

Science teachers' learning team - a powerful tool to improve inquiry teaching and reflection skills to focus on teachers individual needs

Senior researcher Dr. **Dace Namsone**, Researcher **Līga Čakāne**,
Docent Dr. **Jāzeps Logins**, PhD student **Jelena Volkinšteine**,
University of Latvia

Teachers' Continuous Professional Development (CPD) focuses on the teacher as a learner, teacher as a researcher giving a challenge to develop new tools according to the teachers' needs. Teachers' learning teams for the action research were chosen as a tool for *teacher CPD to improve their own practice and reflection skills*.

How do the CPD experts-team leaders work?

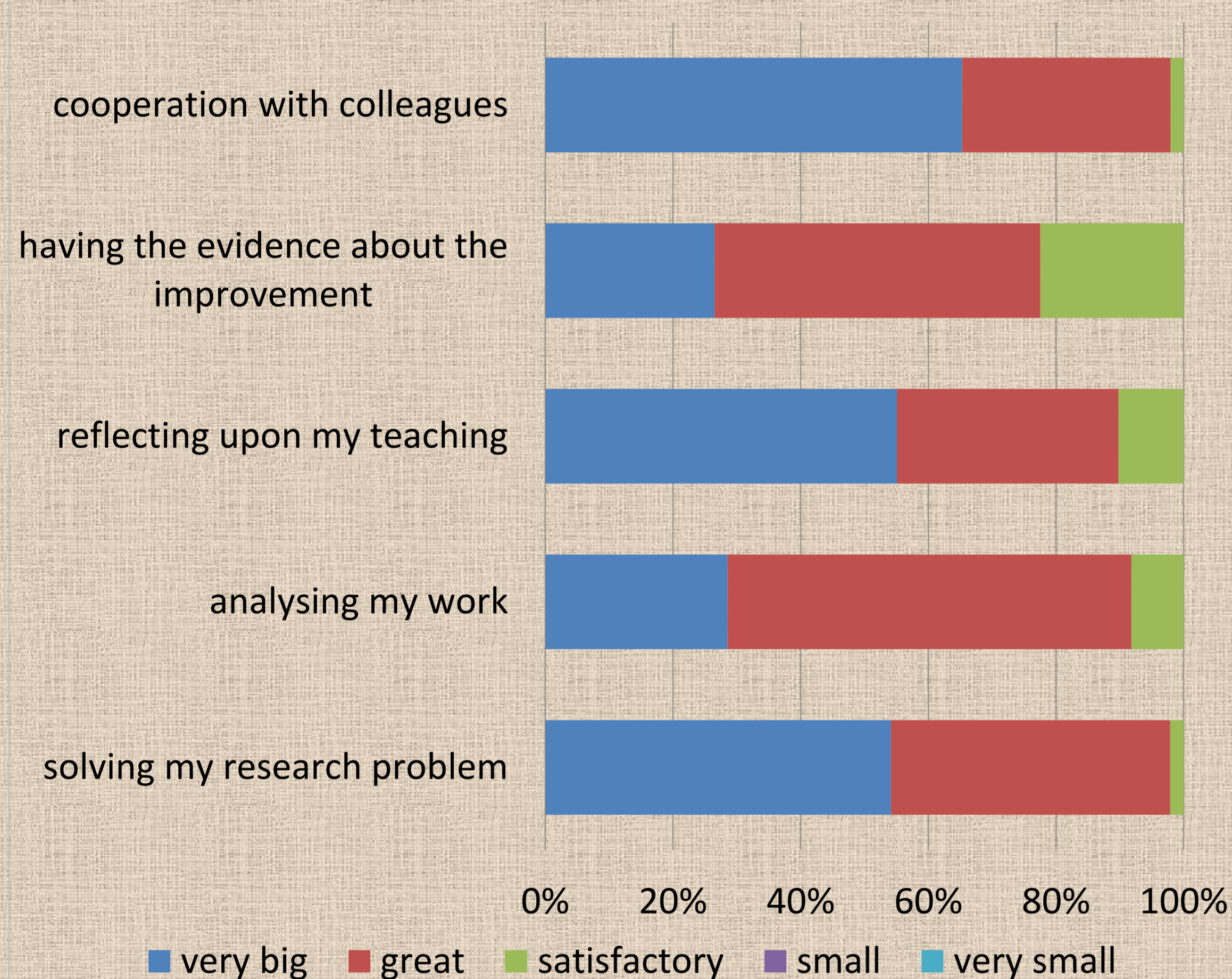
- The training of the experts-potential learning group leaders.
- The procedure for every workshop is developed and updated before the next workshop.
- Group leaders participate as observers during the sessions in other groups.
- The group leaders make their own notes after the workshop.
- The feedback from participants, observers and team leaders are noted and discussed.

How does the learning group work?

In 2011 /2012 there were 10 groups of 6-12 teachers in each. Each participant carried out their own research activities: formulating the question, introducing improvements in their practice, following which succeed / fail, what is the impact of the changes. The task samples for students and action research instruments were prepared, discussed and updated on regular basis.

Results

My gains in the improvement of the skills Learning groups 2011/2012, 49 respondent



The group leader wrote:

- ✓ *there was real reflection when they informed about their research*
- ✓ *they are a team – they communicate and consult each other*
- ✓ *I am glad they are ready to continue, they understood there is much to learn for them, a lot of things to improve*
- ✓ ...

The plan of group

1. Five working sessions once a month

Every **workshop** includes a structured procedure:

- individual reflection (2 minutes for each person, without questions and comments)
- group reflection and discussion about the work done in between workshops
- focused input from the group leader according to the teachers needs
- planning of the next steps
- independent research work – follow up

2. Action research done in the classroom in between workshops

3. Final conference

The opportunity to communicate with group leader electronically in between workshops was offered.

Table 1. The Content of learning group work

Time	Topics	Short description
16.11.2011.	Introduction. The goals. The procedure. The rules of group work. The first formulation of research question.	What is action research? How the learning team works? What the teacher-researcher is? Common understanding- what scientific inquiry is? What the reflection is? How to formulate the research question?
05.01.2012.	Reflection about first version of research question. The update of research question. Action research instruments.	What I have understood about my research question? What would be students' gains? What evidence do we need to see the improvement? What are the research instruments we could use? How to choose the appropriate tool? How to choose the task samples for students?
07.02.2012.	Reflection about research question, task samples and instruments has been chosen. Planning of data acquisition.	How to focus my research question? How to see are question, samples and data tools corresponding? How to improve them?
07.03.2012.	Reflection about task samples, evaluation. Reflection about progress of research.	How to improve task samples? How to improve my research tools? How to see what data show? What are my student's gains?
12.04.2012.	Reflection about progress. Conclusions. Planning of the presentation.	What are the conclusions from my research? How to present it to my colleagues? How to prepare the poster? What's next?
10.05.2012.	Final conference.	The presentation of posters. Focus group discussions.



The teachers have mentioned the following as their individual gains:

- ✓ *sharing with colleagues and not being self-conscious*
- ✓ *I feel the support to my ideas from the colleagues*
- ✓ *it was the first time I focused on the evidence in the classroom with students to make conclusions and they did it*
- ✓ *going step by step not in a campaign*
- ✓ *making notes disciplined me*
- ✓ *students mentioned that the new checklist is really useful and I, as well, found it was*
- ✓ *there is the tendency for students' results to improve*
- ✓

Literature

- Fullan M.G. (2011) Innovative teaching and learning research.2011 Findings and Implications. On: http://www.itlresearch.com/index.php?option=com_content&view=article&id=40:2011-itl-research-findings-and-implications&catid=10:reports&Itemid=5, 05/07/2012
- Kemmis K., McTaggart R. (2000) Participatory Action Research in N. Denzin and Y. Lincoln (eds), Handbook of Qualitative Research. London: SAGE.
- Taber K. S. (2007) Classroom-based research and evidence-based practice. Los Angeles: SAGE.