

Lesson Study for school leaders

A model to develop a new learning culture in schools

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This paper will outline the role of school leaders in the implementation process of Lesson Study as a tool for staff, team and organisational development based on a systematic literature analysis. Furthermore, it will explore the question of how the Lesson Study method can be anchored in the school culture by promoting organisational learning. In order to underpin the findings of the systematic literature review, an additional quantitative study was conducted in which European school leaders were interviewed about their experience and the use of Lesson Study at their school sites.

Research has shown, that a *“school that is or strives to become a learning organisation makes lessons learned – whether good or bad – available to all staff in order to learn from these.”* (OECD, 2018). In this context, it is of research interest to identify arguments for the beneficial use of Lesson Study for continuous instructional and school development, Lesson Study is presented as a tool for sustainable professionalisation of teachers while strengthening team orientation at the school site.

This paper will also outline how school leaders can integrate Lesson Study into existing structures as an approach to organisational learning. The article is intended to encourage school leaders to use Lesson Study, in addition to continuous instructional improvement, as a proven human resource development tool to promote and support staff in their personal and professional development. The findings of this research may be used to develop a suitable concept for the introduction of Lesson Study tailored to the school site in the context of a school development project and to later integrate it as a process into existing structures.

leadership, learning organisation, team development, organisational culture

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1 Introduction

Sustainable schools consistently focus on the improvement of school and teaching/learning quality (M. Huber, 2021, p. 25). Leading a future-ready school therefore means continuously developing teachers on different values in a targeted way with regard to the rapidly changing environmental conditions and new demands in the area of education with which schools have to deal (ibid., Berkemeyer et al., 2015, p. 13; Pfeifer, 2014, p. 97). Year by year, teachers are facing new needs and interests by learners, and at the same time new resources and methods for personal development are becoming available to increase existing knowledge supplemented by the need to apply it flexibly in the context of teaching and learning development. Teachers cannot remain on their level of development/knowledge – contrarily, they need to act as a role model and exemplify the principle of lifelong learning to their students, which means that freezing continuing education and professional development is not an option for professional teachers (Collet, 2019, p. 16).

As results of school quality research show, the quality of an educational institution is directly related to the attitude towards continuing education and the professional actions of its teachers (Bonsen, 2009; S. Huber, 2009). Personnel development, understood as the entirety of all measures that serve the individual professional development of staff, is becoming a key concern and thus must be given increased attention. This is particularly relevant in educational institutions where motivated teachers are a key instrument for performance and the driving force for further development. Therefore, systematic personnel development processes are needed as a key to continuously improving pedagogical work (Terhart, 2016, p. 279).

Personnel development is primarily focused on individual teachers to ensure that they are qualified to fulfill current and future tasks, using tools individually aimed at improving their skills, experience and previous knowledge (Steger Vogt & Kansteiner, 2014, p. 11). Mentzel (1992, p. 15) emphasizes that personnel development tools should consider the personal interests of employees when they are trained and Drumm (2008, p. 340) adds that learning ability and motivation to learn should also be taken into account. Concurrently, short-term human resources objectives are usually also part of a higher-level system of objectives of an organisation (ibid., p. 29). It would therefore be too narrowly conceived if an organisation only paid attention to the processes and activities of personnel development. Successful staff development is also aligned to the organisation and its goals in order to meet the demand for qualified teaching staff in accordance with the strategic orientation of a school (Steger Vogt & Kansteiner, 2014, p. 11). Figure 1 illustrates the interplay between personnel and organisational development. While personnel development is based on performance, performance behavior, and recognized or suspected potential focuses on the development of the person as a whole, organisational development determines the competence requirements within the framework of future orientation, based on the current as well as future demands and requirements placed upon the schools. The resulting gap between personnel and organisational development is closed through targeted personnel development (Poelke, 2013,

p. 40). In this respect, it is recommended that measures for development projects addressing personnel development, teaching/learning development, and school development are coordinated and interlinked (Rzejak & Lipowsky, 2018, p. 133). This school leader's task has to be seen in the context of job planning and review discussions with individual teachers.

This means that both organisational development and staff development follow personnel as well as organisational goals, albeit with a different focus (Müller, 2004, p. 285). Ultimately, it is also necessary to integrate the teaching staff into the change processes in the context of school development (Drumm, 2008, p. 359). This interdependence of people and the organisation is complemented by the team development factor and requires addressing the intersections of staff, team, and organisational development, to which increased attention must be paid.



Fig. 1. Targeted Staff Development (Drumm, 2008, p. 341; Poelke, 2013, p. 40; Tscherne, 2022, p. 73)

In addition to continuing education and training of individual teachers, the collective development of the entire teaching staff should always be a priority. With regard to the development of a learning organisation, which is characterised by continuous personal development and in which organisational learning is anchored in the school culture (Tscherne, 2021, p. 57), the entire teaching staff should, if possible, be trained within the framework of school-wide in-service training courses (Buhren & Rolff, 2009, p. 103; Tscherne, 2022, p. 256), which enable the strengthening of collective efficacy expectations especially if they take place over a longer period of time, if they are systematically anchored in pedagogical work, enable reflection in relation to the outcome among learners, and increase teacher influence (Donohoo, 2017, p. 52ff). In general, when planning professional development events, school leaders must always keep in mind the strategic goals of their school and focus on sustainable organisational and quality development (Sitek, 2018, p. 3). As a rule, school leaders enjoy developing their school and implementing new ideas (Heißenberger, 2019, p. 24)).

The development of a conducive school and learning culture or the maintenance of the ability and willingness to learn is supported by personnel development by anchoring organisational

learning within the organisation through targeted measures (Drumm, 2008, p. 333). However, to promote organisational performance – Drumm (2008, p. *ibid.*) calls it "permanence of learning" – team development measures are also needed in addition to personnel development (Schratz et al., 2010, p. 123), since team learning is considered a symbol of an intelligent learning organisation (Schiersmann & Thiel, 2010, p. 218) and collaboration among colleagues is a prerequisite for systematic organisational development (Schultebrucks-Burkart, 2013, p. 203).

1.1 Team Development

Planning lessons in a way that helps learners learn more effectively is much easier and more successful by working in a team (Dietl & Madelung, 2021, p. 239). Therefore, professional learning communities are crucial for school development (*ibid.*, p. 229). In the context of systematic school development, team development can be fostered through a focus on shared tasks and team teaching, in addition to common professional development events and facilitating supervision and reflection (Tscherne, 2022, p. 256). In terms of team development, for in-service training events in which teachers want to participate at their own request, the events should be reviewed by the school leaders to determine whether these can encourage the teaching staff to engage in intensive, challenging forms of collaboration (Rzejak & Lipowsky, 2018, p. 126) Lesson Study can be used as tool for team development because it enables intensive communication in teams, e.g., when planning the research lesson, and, on the other hand, it also supports the sharing of knowledge and experience (Posch, 2019, p. 11). In addition, working in teams, especially when – as in the case of Lesson Study – teaching takes place in parallel classes, it is particularly supportive and increases work satisfaction (Dietl & Madelung, 2021, p. 239). This also leads to the stimulation of pedagogical discourse within the school, which is also stated by school leaders as a significant task (Heißenberger, 2019, p. 27). Teachers participating in Lesson Study form a team and, as experts, identify what works well or what does not work well enough in their lessons. After evaluating feedback from others about their teaching strategies in their subject area and sharing experiences, teachers collaborate to develop ideas and plan lessons that meet the needs of their learners with their teammates. At the same time, careful observation and analysis of student learning energizes teachers about their own learning (Collet, 2019, p. 14). Students are contributors in this process and colleagues are witnesses by observing how the collaboratively developed lessons are carried out (*ibid.*, p. 18).

Common pedagogical and professional know-how can be further developed through collegial discussion by means of research and practice. Lesson Study involves collaboratively reviewing existing resources and research findings as well as previous lessons, observing lessons from the students' perspective, and jointly identifying what works and what needs further improvement. Knowledge of others is drawn upon as problems are solved and work is done to improve instruction (Collet, 2019, p. 18). Lesson Study teams evaluate their lessons in a quality circle by establishing a focus of inquiry, collecting data, implementing change,

analysing and interpreting their students' learning outcomes, and drawing conclusions that in turn inform repeated lesson planning, based on the principle that lessons can always be improved (Donohoo, 2017, pp. 75-91; Posch, 2019, p. 14). Team collaboration improves teaching and diverse perspectives strengthen the pedagogical work in class. In addition, invisible walls of isolation are broken down, and creativity can emerge (Collet, 2019, p. 25f). Donohoo (2017, pp. 75-91) sees formative evaluation of teaching through Lesson Study as a key to strengthen teachers' self-awareness in their efforts to improve student learning through their pedagogical work. Teachers recognize that through Lesson Study both the learning processes as well as the learning requirements of their students can be understood in a better way and through the collaborative analysis in the team their own pedagogical competencies can be reflected and assessed more effectively (Posch, 2019, p. 13). Above all, Posch (ibid. p. 14) sees one key criteria for the successful anchoring of Lesson Study at the school site: providing the necessary infrastructural framework adapted to the requirements for continuous collaboration of the teams, e.g. flexible and compatible time schedules for the involved teachers.

1.2 Lesson Study as a Method of Personnel Development

Hattie (2013, p. 144) argues that the teachers' active participation during the learning process can deepen their knowledge and significantly enhance their ability to improve learners' performance. Through collegial engagement in collaboration, both the pedagogical and professional knowledge of teachers are developed through Lesson Study by observing lessons from the perspective of students and identifying what is working well or what needs further improvement (Collet, 2019, p. 18). Lesson Study as a staff development tool can empower teachers to address the diverse needs of learners (ibid., p. 1), enabling continuous knowledge growth through teacher teamwork (ibid., p. 18). At the same time, Lesson Study increases motivation to improve teaching and learning (Lewis et al., 2012) and fosters teaching development based on a new bottom-up driven organisational development (Quendler & Dobrowsky, 2021, p. 129). Through Lesson Study, data on individual students' learning is collected, analysed, and reflected in order to flexibly address learner needs in the classroom. Lessons are therefore designed based on the experiential learning from and with students and colleagues and are no longer solely based on theoretical principles though books and manuals (Collet, 2019, p. 49).

Lesson Study can specifically be used in staff development as a professionalisation activity to enhance social skills: Skills such as active listening, sharing responsibility, respectful behavior, and creativity are fostered while planning, observing, and reflecting on lessons, solving problems together, and managing change (Collet, 2019, p. 18). At the same time, teachers' repetition of the processes in Lesson Study cycles reinforces their habits, which support efforts to continuously improve their own teaching (Collet, 2019, p. 19). In terms of examining one's own teaching behaviors, Hattie (2013, p. 144) argues that professionalisation efforts are successful in terms of improving student achievement when teachers are given the

opportunity to reflect on their assumptions regarding their students' learning during this process.

1.3 From Team Development to School Culture

The image that a school represents to its stakeholders are the added results of its staff (Muhammad, 2018, p. 31) which is perceived as school quality, achieved through teaching work and good cooperation between the teams of teachers (Terhart, 2016, p. 281). This means that human experience in school plays a significant role in the development of school culture and is ultimately responsible for the functioning of a school (Muhammad, 2018, p. 31). The school culture, on the other hand, is partly unconsciously exercised through the actions of the staff, who are usually selected to fit the culture (Kotter, 2011, p. 127). To embed a positive school culture conducive to learning, attention must be paid to the internal and external factors that can build structural barriers and create conditions that impede intended cultural change (Muhammad, 2018, p. 27). This is especially important when introducing new processes or practices, such as Lesson Study as a method of lesson, team, and staff development in the organization, especially when existing shared values and group norms are stubbornly held within parts of the staff (Kotter, 2011, p. 131).

When teachers respect the values, beliefs, and attitudes of their students, they support a positive classroom culture (Collet, 2019, p. 48). As part of addressing classroom culture, attention must be paid to school culture in addition to team culture. In this context, Donohoo (2017, pp. 36-49) recommends that school leaders enable performance-oriented teamwork, to gradually give teachers more responsibility, i.e. to enable subsidiarity. In doing so, it is important for the leader to agree on challenging goals with the teams, to trust them and to support them in their efforts to analyse the learning performance of their students (ibid.). With regard to professional development events and considering the fact that not only individual teachers but whole teams should participate, it is recommended to involve the staff in planning to support the professionalisation of teachers (Rzejak & Lipowsky, 2018, p. 133). In addition, opportunities should be provided by the school leader in a way that the experiences and knowledge from the individual teaching teams can also be used by other teachers in a profitable way (ibid. p. 126).

Hattie (2013, p. 145) emphasizes the need for teachers to interact intensively with each other in relation to teaching and to discuss different approaches and ideas. This requires empathizing with others and their situations, considering their perspectives, and being open to ideas that may seem unusual at first glance in order to create a team culture characterised by harmony and respect (Collet, 2019, p. 93). This exchange is organisationally enabled by dividing schools into small units (M. Huber, 2021, p. 26). Besides subsidiarity, other prerequisites include a clear framework and objectives that do not allow misinterpretation (ibid.). Additionally, Donohoo (2017, pp. 36-49) emphasizes the importance of trust.

In the Erasmus+ project LS4VET, Lesson Study is researched in the context of vocational education (cf. www.LS4VET.itstudy.hu). In the course of the project work the characteristics

of the school culture at the partner schools turned out to have different conditions (Bükki & Györi, 2021, p. 19). Even though it is only a small sample, it is apparent that each school has its individual school culture, which is not comparable to those from other schools. In the Dutch school, for example, teams are highly isolated, while in Hungary and Austria, teamwork is considered to be very important. In the partner school in Malta, there is no culture of collegial observation, even though it is highly encouraged by the school leader (ibid.).

In order to anchor teamwork and Lesson Study at the school site and to secure the binding support of the school leader, the mission statement offers an excellent form of documentation (Philipp, 2018, p. 28). The mission statement of a school, which also reflects the vision and a clear determination of the goal direction and in which the pedagogical values and norms are documented, creates an appropriate framework for orientation (M. Huber, 2021, p. 26). If the mission statement is developed in a team consisting of the entire workforce, both the identification of the teaching staff with the organisation and the orientation with regard to the strategic direction will be reinforced (Philipp, 2018, p. 11). Mission statements developed top-down by the school management do not always achieve the desired level of commitment among the teaching staff, whereas a mission statement that is developed, for example, within a pedagogical day, represents a targeted approach to invite the entire staff to actively participate and engage with the goals and values of the organisation (Freihold, 2018, p. 220).

1.4 The Role of School Leadership in the Implementation of Lesson Study

The use of Lesson Study supports quality work at the school site with regard to teaching/learning and school development, but requires consistent support from the school leader for the purpose of anchoring Lesson Study systematically in the organisation (Quendler & Dobrowsky, 2021, p. 129). Similar to other concepts of instructional development, certain conditions must be met when introducing Lesson Study at a school (Höfer, 2016, p. 754):

- The concept of Lesson Study must be systematically addressed to the entire staff.
- The focus of the method must be student learning and success.
- Teachers work in teams and continuously and intensively exchange information about the impact of their lessons.

In terms of leadership, Ebeltoft's (2018) analysis of different leadership styles in the context of Lesson Study found that democratic leadership styles and participation favor organisational efforts to implement Lesson Study at the school. Leaders who employ the democratic leadership style principally emphasize teamwork and cooperation and honestly value the educational advancements of their entire staff (Goleman et al., 2005). In order to find a balanced degree of autonomy in the teams and to make the necessary decisions, the school leader has to ensure that individual teachers are also granted sufficient autonomy (Dietl & Madelung, 2021, p. 243).

In order to promote teamwork, an appropriate training program is needed, for which a pedagogical day, for example, is an excellent starting point (Philipp, 2018, p. 28). In addition to the basic knowledge of Lesson Study, the competencies required for good teamwork need to be strengthened (Dietl & Madelung, 2021, p. 243).

An important impetus for successful teamwork is the development of clear structures. Structural obstacles must be removed and the institutional framework conducive to Lesson Study must be created, e.g., by training the teams or by including the plan to establish Lesson Study in the school development program (Quendler & Dobrowsky, 2021, p. 128f). If these framework conditions are not in place, they should be worked on before implementing so that the potential of Lesson Study for personnel, team and school development can optimally be exploited with regard to collegial learning and the further development of organisational knowledge (Jakobeit et al., 2021, p. 24).

A school leader who is open to new ideas and developments recognizes the necessity of team learning and the importance of communication (Tscherne, 2021, p. 62). When establishing long-term Lesson Study processes, the added value of teamwork must be experienced and made visible from the very beginning (Dietl & Madelung, 2021, p. 243). Success and team accomplishments must be acknowledged; in doing so, the leader repeatedly approaches teams, addresses individual teachers, encourages collaborative work in teams, and highlights the contribution of Lesson Study to the achievement of shared strategic goals (Dietl & Madelung, 2021, p. 243; Donohoo, 2017, pp. 28-34).

When implementing and establishing Lesson Study at the school, the following activities fall under the responsibility of the school leader (Quendler & Dobrowsky, 2021, p. 125):

- Introducing Lesson Study and highlighting the benefits of the method.
- Getting started by selecting and approaching teachers to create professional learning communities
- Providing a framework, e.g. a contingent of hours for planning and implementation, or setting a guiding question with a view to improving learning opportunities
- Facilitating through e.g. a detailed clarification and agreement, clear distribution of tasks and goal orientation
- Introducing Lesson Study by presenting the results in a staff meeting or by publishing reports

The tasks of the school leader in the implementing process of Lesson Study include, in addition to the activities listed above, monitoring the process and promoting team learning, organising the frameworks of time and space for the teams and aligning the learning goals with the quality and school development goals (Mewald & Mürwald-Scheifinger, 2019). Posch (2019, p. 13f), following Lewis, Perry & Hurd (2009) and Wood (2015), sees major hurdles in institutionalizing Lesson Study in schools in the form of insufficient flexibility, lack of collaboration in teams, supplier problems, and also a lack of competencies in the field of teaching methodology.

Hattie (2013, p. 145) emphasizes that training and development measures are more effective if the school leader pays attention to the learning processes of the teachers, they have access to the necessary expertise and they are provided with sufficient time and space, e.g. in the context of a leave of absence, to try out new methods. A survey among three teachers at the Austrian partner school, conducted within the Erasmus+ project LS4VET 2021, revealed that different timetables are seen as a major obstacle to the implementation of Lesson Study. Collaboration is made difficult due to the individual timetables, because there is no room for collaborative lesson planning. A flexible schedule would make it easier for teams to plan lessons collaboratively and coordinate better within the team (Bükki & Györi, 2021, p. 5). Jakobeit et al. (2021, p. 24) also state that collegial collaboration could be supported by fixed-time allotments.

From a staff development perspective, Lesson Study can empower teachers to address the diverse needs of their learners (Collet, 2019, p. 1). Posch (2019, p. 13f) states the following aspects, in addition to staff development measures to further develop competencies in teaching methodology, as success factors to which school leaders should pay particular attention as part of their leadership responsibilities:

- Continuous, intensive and practice-oriented implementation of Lesson Study
- Focus on student learning
- Orientation towards the strategic goals of school development
- Focus on team orientation with a strong emphasis on close collaboration within the faculty

Dudley (2015, p. 6ff.) recommends creating a school culture that is conducive to learning, where the climate is free of fear, to the largest extent possible, and that allows an open discussion of failures and mistakes in lesson designs (Mewald & Mürwald-Scheifinger, 2019). Ultimately, there is also a need for a cultural shift away from a culture of receiving towards a culture of action and reflection (ibid.), which requires the support of a school leader who is open to new developments (Tscherne, 2021, p. 62).

With regard to the effectiveness of lesson development, Lesson Study allows utilising external expertise, which can be used as support by "critical friends" to assist in analysing the data collected from the observation or to answer questions about teaching methodology or to provide professional input (Posch, 2019, p. 12).

In the context of leadership, it is up to the school leader to convey the common values documented in the mission statement that are shaping the culture by acting as a role model. This primarily refers to trust and appreciation, which are prerequisites for having a positive error culture, a culture of constructive criticism, which can be seen as a basis for the successful implementation of Lesson Study on the way to becoming a learning organisation (Tscherne, 2021, p. 62).

2 Methodology

This paper is based on a systematic literature review in which scientific literature on the research topic was identified and analysed. As part of the literature review the author of this paper has also examined the interim reports of the European ERASMUS+ project LS4VET. The LS4VET project aims to adapt the Lesson Study method according to the requirements of vocational education. Earlier research results within this project have shown that there is no study on the longer-term effects of Lesson Study on the quality of teaching and learning in this educational sector exists (Mewald et al., 2021, p. 16). Following these findings within the Erasmus+ project LS4VET and based on the findings during the extensive literature review, a supplementary quantitative research in form of an online survey among European school leaders was conducted. Within the survey the school leaders were asked about their experience and the use of Lesson Study in their schools in order to find out the current status of the aspects mentioned in this paper. The central research question to be answered by the quantitative study was:

To what extent is Lesson Study used as a personnel, team and organisational development tool and what effects could be achieved in relation to school culture?

The method of quantitative data collection by means of an online questionnaire was chosen in order to reach as many school leaders as possible. The questionnaire was created based on the findings of the previous literature analysis and consists of thirteen questions, which are divided into three blocks. The first block collects demographic data, the second block addresses questions about the experience and implementation of Lesson Study as a staff, team, and organisational development tool. The final block consists of two open-ended questions providing insight into the impact and effects of Lesson Study. One of these two questions asks about the impact of Lesson Study on school culture. The second question is addressed to school leaders in vocational schools to find out why Lesson Study was implemented and respectively why not. The invitation to the survey was accompanied by a text in which the objective of the survey was explained and the participants were prepared for the topic of the online survey by giving them basic information about Lesson Study. The last question was followed by giving thanks for the participation on the survey.

The online survey was conducted between August 2, 2022 and September 15, 2022. Active school leaders in Germany, Italy (South Tyrol) and Austria were surveyed. The link to the survey was sent to school leaders via the Leadership Research Network of the University of Teacher Education Lower Austria and via the former project partners in the Erasmus+ project INNOVITAS (cf. innovitas.ph-noe.ac.at), which researched school leadership in the context of school autonomy from 2017 to 2020. The survey was conducted and analysed using the online program IQES (a tool for Internal Quality Assessment for Schools used in Austria, Italy and Germany). A total of 125 people participated in the survey, 30 of them dropped out, 95 participants completed the survey, therefore 95 data sets were included in the data analysis.

3 Results and Discussion

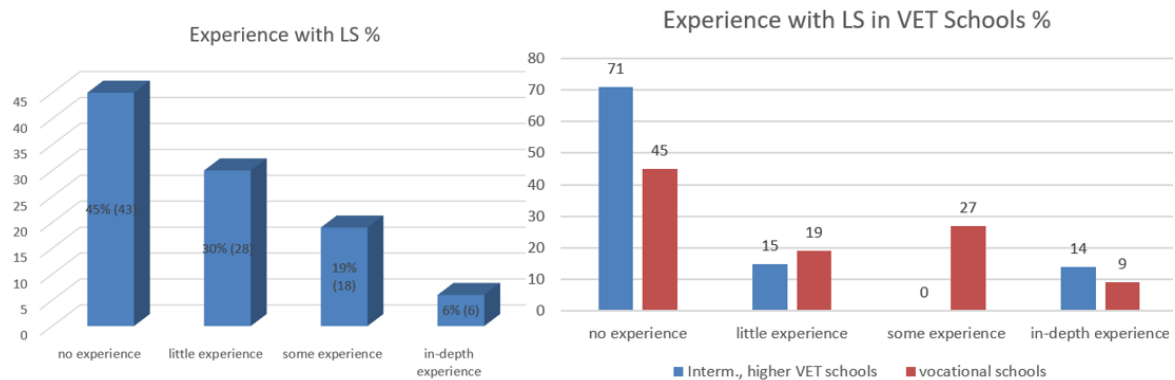


Fig. 2. Experience with Lesson Study (Tscherne & Heißenberger, 2022)

When asked about their experience with Lesson Study (LS), it is obvious that Lesson Study is not widely used in the educational field. According to the chart in Fig. 2, 75% of the school leaders questioned indicated "no experience" or "little experience" with Lesson Study. The remaining answers to this question are "some experience" or "in-depth experience". Surprisingly, more than 70% (71%) of the school leaders from intermediate and higher VET schools and 45% of the school leaders from vocational schools do not have any experience with Lesson Study.

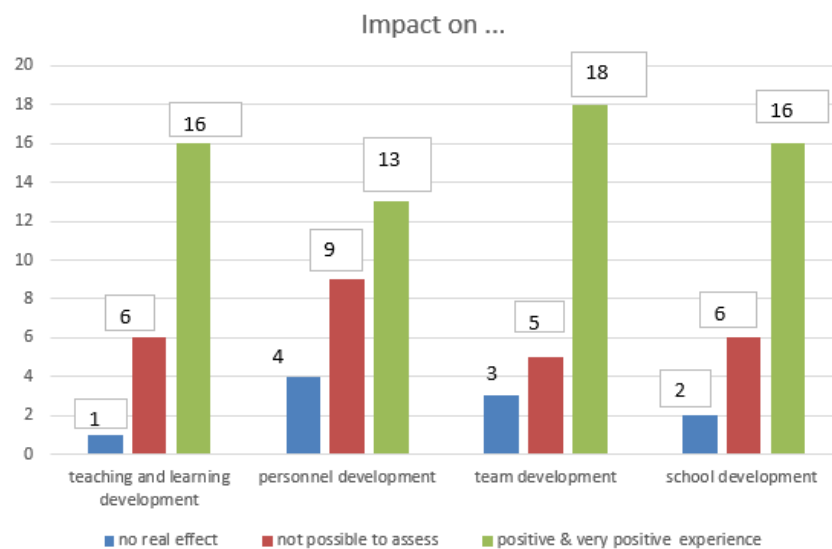


Fig. 3. Impact of Lesson Study (Tscherne & Heißenberger, 2022)

The effect of the Lesson Study on the development of teaching and learning at the school site is rated as "very good" or "good" by 16 participants, 6 school leaders cannot assess this and 6 school leaders do not recognize any effect. All other respondents did not give any information. Very similar pictures emerge with regard to the impact on staff, team and school development. 62 participants responded to this question. Approximately 50% of the participants did not provide an answer.

Some school leaders describe their experiences as follows: Lesson Study strengthens teaching and learning (A1), are not used (A2), in every school in Italy there are so-called "subject groups". They fulfill the following functions: Exchange of good practices, elaboration of teaching models, attendance of in-service team events, involvement of experts, evaluation of what has been tried (A3). The constant change of personnel, poorly trained staff and the lack of workforce make the implementation in theory and practice difficult (A4), the cooperation in the team works very well, mutual observation still needs to be improved (A5). Further topics (A6) are: the improvement of internal communication, the establishment of an appreciative feedback culture, the lively exchange, the active involvement of students in lesson planning and the development of other points of view.

Regarding the question how the introduction of Lesson Study has affected the school culture, the following answers are listed: Strengthening of the learners' personal responsibility can be seen, the teachers' responsibility for results is reduced (A1), the effect is described as (very) positive or very good (A2, A6, A10, A12, A13). There is an increase in teamwork and teaching quality (A3). One person describes that due to the size of the school (small school), Lesson Study is carried out across schools and organising the Lesson Study turned out to be very difficult. The administrative effort was very high and disproportionate to the output (A4). The emergence of flexible team structures is described and the exchange is established (A5). Lesson Study is described as supportive and dynamic (A8). Changes were initially seen by the teams, there were concerns about additional workload, which also arised at the beginning. By observing the students in their learning process, appreciation for the students and also for the teacher was realised (A9).

Within the framework of A11, the shaping of the school culture in the form of openness, trust, communication, appreciation and acceptance of the existing diversity is mentioned as an opportunity. The strengthening of the "we-feeling" is also mentioned (A14). The topics of communication, behavior, trust, self-perception, public perception, and feedback are listed (A15). Lesson Studies are an integral part of the school and lesson development process. They consist of teams that deal with the same subject or area over a long period of time. There is still room for improvement in the exchange between the various groups. The term of Lesson Study is "old wine in new containers" (A17).

The question "If you are a head teacher at a vocational school (VET School), please describe why you use Lesson Study or have not yet used it" was answered in many ways: no information, no training (A1), the Lesson Study tool has not been used at the school so far, now with the newly acquired knowledge about it I will introduce the method to the staff and plan together how to use it in the future (A2), there are no competences available (A3), as a non-exempt school leader there is simply not enough time for many things. In order to convince the staff of change you have to take ownership and responsibility by yourself (A4). I am not familiar with Lesson Study (A5, A8), LS is a very good method for school development (A6), the interest in it must first be developed among the staff, help from outside is an important factor here (A7). In order to establish lesson development well, it needs the tool

and also the commitment of the school leader. It is already quite well accepted, but it still needs time to implement it in the context of shaping school culture! (A9). There has not yet been an opportunity to get to know the method in more detail (A10). I have not used this method yet, because I do not know it. To be honest, I don't really understand what is meant by it either. I have looked at both links, but the explanations are not really clear for me. It is not clear what actually happens in such a lesson and what the teachers are supposed to do there. Is this some kind of collegial feedback? (A11)

One person says that unfortunately he or she has other problems instead of dealing with LS. There is a tremendous teacher shortage. You can't hire skilled staff from business and industry for vocational schools in the technical field. The teaching profession is not attractive enough for skilled people from the industry. Teachers and school leaders often have to do a lot of extra work. Thus, there is limited interest in LS (A12). LS works well (A13). One school leader wrote: We have implemented LS in our school courses and some of the new professions. It turned out that LS strengthens team building among the teachers – besides, we have firmly integrated team lessons into the timetable - joint lesson development relieves the teachers (A14).

The results show, that more than 40% of the school leaders who participated in the survey stated that they do not have any experience in Lesson Study. The percentage of school leaders of VET schools who have no experience is particularly high. Furthermore, the qualitative answers of the survey show that Lesson Study is not known or insufficiently understood, and, in VET schools, there is a considerable concern that the implementation of Lesson Study might be a serious barrier as the schools are currently facing a tremendous shortage of skilled teachers with technical professional background. On the other hand, the school leaders of the intermediate and higher VET schools and the vocational schools stated that it is important (VET schools: 43%; vocational schools: 27%) and respectively very important (VET schools: 57%; vocational schools 64%) to improve organisational learning.

The summary of the answers to the qualitative questions regarding the impacts of Lesson Study on the school culture confirm the findings of the literature research. In this context, the enhancement of a sense of community was particularly highlighted, even though there was an answer stressing the enormous efforts and the fears when implementing Lesson Study as a process.

4 Conclusion

In this paper, the role of school leaders in implementing Lesson Study as a staff, team, and school development method is highlighted based on a systematic literature review supported by a quantitative study. By way of introduction, the interplay of personnel, team, and organisational development was outlined. The interdependence of individuals and organisations is mainly complemented by the team factor. With regard to organisational learning, team learning is described as a symbol for learning organisations. Lesson Study is

recommended as a team development tool because it enables and encourages intensive communication within teams and supports organisational knowledge by sharing experiences and expertise. By observing and analysing student learning, the teachers' own learning is stimulated and the knowledge of others on the team can be accessed. Most importantly, formative evaluation of teaching through Lesson Study enables teachers' self-awareness to be strengthened in their efforts to improve their students' learning. Through the joint analysis of the teachers in the Lesson Study team, their own competencies are also reflected upon.

The introduction of Lesson Study at the school site requires the consistent support of the school leader. A democratic leadership style and the leadership principles of subsidiarity and participation strengthen teamwork and support the successful implementation of Lesson Study. The process of a collaboratively developed mission statement, in which the school leader commits to promoting Lesson Study, provides a documented orientation and has a culture-reinforcing effect. In addition, there needs to be a time and space framework for the teams and alignment of the learning goals with the quality and school development goals. To promote teamwork, the school leader should provide appropriate trainings, making sure that not only individual teachers but entire teaching teams participate in the trainings. It is up to the school leader to create a school culture conducive to learning, in which a fear-free climate allows open discussion on failures and mistakes, a culture in which mistakes are understood as opportunities for learning.

The results of the survey have shown that there is an urgent need for action, especially for universities and university colleges for teacher education. All things considered, the advantages of the Lesson Study method based on the findings of the literature research should be clearly highlighted, especially the opportunities for team development as a supporting pillar of quality management in schools.

In the context of VET schools results of the survey show that Lesson Study should be actively promoted in the course of initial education, in seminars and Master programs, particularly for teachers in VET schools. Since it is important for school leaders in this educational field to improve organizational learning, the tremendous potential for the introduction of Lesson Study should be considered. Furthermore, it would be beneficial to introduce Lesson Study as a helpful method for staff, team and organisational development. Leadership seminars are particularly suitable for this purpose.

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