professional identity and understand the range of roles and expectations that accompany the teaching profession.

Moreover, they direct students to develop reflective self-esteem skills that form the basis for advancing the learning and personal teaching process of each of them, while effectively focusing on all areas of teaching that students have chosen. In recent years, the role of pedagogical instructors has changed due to the adoption of partnership models in clinical experience models. He added that the instructors were required to build new learning environments, work together and go through a transformative process in which they simultaneously learn and teach. The change in their role required significant active experience in learning and teaching in the environments in which they are found.

#### *Training Teachers*

Training teachers are involved in the training processes and play a key role in guiding students to teaching. They assist in the professional development of students, serve as a source of professional and social support and mentoring, (Rodgers & Keil, 2007). In addition, they are a source of unique and practical teaching knowledge, partners in the educational process and planning of training programs and develop reflective skills as experienced in teamwork, teaching, coaching, assessment and reflection experts and partners in implementing new initiatives (Rodgers & Keil, 2007).

At the same time, they are eligible for acquire knowledge in a variety of subjects and deepen their disciplinary and pedagogical knowledge in the field of assessment and evaluation (Cozza, 2010). The pedagogical training process requires reciprocity and cooperation between all the individuals involved in the training: the pedagogical instructors, the training teachers and the students.

In learning communities, research learning processes allow learners to experience topics that interest them and improve their learning skills. The prior allows them to seek, deliberate, consult and make informed decisions when sharing personal experiences which leads to personal and professional growth. For this tool to be effective, the authentic response in time is very important (Skinner et al., 2009).

#### *Teacher Students*

The students are present as a group in the school. They experience teaching in the classroom, participate in occurrences in schools, collaborate with other students and "divide the work" between them. This model allows the student to learn, not from a teacher who is perceived as a coach, but one who is perceived as part of an organization.

Research sources suggest that it is advisable to expose students to as wide a range of schooling as possible at all stages of training and practices, while focusing on *meta-cognitive processes*.

### *Collaboration and Collaborative Learning in a Professional*

#### *Learning Community (PLC)*

The collaborative culture encourages teachers who are accustomed to working autonomously and individually to change their attitudes and work as team members (McLaughlin & Talbert, 2006). The more participants become involved in teaching considerations and processes, the more independence they will develop when encountering teaching dilemmas (Miskovic & Hoop, 2006), creating opportunities for exchanging opinions and ideas, building new knowledge (Avidov-Ungar, 2017), weighing and evaluating information, and asking questions.

Learning communities enable the creation of a collaborative environment in which teachers exchange experiences from the field of teaching and improve their professional practices (Wenger & Wenger-Trayner, 2015). Moreover, teachers enhance their commitment to the profession and organization if they believe they are operating in a supportive and enriching environment that encourages their professional development (Bogler & Somech, 2004; Hausman & Goldring, 2001).

The power of the collaborative process lies within the diversity between the group members, as it allows for a variety of perspectives between those who strive for a common goal and build a shared vision (Vidergor & Sisk, 2013). Collaborative work may also provide teaching students with tools for dealing with future interpersonal conflicts in their work, and conflicts arising from the interaction between the training teacher or trainee and external figures. Besides, this type of cooperation could also be institutional; another model for supervision of student teachers in the US is the coaching model, with a liaison between university education programs and school districts with professional development centers (Lombardi, 2001; Stanley, 2011).

#### *Cooperative learning*

Comparison between cooperative learning with other traditional teaching methods has shown that cooperative learning can enhance students' learning positive attitude for better learning outcome and knowledge comprehension (Tran, 2019). In addition, it has the potential to change the culture of the school, and to improve achievement if all the factors involved in in the learning community. PLC also serves as a basis for the process of everlasting change among partners, but at the same time, it requires guidance and planning (Stanley, 2011).

#### *Personal and Collective Responsibility in a Professional Learning Community*

Personal and collective responsibility opportunities make up a variety of learning techniques within and outside the school walls, and contribute to the construction of content, practical knowledge and improvement of teaching methods (McLaughlin & Talbert, 2006; Timperley et al., 2007). The research literature shows that teachers learn best when learning is based on teaching methods in the context of their learning environment. This encourages the control and work of partners in the learning process and ongoing professional development (Avidov-Ungar, 2017).

Approaches in the learning community are constructed upon the principles of the constructive learning. It emphasizes the construction and evaluation of knowledge by the learner. Therefore, the learners are empowered, and their cognitive, meta-cognitive, emotional, social and *learning resource management skills* are nurtured to allow them to direct their learning independently, and create a collective sense of responsibility for student's learning (Bolam et al., 2005). Teachers also show great dedication and caring towards the students, they believe in the ability of each student to learn and feel a collective responsibility for the students' achievements (Louis et al., 1996), and develop, over time, a shared responsibility for the professional development of community members and professional knowledge.

#### *Reflective pedagogical discourse and action research in a learning community*

The collective discourse shapes the inner-personal world of community members, but the individual voices that unite and form the community voice should not be ignored (Sfard & Prusak, 2005). From this, the professional literature emphasizes the need to place greater attention on the development of teachers' individual professional identity, as an essential component in their involvement in community discourse (Taylor, 2017).

Promoting a culture of deep and progressive discourse in communities is a complex endeavor. It has been found that learning communities capable of developing this culture promote reflection processes and contribute to the improvement of the teaching practices of their members (Dobie & Anderson, 2015; Hadar & Brody, 2010; Stoll et al., 2006). A study of the characteristics that contribute to critical discourse among professional learning communities in the United States, in which the researchers examined the impact of several combined conditions on the development of in-depth discourse among peers in the professional community (Kintz et al., 2015). The study findings pointed to the importance of *three* conditions for promoting teacher involvement in in-depth community discourse and reflective

dialogue alongside meaningful interaction: setting one clear goal for the community, managing discourse through facilitating questions by the group instructor and finding the connection between practice and theory.

It was established that the concept of instruction in teacher training should be based on caring, sensitivity and listening to students during their training. What could in fact be achieved through reflective discourse and the provision of pedagogical and methodological tools; they help prevent the dropout of *novice* teachers (Çalışkan & Sünbül, 2011).

Ongoing reflective discourse in the learning communities of the clinical model in teacher training enforces dealing with teaching dilemmas. Written feedback is also of influence in this domain; the main goal of written feedback on students' reflective writing is to stimulate and improve students' reflection skills in order to enhance their professional development (Dekker et al., 2013). This experience kind will also allow students deal with dilemmas and unexpected challenges (Archer, 2012). The reflective process is seen as a moral obligation of higher education institutions which emerges as a necessity in a rapidly changing post-modern world; a world in which the future is unpredictable. One way to bridge the gap between theory and application is to combine research skills in learning and use information based on research evidence and data. Educators and learners must be "*data literate*". The concept of literacy data expresses the need to combine research skills and proficiency in two sources of knowledge – content; knowledge and the pedagogical knowledge learned in training (Mandinach & Gummer, 2016).

The research literature suggests formulating the research position in the community of teachers alongside research may contribute to teachers striving to improve their teaching practices; setting one goal, guiding questions and bridging between theory and practice. These three conditions also promoted the relationship of criticism between community participants.

#### *Development of knowledge and processes in teaching*

The learning community plays a key role in meta-cognitive guidance. The learning community makes it possible to take a break from the training to think about the opinions that led to a particular behavior in the classroom or outside it, and to bring awareness to all the relevant components (Mevarich & Kramarski, 1997). For learning in this framework to be meaningful, the learner must activate *meta-cognitive processes* in all stages of learning and teaching, from the planning stage, through the implementation process to reflection on doing and training. PLC IS an environment in which teacher metacognition could be nurtured, and that the PLC leaders' recognition of their own metacognition impacted the type of work that they led in the PLC, thus potentially impacting the learning of others (Prytula, 2012).

### **Methodology**

#### *Purpose of the Study*

The purpose of the study is to examine the contribution of the learning community of pedagogical instructors, training teachers, and teaching students, according to the clinical model in teacher training on their professional development. This is carried out through examining a variety of dimensions: collaborative learning, personal responsibility, collective responsibility, reflective pedagogical discourse and action research, and development of knowledge process.

#### *Research Questions*

1. What is the contribution of the learning community to the development of the reflective pedagogical discourse among its members?
2. What is the contribution of the learning community to the development of process knowledge among its members?

#### *The Context of the Study*

In an age of changing reality, we are required to adapt the teaching and learning methods to this reality and integrate contemporary and relevant learning with reference to the principles of future pedagogy, which aims to arouse curiosity, discourse, in-depth discussion, critical thinking, involvement, and action. A *hybrid learning community* with pedagogical guidance developed following Corona at Sakhnin College for Teacher Training.

So much effort was invested in the establishment and maintenance of this framework that consisted of pedagogical instructors, training teachers and teacher students from different disciplines acts out of research and partnership in order to improve the quality of learning - teaching, creating a change in the perception of learning. In this framework, there are disciplinary and pedagogical discussions and discourses that deal with issues that arise from the school environment. This reality creates a *pedagogical continuum* between the college and the school, while building a common language and dynamic and flexible work patterns that require work-planning while in action, and building reality which enables conflict handling interactions and practice documentation.

### Participants

The study involved 33 members of the learning community. Eight of them were pedagogical instructors, fourteen training teachers and eleven teaching students. These participants experienced teaching in various fields of knowledge, English, Arabic, mathematics and special education. The participants share the training processes within eight primary schools of the Arab sector in the Northern District. The participants were randomly selected.

### Research Instruments

A multiple-choice questionnaire was developed for research purposes. It examines the perceptions and attitudes of pedagogical instructors, training teachers, and teaching students regarding their professional development in their shared learning community. The answers to the multiple-choice questions were based on a five-point Likert scale: (1) expresses a low degree of agreement with the option presented, while (5) expresses a high degree of consent. Upon completion of the questionnaire, community members: pedagogical instructors, training teachers and students were asked to complete personal feedback on open-ended questions indicating their satisfaction and contributions from their participation in the community in the five themes: collaborative learning, personal responsibility, collective responsibility, reflective pedagogical discourse, research, and development. In the current study, the internal reliability of the scales Cronbach's alpha ranged from 0.61 to 0.869 and the overall internal reliability Cronbach's alpha was 0.941.

### Data Processing

The quantitative data were analyzed using SPSS software while calculating averages and standard deviations and examining correlations between the variables and differences between: the six different categories in which community contribution is examined. For this purpose, statistical tests that enabled obtaining averages, standard deviations and examining statistically significant differences and variance analysis tests were used. In addition to the quantitative analysis, a qualitative analysis of the participants' reports was conducted.

Due to the small number of participants, a Shapiro Wilk test was conducted, which found that the variables are not normally divided. Therefore, in order to examine the differences between the groups, A-parameters tests were conducted – for independent samples – Kruskal-Wallis test.

## Findings

The researchers classified the findings into six main categories: Cooperatives, Cooperative learning, self-responsibility, collective responsibility, reflective pedagogical discourse ,and process knowledge development (skills, capabilities and tools). Table 1 shows general Mean, standard deviation and range in each of the six categories studied of the contribution of the learning community.

Table 1. General Means, Standard deviation and Range in each of the six categories studied of the contribution of the learning community.

The variable	Mean	Standard deviation	Range	Internal reliability
1.The general questionnaire	4.59	0.379	3.63 – 5	0.941
2. Cooperatives	4.63	0.378	3.63 – 5	0.867
3. Cooperative learning	4.61	0.363	3.63 – 5	0.844
4. Self-responsibility	4.56	0.452	3.67 – 5	0.769
5. Collective responsibility	4.58	0.400	3.71 – 5	0.855
6. Reflective pedagogical discourse	4.58	0.382	3.67 – 5	0.610
7. Process knowledge development	4.58	0.376	3.67 – 5	0.869

Table 1 and the reports from all members of the learning community; pedagogical instructors, training teachers, and teaching students, show that the overall average contribution of the learning community in the six categories was found to be very high at 4.59 on a 1 - 5 Likert scale, with a standard deviation of 0.379 and a high internal reliability of 0.941.

In addition, it was found that all the overall averages of the contribution of the learning community in each of the six categories were very high. The averages ranged from the lowest 4.56 in the "self-responsibility" category to 4.63, which is the highest in the "cooperative" category (see below Diagram 1).

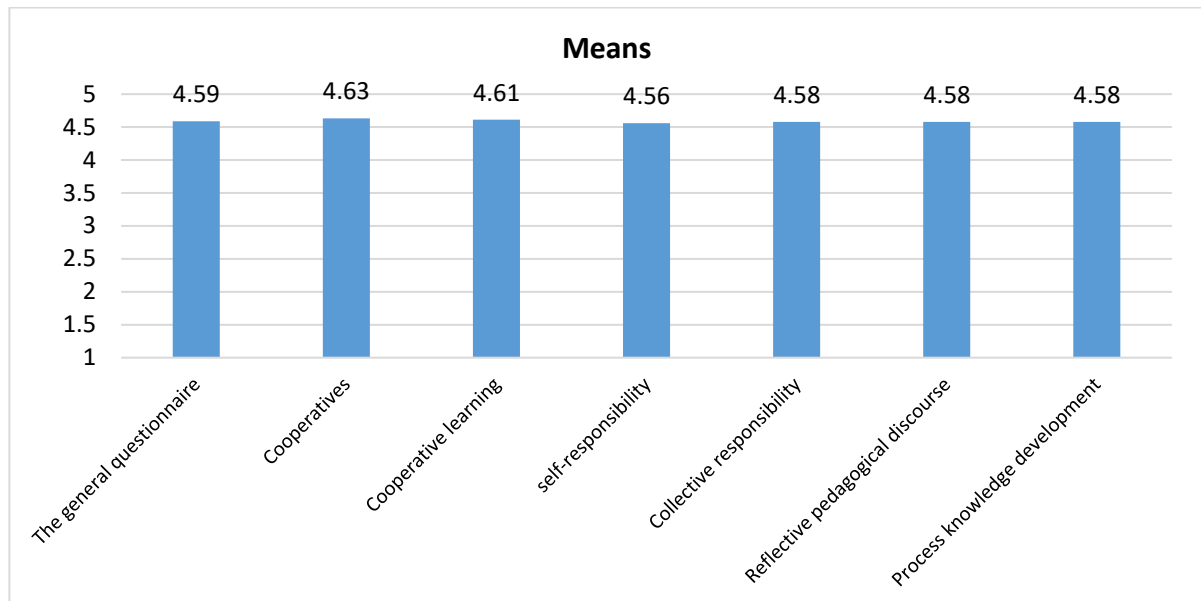


Figure 1. The means of the research categories.

The y-axis ranges from (1-5), which is statistically most appropriate. Nonetheless, the accuracy has fallen as the insignificant variations are not observable. This means that those members of the community reported that there was a very high contribution from their learning community in all categories.

Quotes from members of the learning community are presented here that can literally describe the basis from which these high statistical averages were generated in the six categories studied as table 2 shows:

Table 2. Statements of members of the learning community

Field No.	Participant	Statement
1	Student	My participation with my instructor and my training teacher in the learning community gave me confidence, support and encouragement to be creative in my thoughts, actions, and development of knowledge development process.
2	Student	The learning community was an innovative idea. In the beginning, I was scared and excited to be in the same forum with instructors and teachers in different fields of knowledge and seniority. However, after two sessions, this difference vanished and I felt proud that everyone looks at me as a teacher. All the time it has had a positive effect on my progress and development in terms of learning and class behavior.
3	Instructor	The learning community contributed to my professional development in the context of collective responsibility. An example is the collective responsibility that characterized the organization of all community members towards preparing the presentation.
4	Trainer	Together with all the participants, we were able to break the ice, learn what a teacher is and what a responsible and up-to-date teacher should be; a teacher who understands what he/she must do and what the goals he/she must achieve.
5	Pedagogical instructor	The learning community has contributed greatly to my professional development in the context of collaborative learning. All of us as members of one group, shared knowledge and ideas, discussed each idea together and learned from each other.
6	Coaching teacher	Teaching and learning in a group with collaboration has helped me and contributed a lot; especially in improving the quality of learning. Socially, collaborative learning encourages learning in a comfortable atmosphere for students who find it difficult to work alone.
7	Training teacher	The professional learning community has greatly improved my personal responsibility. I learned to take part and work with all my energy to reach my goals
8	Teacher	In each session and after each particular activity and topic, we had fruitful discussions and reached many conclusions. The purpose of the reflection was to raise more question of why, how, and what needed to be improved.
9	Teacher	In our meetings, I was able to expand my knowledge, especially in terms of my teaching methods and techniques.
10	Teacher	We have been exposed to new tools and methods that we can use in all subjects according to the intended purpose.
11	Trainer	The learning community has helped me a lot in developing diverse and innovative teaching tools and processes. In each session there was always a presentation of different ideas and teaching methods.

The first participant's statement tackles knowledge development process, stressing its importance, and reflecting on the psychological traits that were acquired throughout the study.

The second participant's statement addresses the community contribution in a number of categories: collaborative, collaborative learning and process knowledge development in addition to strengthening self-confidence.

#### *Collective Responsibility*

According to the third participant, collective responsibility, as a broad concept, was the prominent domain of his/her experience. The statement is also enriched with an example which illustrates deep involvement and commitment.

The fourth participant elaborates on the importance of the project in forming new concepts and illustrating previously existing ones. Again, collective responsibility is the domain, and its presence is absolutely tangible.

#### *Collaborative Learning*

The statement made by the fifth participant stresses the importance of collaborative learning. The participant's statement also emphasizes the significance of group learning and its long-lasting impact in such educational environment.

The sixth participant highlighted the concept of "quality learning." It is obvious from the statement that social learners fit perfectly within such learning atmosphere. Besides, even solitary learners, who are not expected to excel in a socialized atmosphere, might find the experience appealing due to the positive energy that it projects.

#### *Self-Responsibility*

The seventh participant pointed out the importance of self-responsibility. The drive that the experience has granted him/her is audible in their statement. Moreover, self-responsibility as a broad concept is present and dominant throughout the project.

#### *Reflective pedagogical discourse*

The eighth participant addresses each session of the project individually. It is clear from the participant's response that the reflective pedagogical discourse was indeed a tool of self-reflection on numerous levels, and a mechanism that could notably improve the notion of self-criticism and feedback. The eighth participant's conclusion is in line with his/her ninth counterpart, who also stresses that notable improvement was achieved via this particular technique.

#### *Process knowledge development*

The two last participants, as illustrated in table 2, tackled the pivotal concept of *Process knowledge development*, relating the prior with up-to-date teaching methods, tools, didactics, and techniques. They also emphasized the idea of multi-applicability of the new methods that they learned, and how they could be implemented in various educational situations and for numerous classroom needs.

The general conclusion is that the learning community studied here has a particularly significant contribution in the six categories: Although it was found that there were no significant statistical differences between the averages, it must be said that the "cooperatives" category was found to be the highest of all the categories, and this may indicate the particularly strong presence of this category in the learning community, which is actually the foundation for the other categories. This important place of "cooperatives" can be understood from the participants' statements.

*Table 3. Differences in the six categories of research by member status in the learning community*

<b>Variable</b>	<b>Pedagogical instructors (N = 8)</b>	<b>Training teacher (N = 14)</b>	<b>teaching students (N = 11)</b>	<b>Difference between groups <math>X^2_{(2)}</math></b>	<b>p-values</b>
Cooperatives	M=4.76, ) (SD=.205	M=4.61, ) (SD=.425	M=4.55, ) (SD=.415	.804	.669
Cooperative learning	M=4.70, ) (SD=.230	M=4.59, ) (SD=.416	M=4.57, ) (SD=.388	.155	.926
self-responsibility	M=4.45, ) (SD=.434	M=4.57, ) (SD=.479	M=4.63, ) (SD=.458	1.337	.512
Collective responsibility	M=4.57, ) (SD=.305	M=4.60, ) (SD=.455	M=4.55, ) (SD=.421	.463	.793
Reflective pedagogical discourse	M=4.62, ) (SD=.278	M=4.54, ) (SD=.445	M=4.60, ) (SD=.389	.082	.960
Process knowledge development	(M=4.66, SD=.237)	M=4.58, ) (SD=.412	M=4.53, ) (SD=.429	.216	.897



Table 3 shows the relationship between the roles the learning community members: a pedagogical instructor, training teacher or teaching student. In addition, the Table provides report about the contribution of the learning community in each of the six categories studied. In other words, how the role of a member in the community affects his/her report on community contribution in each of the six categories.

Table 3 also presents the result of a statistical analysis in which an independent samples Kruskal-wallis test was performed, with the explanatory variable of the member in the community (pedagogical instructor, training teacher or teaching student) and the variables explained were the six study categories.

Thus, all community members reported a high contribution of the learning community in each of the six categories studied. In other words, it was found that the role of the member has no significant effect in the six categories.

*Table 4. Differences in the six categories of research by member areas of training in the learning community*

Variable	Arabic (N = 6)	Mathematics (N = 5)	Special education (N = 5)	English (N = 17)	Difference between groups ( $X^2_{(3)}$ )	p-values
Cooperatives	M=4.75, ) (SD=.193	M=4.80, ) (SD=.189	M=4.57, ) (SD=.590	M=4.55, ) (SD=.398	1.527	.676
Cooperative learning	M=4.77, ) (SD=.146	M=4.78, ) (SD=.185	M=4.60, ) (SD=.582	M=4.52, ) (SD=.370	3.017	.389
self-responsibility	M=4.94, ) (SD=.136	M=4.60, ) (SD=.434	M=4.46, ) (SD=.605	M=4.45, ) (SD=.440	6.295	.098
Collective responsibility	M=4.85, ) (SD=.221	M=4.54, ) (SD=.409	M=4.57, ) (SD=.562	M=4.49, ) (SD=.385	4.655	.199
Reflective pedagogical discourse	M=4.72, ) (SD=.136	M=4.73, ) (SD=.278	M=4.66, ) (SD=.577	M=4.47, ) (SD=.391	3.597	.308
Process knowledge development	M=4.74, ) (SD=.167	M=4.71, ) (SD=.201	M=4.60, ) (SD=.569	M=4.49, ) (SD=.400	2.318	.509

Table 4 shows the relationship between the training disciplines of the member in the learning community: mathematics, Arabic, English and special education and gives report about the contribution of the learning community in each of the six categories studied.

In addition, the table shows the result of a statistical analysis in which an independent samples Kruskal-Wallis test was performed with the explanatory variable being the training area of the community member (mathematics, Arabic, English and special education) and the variables explained were the six study categories.

The main conclusion is that there is no statistically significant difference between community members and the participants' training discipline.

### Discussion

Renewal processes in a learning community are not alternative events, but a way of life that leads its partners from different fields of knowledge to development and flourishing (Willemse et al., 2016). The findings of the study clearly showed notably high averages on a Likert scale of community contribution to its members in the six categories examined. Moreover, the statistical analysis of the responses of the study group members does not show statistically significant differences in the overall averages of the community contribution in the six categories examined according to the community members' reports on these contributions. The statistical analysis data show that the averages of the community contribution in the six categories ranged from (4.56) to (4.63) without statistically significant differences, due to differences in their role in the community (instructors, teacher or student) or as a result of the field of knowledge (Arabic, English, mathematics or education). Hence, the findings show that no matter what role or field of knowledge the community members are engaged in, they reported a very high contribution in the six categories. This means that the learning community had a significant and very high overall contribution to its members in the six categories examined.

In the category of partnerships, the highest averages were obtained on the Likert scale ( $M = 4.63$ ) out of the six categories, but without statistically significant differences with the averages in the other categories. The average in this category is that of the community members' reports in the following axes: the extent to which the community enables active personal involvement between the partners' self-efficacy, teamwork, and the ability to contribute and plan for a shared vision in the community. This high average can be explained by the fact that partnerships were at the center of community members' attention. When asked about community contribution, they highlighted the importance of collaborations in general and its place among the categories examined in the study. Fullan (2007) stated that

partnership and cooperation in the learning community is a process that includes the desire to expand and strengthen learning and achievements. This increases personal and collective responsibility and professional criticism among participants.

Most of the participants emphasized that partnership and cooperation in the community is expressed by understanding the mutual needs of each of the partners and making joint decisions. Regarding personal traits and inner knowledge of the participants, the findings are in line with those of (Paolucci et al., 2021), who found that increases in teachers' mathematical knowledge and self-efficacy along with self-reported impact on practice are positive outcomes. This is similar to what has been reported by (Avidov-Ungar, 2017; Cary, 2002) that in learning communities it turns out that there is significant collaboration and collaborative learning in the social context, which enriches all group members in terms of positivity, confidence and accumulative knowledge. In addition, action research conducted so far according to the clinical model focused on students, pedagogical instructors and teachers, show that the training processes in didactic pedagogical areas include the development of partnership-based working relationships. Teaching students who have taken part in the partnership feel that it has led to the acquisition of a great deal of knowledge, therefore, their ability and willingness to teach indeed improved (Sandholtz & Dadlez, 2000; Stroope, 2011). A statistical analysis revealed that values are higher than the overall average in partnerships. This was obtained among the pedagogical instructors in particular ( $M = 4.76$ ) as compared to the other partners in the learning community. Similarly, it has been reported that pedagogical instructors constitute a very important component in the training process following the adoption of partnership and cooperation in clinical model settings.

The overall average in "collaborative learning" dimension was quite high; ( $M = 4.61$ ). This average is an indication that the learning professional community enables a great improvement in the disciplinary skills, openness and flexibility of the community partners for new experiences, development of tools and pedagogical products that will improve the quality of teaching, learning and assessment processes. The findings are supported by other related studies that were conducted by Lewinsky College of Education in Tel-Aviv, Israel, which presents evidence for the learning community contribution to creating an optimal climate of training and learning, enabling the occurrence of collaborative learning processes that lead to professional growth and empowerment of participants.

However, there were no statistically significant differences in collaborative learning between the three vertices in the community triangle (instructors, teachers, and students), although, again pedagogical instructors received the highest average of ( $M = 4.70$ ).

Collaborative learning is defined as an opportunity for professional development of students, as well as their teaching and training in the school, its main goal is to improve students' learning on its diverse aspects: academic, socio-cultural achievements and so on. The findings of the current study indicate that discussions took place in the learning community and ideas that concerned the professional development of the students' pedagogical instructors were implemented.

In the category of "personal and collective responsibility" in the learning community, the findings show high and similar averages, with the overall average in personal responsibility ( $M = 4.56$ ) and collective responsibility ( $M = 4.58$ ). However, statistics did not show a significant difference between the participant's role and discipline.

The findings of the current study confirm the perception that there is a continuous reflective discourse between the college and the field in the learning community that was studied (Taylor, 2017), improvement in the teaching and learning practices of the participants, and allowing them to bridge the gap between theory and practice (Cochran-Smith & Zeichner, 2005; Wenger & Wenger-Trayner, 2015). The high overall average obtained ( $M = 4.58$ ) in the quantitative finding of the category "reflective pedagogical discourse" and in the absence of significant differences between teachers and students, is similar to what was obtained according to the reports in the feedback. During the hybrid meeting, a discourse that expressed development and growth, cohesion around common goals and learning as a way of life were tackled. This reflective discourse describes the existence of professional development among each of the partners in the community. In addition, it is a basis for empowering communication, which has opened up a branching relationship between all members. They broke down partitions of time and place; these connections were supported by hybrid communication throughout all meetings. This has led to the development of exploratory thinking and research in the community and the improvement of processes in learning and pedagogical guidance. Open communication - which uses formal concepts and enables ongoing reflective dialogue - is the basis for asking questions and constructive discussion within the learning community (Whitehead & Fitzgerald, 2007).

In the community, one learns the assumption that learning occurs only through experience and practice, and these are the cornerstones in the construction of new knowledge (Kolb, 1984). The high average, which is obtained in the category of knowledge development ( $M = 4.58$ ), indicates that the partnerships and discussions in the community studied raised awareness and need to build knowledge, furthermore, it operates the pedagogical processes. It is not only the instructors who received the highest average but the training teachers as well.

The feedback reports of the community members confirm the prevailing view that knowledge acquisition cannot only be obtained through reading or passive viewing, but should be based on learning and experiencing in the community.

The participants activated reflective processes related to their training during the hybrid sessions; they evaluated the experience, asked questions and drew conclusions for the construction of a relevant knowledge and process.

Social learning skills are important in accessing the benefits of learning in teams and communities. Research shows that cooperative learning, collaborative learning, project-based learning, and learning communities contribute measurably to improving student learning performance (Apple & Ellis, 2015).

### Conclusions

The findings of the study indicate that the learning community is a significant tool for advancing significant pedagogical processes. It has made a significant contribution to its partners in the areas of collaboration, collaborative learning, personal and collective responsibility, reflective pedagogical discourse and process knowledge development. Moreover, the professional community in this study brought about significant perceptual and applied changes among the participants, and contributed to their development regardless of the field of knowledge and the role in pedagogical training. In this community that is essentially based on the clinical model there was an expression of a new culture and environment that instilled confidence, encouraged reciprocity in the relationship, realized a shared vision and collaborative learning and created insights and assistance in the development of professional knowledge. In the new culture developed in the community, the participants combined theoretical with practical knowledge to create unique new one that suited the needs of the partners and enriched their work.

At the practical level, the importance of personal and collective responsibility to the partners was revealed. They discussed the goals of the partnership and collaborative learning; they also examined their contribution to the students' development process, especially in the process of actively turning the talented students into independent teachers with advanced problem-solving skills.

In a follow-up study, it is also of interest to examine the contribution of the community to the academic achievements of the students in the school. The findings of the recent study indicate that training according to the clinical model in teacher education was structured, focused, and properly planned; the community leaders together with the pedagogical instructors, the training teachers and the students planned and implemented the content for the sessions. In this context, it should be noted that all the products, in the didactic and pedagogical content in diverse content areas, are the outcome of work and creation in the community.

### Recommendations

1. More research and original scholarly studies should be conducted on the professional development of novice and trainee teachers in the Middle East at large and in Israel in particular.
2. Direct involvement of education experts in the school environment where novice and trainee teachers are present is highly recommended.
3. Creation of friendly, supportive, and cooperative environment where all teachers, supervisors, principals, and staff members at large work towards a common goal.
4. Enriching novice and new teachers with all the means necessary to achieve a high level of professional development within the targeted schools and institutions.

### Limitations

The research was fully conducted in Arab school that is located in the Northern part of Israel. All participant of the study, whether they were supervisors, education experts, student-teachers, novice teachers and expert teachers were all Arab citizens residing in Northern Israel. The study was mainly based on an extensive field work where schools were visited and participants were contacted on a daily basis throughout the duration of the study. That study was fully conducted within the scholastic year 2020-2021 and required *one year* of data collection, analysis, and treatment.

### Acknowledgment

Regarding the financial resources, and despite the high-cost of educational studies in Israel, the researchers were fully self-funded and received no external funding whatsoever.

### Authorship Contribution Statement

Murad: Conceptualization and design, data acquisition and role-distribution. Assadi: Style editing, English language proofing, final approval, correspondence, and submission. Zoabi: Data analysis, technical and material support. Hamza: construction of the article's body, literature review, and in-field coordination. Ibdah: Drafting manuscript and translation.

## References

- Apple, D., & Ellis, W. (2015). Learning how to learn: Improving the performance of learning. *International Journal of Process Education*, 7(1), 21-27.
- Archer, M. S. (2012). *The reflexive imperative in late modernity*. Cambridge University Press. <https://doi.org/10.1086/670521>
- Avidov-Ungar, O. (2017). Professional development communities: The perceptions of Israeli teacher-leaders and program coordinators. *Professional Development in Education*, 44(25), 1-15. <https://doi.org/10.1080/19415257.2017.1388269>
- Blaschke, L. M., & Haze, S. (2015). Heutagogy: A holistic framework for creating twenty-first-century self-determined learners. In B. Gros, Kinshuk, & M. Maina (Eds.), *The future of ubiquitous learning: Learning designs for emerging pedagogies* (pp. 25-40). Springer. [https://doi.org/10.1007/978-3-662-47724-3\\_2](https://doi.org/10.1007/978-3-662-47724-3_2)
- Bogler, R., & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching and Teacher Education*, 20, 277-289. <https://doi.org/10.1016/j.tate.2004.02.003>
- Bolam, R., McMahon, A., Stoll, L., Thomas, S., & Wallace, M. (2005). Creating and sustaining effective professional learning communities. *American Journal of Educational Research*, 5(3), 296-302. <https://doi.org/10.12691/education-5-3-10>
- Calderhead, J. (1988). *The development of knowledge Structures in learning to teach. Teachers' professional learning*. The Falmer Press.
- Çalışkan, M., & Sünbül, A. M. (2011). The effects of learning strategies instruction on metacognitive knowledge, using metacognitive skills and academic achievement (Primary education sixth grade course sample). *Educational Sciences: Theory & Practice*, 11(1), 148-153. <https://doi.org/10.4236/psych.2013.47084>
- Cary, L. J. (2002). Complicating the case for teacher education: Asking different question. *Action in Teacher Education*, 24(3), 92-99. <https://doi.org/10.1080/01626620.2002.10734435>
- Castle, S., Fox, R. K., & O'Hanlon, S. K. (2006). Do professional development schools (PDS) make a difference? A comparative study of PDS and non-PDS teachers' candidates. *Journal of Teacher Education*, 57(1), 65-80. <http://doi.org/10.1177/0022487105284211>
- Cochran-Smith, M., & Zeichner, K. (2005). *Studying teacher education: The report of the AERA. Panel on research and teacher education*. Lawrence Erlbaum Publishers.
- Cozza, B. (2010). Transforming teaching into a collaborative culture: An attempt to create a professional development school- University Partnership. *The Educational Forum*, 74, 227-241. <https://doi.org/1080/0031725.2010.483906>
- Dekker, H., Schönrock-Adema, J., Snoek, J. W., Molen, T., & Cohen-Schotanus, J. (2013). Which characteristics of written feedback are perceived as stimulating students' reflective competence: An exploratory study. *BMC Medical Education*, 13, 94. <https://doi.org/10.1186/1472-6920-13-94>
- Dobie, T. E., & Anderson, E. R. (2015). Interaction in teacher communities: Three forms teachers use to express contrasting ideas in video clubs. *Teaching and Teacher Education*, 47, 230-240. <https://doi.org/10.1016/j.tate.2015.01.003>
- Fullan, M. (2007). *The new meaning of educational change* (4th ed.). Teachers College Press, Routledge Falmer.
- Gedera, D. S. P., & Williams, P. J. (Eds.). (2016). *Activity theory in education: Research and practice*. Sense Publishers. <https://doi.org/10.1007/978-94-6300-387-2>
- Hadar, L., & Brody, D. (2010). From isolation to symphonic harmony: Building a professional development community among teacher educators. *Teaching and Teacher Education*, 26(8), 1641-1651. <https://doi.org/10.1016/j.tate.2010.06.015>
- Harris, D., & Sass, T. (2011). Teacher training, teacher quality and student achievement. *Journal of Public Economics*, 95(7-8), 798-812. <https://doi.org/10.1016/j.jpubeco.2010.11.009>
- Hausman, C. S., & Goldring, E. B. (2001). Sustaining teacher commitment: The role of professional communities. *Peabody Journal of Education*, 76, 30-51. [https://doi.org/10.1207/S15327930pje7602\\_3](https://doi.org/10.1207/S15327930pje7602_3)
- Jappinen, A. K., Leclerc, M., & Tubin, D. (2016). Collaborativeness as the core of professional learning communities beyond culture and context: Evidence from Canada, Finland and Israel. *Contact*, 27(3), 315-332. <https://doi.org/10.1080/09243453.2015.1067235>

- Jaworski, B. (2003). Research practice into/influencing mathematics teaching and learning development: Towards a theoretical framework based on co-learning partnerships. *Educational Studies in Mathematics*, 54(2), 249-282. <https://doi.org/10.1023/B:EDUC.0000006160.91028.f0>
- Kelly, P. (2006). What is teacher learning? A socio-cultural perspective. *Oxford Review of Education*, 32, 505-519. <http://doi.org/10.1080/03054980600884227>
- Kintz, T., Lane, J., Gotwals, A., & Cisterna, D. (2015). Professional development at the local level: Necessary and sufficient conditions for critical collegueship. *Teaching and Teacher Education*, 51, 121-136. <http://doi.org/10.1016/j.tate.2015.06.004>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and Development*. Prentice- Hall.
- Kougioumtzis, K., & Patriksson, G. (2009). School-based teacher collaboration in Sweden and Greece: Formal cooperation, derivatized practices and personalized interaction in primary and secondary schools. *Teachers and Teaching*, 15(1), 131-154. <https://doi.org/10.1080/13540600802661352>
- Lombardi, J. (2001). Supervision of student teachers: emerging models and innovative approaches in the USA. *Teacher Development*, 5(3), 309-322. <http://doi.org/10.1080/13664530100200146>
- Louis, K. S., Marks, H. M., & Kruse, S. (1996). Teachers' professional community in restructuring schools. *American Educational Research Journal*, 33(4), 757-798. <https://doi.org/10.2307/1163415>
- Malm, B. (2009). Towards a new professionalism: Enhancing personal and professional development in teacher education. *Journal of Education for Teaching*, 35(1), 77-91. <https://doi.org/10.1080/02607470802587160>
- Mandinach, E. B., & Gummer, E. S. (2016). What does it mean for teachers to be data literate: Laying out the skills, knowledge, and dispositions? *Teaching and Teacher Education*, 60, 366-376. <https://doi.org/10.1016/j.tate.2016.07.011>
- McLaughlin, M., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement*. Teachers College Press.
- McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Psychology Community*, 14, (1) 6-23. [https://doi.org/10.1002/1520-6629\(198601\)14:1<6::AID-JCOP2290140103>3.0.CO;2-I](https://doi.org/10.1002/1520-6629(198601)14:1<6::AID-JCOP2290140103>3.0.CO;2-I)
- Mevarech, Z. R., & Kramarski, B. (1997). Improve: A multidimensional method for teaching mathematic in heterogeneous classrooms. *American Educational Research Journal*, 34(2), 365-395. <https://doi.org/10.3102/00028312034002365>
- Miskovic, M., & Hoop, K. (2006). Action research meets critical pedagogy: Theory, practice and reflection. *Qualitative Inquiry*, 12(2), 269-291. <https://doi.org/10.1177/1077800405284367>
- Naifeld, E., & Nissim, Y. (2020). From a triangular to a pentagonal model in teachers training practicum. *Journal of Education and Learning*, 9(5), 89-105. <https://doi.org/10.5539/jel.v9n5p89>
- Paolucci, C., Ní Ríordáin, M., & O'Dwyer, L. (2021). A critical examination of the impacts and lessons learned from a professional development program for out-of-field mathematics teachers. *European Journal of Mathematics and Science Education*, 2(1), 47-62. <https://doi.org/10.12973/ejmse.2.1.47>
- Prenger, R., Poortman, C., & Handelzalts, A. (2018). The effects of networked professional learning communities. *Journal of Teacher Education*, 70(5), 441-452. <https://doi.org/10.1177/0022487117753574>
- Prytula, M. P. (2012). Teacher metacognition within the professional learning community. *International Education Studies*, 5(4), 112-121. <https://doi.org/10.5539/ies.v5n4p112>
- Ridley, D., Hurwitz, S., Hackett, M. R., & Knutson, K. M. (2005). Comparing PDS and campus preserve teacher preparation: Is PDS based preparation Better? *Journal of Teacher Education*, 56(1), 46-57. <https://doi.org/10.1177/0022487104272098>
- Rodgers, A., & Keil, Y. L. (2007). Restructuring traditional student teacher supervision model: Fostering enhanced professional development and mentoring within PDS context. *Teaching and Teacher Education*, 23(1), 63-80. <https://doi.org/10.1016/j.tate.2006.04.012>
- Sandholtz, J. H., & Dadlez, S. H. (2000). Professional development school trade-offs in teacher preparation and renewal. *Teacher Education Quarterly*, 27(1), 7-27. <https://doi.org/10.1177/016146811111301405>
- Sfarad, A. (2000). Two metaphors of learning and the dangers inherent in choosing only one. *Thinking Education*, 25(19), 13-32. <https://doi.org/10.3102/0013189X027002004>
- Sfard, A., & Prusak, A. (2005). Telling identities: In search of an analytic tool for investigating learning as a culturally shaped activity. *Educational Researcher*, 34(4), 14-22. <https://doi.org/10.3102/0013189X034004014>

- Skinner, E. A., Kindermann, T. A., & Furrer, C. J. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement*, 69(3), 493-525. <https://doi.org/10.1177/0013164408323233>
- Slavin, R. E. (1986). Best- evidence synthesis: An alternative meta- analytic and traditional review. *Educational Researcher*, 15(9), 5-11. <https://doi.org/10.3102/0013189X015009005>
- Stanley, A. M. (2011). Professional development within collaborative teacher study groups: Pitfalls and promise. *Arts Education Policy Review*, 112(2), 71-78. <https://doi.org/10.1080/10632913.2011.546692>
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change*, 7, 221-258. <https://doi.org/10.1007/s10833-006-0001-8>
- Stroope, S. (2011). How culture shapes community: Bible belief, theological unity, and a sense of belonging in religious congregations. *The Sociological Quarterly*, 52(4), 568-592. <https://doi.org/10.1111/j.1533-8525.2011.01220.x>
- Taylor, L. A. (2017). How teachers become teacher researchers: Narrative as a tool for teacher identity construction. *Teaching and Teacher Education*, 61, 16-25. <https://doi.org/10.1016/j.tate.2016.09.008>
- Timperley, H. S., Wilson, A., Barrar, H., & Fung, I. (2007). Teacher Professional Learning and Development Best Evidence Synthesis. *American Journal of Educational Research*, 3(5), 610-618. <https://doi.org/10.12691/education-3-5-13>
- Tran, V. (2019). Does cooperative learning increase students' motivation in learning? *International Journal of Higher Education*, 8(5), 12-20. <https://doi.org/10.5430/ijhe.v8n5p12>
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91. <https://doi.org/10.1016/j.tate.2007.01.004>
- Vidergor, H. E., & Sisk, D. A. (2013). *Enhancing the gift of leadership: Innovative Programs for all grade Levels*. International Center for Innovation in Education.
- Wenger, E., & Wenger-Trayner, B. (2015). *Communities of practice: A brief introduction*. Wenger-Trayner. <https://bit.ly/3sRkfDD>
- Whitehead, J., & Fitzgerald, B. (2007). Experiencing and evidencing learning through self- study: New ways of working with mentors and trainee in a training school. Partnership. *Teaching and Teacher Education*, 23(1), 1-12. <https://doi.org/10.1016/j.tate.2006.04.007>
- Willemse, T. M., Boei, F., & Pillen, M. (2016). Fostering teacher educators' professional development on practice-based research through communities of inquiry. *Vocations and Learning*, 9(1), 85-110. <https://doi.org/10.1007/s12186-015-9142-3>
- Zeichner, K. (2010). Rethinking the connections between campus courses and field Experiences in college-and university- based teacher education. *Journal of Teacher Education*, 61(1), 89-99. <http://doi.org/10.1177/0022487109347671>