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INFLUENCE OF TEACHERS PARTICIPATION IN PROFESSIONAL LEARNING COMMUNITY ON THEIR TEACHING SKILLS

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Abstract

A professional learning community (PLC) is a professional teachers' development platform, which has recently become increasingly popular. This framework allows teachers to participate in collaborative learning, joint coping with teaching challenges, exposure to innovative teaching methods and peer learning to which members member contributes and from which they benefit. A PLC also provides an emotional support framework for teachers, alleviates professional loneliness and helps with counseling. Studies indicate that participation in a PLC contributes to improving teachers' motivation, satisfaction with the profession and a higher sense of self-efficacy. PLCs can be either disciplinary or generic. The former emphasize professional development in a particular discipline such as math, science, or language literacy. The latter are concerned with imparting general teaching skills and issues related to teaching in the changing era of the 21st century. This article seeks to examine the influence of participation in a PLC on teachers' teaching skills. The article examines the impact of PLC both on aspects of teaching planning including setting clear lesson goals and assessment tools, and on aspects of using classroom teaching practices such as, using digital means, using diverse teaching aids, student teamwork, class presentations and more

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1. Introduction

The prevailing perception in education is that the aim of significantly promoting students' achievements, calls for professional, quality teachers who are constantly learning and developing (Hargreaves & Fullan, 2012; McKinsey & Company, 2007; Timperley, 2008). The McKinsey Report state that students' achievements constitute a kind of mirror image of their teachers' total abilities (McKinsey & Company, 2007). Various platforms, referred to as professional development frameworks (Desimone, 2009; Garet et al., 2001; Margolin, 2011), are designed to lead to improved teaching quality, including on the job training, courses, conferences and professional communities. This article seeks to examine the effectiveness of a disciplinary PLC, as a professional development framework for improving teachers' abilities, with an emphasis on their teaching skills (Huffman & Hipp, 2001).

The article discusses changes in teaching skills and teachers quality (Smith, 2010) related to lesson planning and classroom teaching practices: using diverse teaching aids and advanced technologies, adapting teaching to student characteristics and more. The assumption is that the unique PLC characteristics enable participants to go through an effective process of professional development and advance their teaching skills, for the benefit their students.

1.1. Theoretical Background

The last decade has presented changes in teachers' professional development from learning as part of on-the-job training and courses whose effectiveness has been found to be low, learning in teacher communities. Classical professional development frameworks emphasize teachers as individuals who acquire knowledge in a one-way passive manner, have been found to be unsuitable for imparting the skills and competencies required to prepare their students for higher education. In contrast, a disciplinary or generic professional learning community (PLC) has been identified as one of the most prominent and effective professional development frameworks (Cowan, 2006; DuFour et al., 2005). A PLC enables teachers to mutually share pedagogical knowledge, professional experience, address issues related to teaching and form a framework for mutual support (Tam, 2015).

A PLC, based on collaborative learning and organizational partnership (Brody & Davidson, 1998; Gajda & Koliba, 2007; Slavin, 2010), creates a framework for teachers to engage in meaningful peer learning (Ram, 2016; Stewart, 2014) and receive mutual feedback on teaching practices and skills. Sperling (2018) argues that a PLC as a professional development framework is considered more effective for than traditional frontal training. This study seeks to examine the impact of participation in a disciplinary PLC on participants' teaching skills. It is assumed that participation in a PLC, given its unique characteristics, will lead to improved teaching skills and a more diverse use of classroom teaching practices (Louis & Marks, 1998).

The literature shows a link between the optimal teaching skills and quality teaching (Scott, 2015). The one possibly leading to the other in the field of education. Quality teaching comprises many aspects of teacher-student relationship in class and is considered a significant predictor of learning quality and student achievements (Hattie, 2012). Six areas can be identified as reflecting quality teaching:

- i. A safe and motivating learning climate

- ii. Effective classroom management
- iii. Clear teaching
- iv. Activation of learning
- v. Adapting teaching to students' ways of learning
- vi. Teaching ways of learning (Maulana et al., 2013).

According to the literature, teaching skills are strongly influenced by institutional constraints, the official and unofficial sources of assistance (e.g., professional development frameworks) they rely on, and the materials and resources used in the classroom (Ball & Cohen, 1996; Stien & Brown, 1997)

The teaching skills variable in this study refers to both to teachers' teaching skills and practices in class and to aspects related to lesson planning. Classroom teaching practices include: building rich and varied learning experiences; creating intrinsic motivation for learning among students; adapting teaching to students' characteristics; choosing assessment approaches and tools; integrating advanced information technologies into teaching; ability to reflect on teacher's work; using assessment feedback to improve teaching; ability to learn from others to advance teaching. Aspects related to lesson content include: formulating clear teaching goals, optimal lesson planning, and clear presentation of the study material (Reuveni et al., 2018).

2. Problem Statement

The problem presented in the research depicted in this article concerns the effectiveness of teachers' professional development frameworks, with an emphasis on the impact of participation in a PLC, as on improving teaching skills, both in terms of lesson planning and classroom teaching practices.

3. Research Questions

The main research question was: To what extent does teachers' participation in a disciplinary professional learning community (DPLC) affect their teaching skills (practices in class; lesson planning)?

4. Research Aim

The research sought to examine the impact of teachers' participation in a DPLC on their teaching skills, both in terms of teaching practices and in aspects of advance lesson planning.

5. Research Methods

5.1. Research Population

The research population included 67 teachers participating in four DPLC in a large city in the southern district of the State of Israel: 20 teachers from middle school mathematics teachers community, 19 teachers from elementary school science teachers community, 18 teachers from elementary school English language teachers community, and 10 teachers participating in the community of excellence coordinators in secondary schools.

5.2. Research Methods and Instruments

The present study is based on the quantitative approach (Creswell, 2014, 2015) and used a questionnaire examining the extent to which there was a change in teachers' teaching skills, on a scale of 1 to 6 (from "not at all" to "very much") following their participation in a PLC (Reuveni et al., 2018). One of the main goals of a PLC is to bring about an improvement in teaching skills based on acquiring new knowledge and tools, learning from colleagues and experimenting while learning and receiving feedback. Teachers were asked to express their views with regard to 11 statements addressing aspects that express teaching skills and practices such as good lesson planning, building rich and varied learning experiences, creating internal motivation for learning among students, adapting teaching to student characteristics and integrating advanced information technologies into teaching. These statements are part of an original questionnaire developed at the Levinsky College of Education in Israel with the aim of examining teachers' perceptions of their teaching skills, and was used in this study (Reuveni et al., 2018).

5.3. Procedure

A quantitative questionnaire was administered to 67 teachers to examine the change in their teaching practices and skills at two time points: one near the beginning of their participation in DPLC, divided into four communities: Mathematics, English, Science and Excellence Coordinators. The second time point was at the end of a year from the beginning of their participation. The same questionnaire was also given to 33 teachers who teach mathematics, English and science constituting the control group. The results were statistically analyzed.

6. Findings

The research hypothesis claimed that participation in PLC would enhance the teachers' teaching skills of the participants. To test this hypothesis, Two-Way ANOVA 2 X 2 was conducted: Group (community, Control) X Time (pre, post) with the level of teaching skills as the dependent variable. ANOVA was conducted for each of the three measures: lesson planning, teaching practice and total score of teaching skills. Tables 1 and 2 present the means, standard deviations and ANOVA results.

The findings revealed a significant effect of interaction for all the three variables – planning, practicing and the total score. In order to examine the interaction, comparisons were conducted between the Pre and the Post, in the PLC and in the Control groups separately. Significant increases were found in the PLC group in planning ($t(67) = 6.53, p < .001$), practicing ($t(67) = 10.58, p < .001$) and the total score of teaching skills ($t(67) = 10.95, p < .001$). In the control group, no significant change was found in planning ($t(33) = 0.24, p > .05$), practicing ($t(33) = 1.42, p > .05$) and the total score ($t(33) = 1.2, p > .05$).

Table 1. Means, Standard Deviations (SD) and F values of the analysis on teaching skills(planning and total skills) pre and post participation in PLC

	PLC		Control		F value	Sig.
	Pre	Post	Pre	Post		
Planning	4.75 (0.56)	5.32 (0.44)	4.78 (0.52)	4.81 (0.51)	12.46	0.001
Total skills	4.54 (0.43)	5.26 (0.32)	4.59 (0.25)	4.66 (0.21)	40.92	0.001

The results shown in Table 1 indicate that the research hypothesis was confirmed. There is a significant improvement in teachers' teaching skills, related to aspects of lesson planning, among teachers who participated in PLC compared to teachers of the control group.

Table 2. Means, Standard Deviation (SD) and F values of the analysis on teaching skills(practicing and total skills) pre and post participation in PLC

	PLC		Control		F value	Sig.
	Pre	Post	Pre	Post		
Practicing	4.46 (0.42)	5.25 (0.35)	4.52 (0.25)	4.62 (0.37)	39.96	0.001
Total skills	4.54 (0.43)	5.26 (0.32)	4.59 (0.25)	4.66 (0.21)	40.92	0.001

The results shown in Table 2 indicate that the research hypothesis was confirmed. There is a significant improvement in teachers' teaching skills, related to aspects of teaching practices, among teachers who participated in PLC compared to teachers of the control group.

7. Conclusions

The issue of teaching quality concerns many educators. Reports and studies conducted on the subject have indicated a relationship between the quality of professional skills and teaching quality and students' achievements and results. The rapid changes taking place in the world of technological developments and life in a changing reality, require teachers to constantly develop and improve professionally in order to be relevant to their students and to impart to them the skills required in the 21st century.

The research presented in this article suggests that a PLC is an effective framework for raising the effectiveness of teachers' teaching skills. The study sought to examine whether teachers participating in a DPLC improved their teaching skills relative to teachers who were not part of this professional development platform. The main conclusion is that participation in a DPLC contributes to the improvement of teaching skills, both in terms of lesson planning and in aspects of classroom teaching practices. This conclusion is based on analysis of the research questionnaire examining various aspects of teaching skills such as optimal lesson planning, building rich and varied learning experiences, adapting teaching to students' characteristics and integrating advanced information technologies into teaching.

In practice, the research presented in this article can contribute to education policy makers, who address the question of the effectiveness of teacher professional development frameworks. A PLC, as can be learned from this study, is an effective framework for improving teachers' teaching skills. Its characteristics, which include peer learning, sharing knowledge and ideas, brainstorming, and joint

coping with teaching-related issues, are likely to be those that contribute to its effectiveness as a framework for professional development.

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