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Towards Sustainability of Teachers: A Comparative Analysis of Three Baltic Countries

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Abstract

Teacher sustainability is primarily about educators, who seek to create an inclusive, collaborative and learning community. Thus, in this study, we aim to investigate the expression of teacher sustainability in the three Baltic countries (Lithuania, Estonia, and Latvia). Based on the data from TALIS 2018 – the Teaching and Learning International Survey – we have analyzed three elements of teacher sustainability: (1) the moral goal of teachers' work with all students, regardless of their level of achievement, cultural background, special needs, or other; (2) capacity building through networks and (3) deep learning of teachers. The research results show that the three countries are implementing a moral goal that seeks to educate children with various clearly expressed individual needs. Discussing the aspect of capacity building through networks, it becomes evident that Lithuanian teachers are less engaged in cooperation than their Latvian and Estonian colleagues. It has also been established that in all the three countries, long-term and active learning is most typical of Estonian teachers, which is likely to be the basis for deep learning.

Keywords: Deep learning, moral purpose, networks, sustainability of teachers, TALIS.

Introduction

The situation of everyday professional life affected by the unexpected COVID-19 pandemic, military conflicts, rapid globalization, various migration processes, expeditious development of communication and information technologies, and the realistic call for quick and successful performance of work-related responsibilities requires lifelong learning improvement. For a teacher, whose main goal is the education of a student, this feature of our reality demands increased professionalism, efficiency, various personal characteristics, and other miscellaneous aspects.

Hargreaves and Fullan (2012) note that the quality of education depends primarily on teachers. An educator who does not feel called to their profession cannot work effectively. Independent teacher development is encouraged, whereas traditional models of professional development that focus on teachers as recipients of knowledge rather than active knowledge creators are abandoned (Makovec, 2018; Sumaryanta et al., 2019). Thommen with colleagues (Thommen et al., 2021) when discussing educational effectiveness state that teaching quality is considered a crucial determinant of student achievement. The authors utilize the insight of Bell, Klieme and Praetorius to shed light on this idea and state that teaching quality is regarded as a co-constructive and context-specific process, which is influenced by the interactions of teachers, their students, and the learning content (Bell et al., 2012; Klieme et al., 2009; Praetorius et al., 2014). According to Thurlings and den Brok (2017), learning must become a key precondition for the professional growth of teachers, as such professional development is the basis for the quality of education.

However, this raises the problematic question: What do learning and professional development of teachers need to look like to be sustainable? Fullan (2005) claims that the capacity of an education system to engage in diverse and progressive activities that are consistent with intrinsic human values can be described as educational sustainability. This is intrinsically linked to the development of deep, meaningful, and ongoing learning processes, which is why now is the time when the global action has been implemented by searching for the purposeful idea of sustainability and possibilities to implement it in education (Pipere et al., 2015). Thus, in this paper, we aim to shed light on how work and learning of teachers are expressed in terms of sustainability in the three Baltic countries (Lithuania, Latvia, and Estonia).

Teacher Sustainability Viewed Through Three Different Elements

Sustainability and school improvement are directly linked: since sustainable schools develop leaders, continuous improvement is linked to innovative practices, and capacity is built both laterally and vertically (Fullan, 2005). Fullan (2005) identifies eight sustainability elements that should be implemented in schools, which embrace (1) public service with a moral purpose, (2) commitment to changing context at all levels, (3) lateral capacity-building through networks, (4) intelligent accountability and vertical relationships, (5) deep learning, (6) dual commitment to short-term and long-term results, (7) cyclical energizing, and (8) long lever of leadership. In this paper, we

analyze three of them, i.e., public serve with moral purpose, capacity building through networks and deep learning.

Public service with a moral purpose. *The 2030 Agenda for Sustainable Development* (United Nations, 2015) emphasizes a moral purpose as an essential part of the teaching profession, as no student should be left behind, i.e., the education system must ensure inclusive, equitable quality education and lifelong learning opportunities for all, especially those in vulnerable situations or other status. All countries, and, therefore, schools, have an obligation to treat all pupils with respect, to facilitate their learning, and to bridge any gaps that may exist between pupils and schools.

However, it should be noted that this element of sustainability is a very multidimensional phenomenon. On the one hand, the moral purpose is clearly linked to the educational opportunities for all children, i.e., inclusive education. Inclusive education embraces the right of all learners to belong, participate, and be included in general education, with the aim of achieving the flourishing of each one. According to Mukherjee (2017), the school's conception of inclusive education addresses the diverse learning needs of children developed as a syncretic cultural formation that draws on its institutional mission for social justice. Educational researchers expect teachers to respond effectively to students of different needs, backgrounds, and languages, and to promote tolerance and social cohesion (Schleicher, 2018).

Otherwise, it must be stressed that the moral purpose must be linked to the progress of learners, but this is a thorny issue in teacher professional development, as it is difficult to establish the links between teachers' learning and students' learning outcomes. The high qualification of teachers is a key component in improving the educational system (Guskey, 2002). This affects not only the professional skills of the teacher himself or herself, but also improves the students' ability to learn, influences their learning outcomes (Loeb et al., 2009). Darling-Hammond et al. (2017) emphasize that effective professional development changes the quality of teacher work, improves student performance. MGore with colleagues (MGore et al., 2021) note that, in the field of education, Continuing Professional Development (CPD) programs do have their critiques. According to the authors, most of the criticism surrounding these programs is centered on the lack of methodological rigor (Guskey & Yoon, 2008), ineffective content, poor design, attention to implementation principles (Hill et al., 2013), and a failure to produce significant changes in teaching practice or student achievement (Darling-Hammond et al., 2017). Pellegrini et al. (2021) claim that the biggest criticism that could be attributed to CPD programs is the amount of evidence of effects on student outcomes. Despite this lack of evidence, a positive attitude and belief in the potential of CPD programs to improve student learning results is still held. Thus, according to the authors, "the search continues for rigorous evidence of the impact of CPD on student achievement" (MGore et al., 2021, p. 1).

Capacity building through networks. Peer networks comprise another element of sustainability, which can be seen as a system of individuals with a shared vision of the future, exchanging their experiences and mutual commitment. As Hargreaves and Fink (2006) point out, the sustainability of change can be ensured by professional learning communities and professional networks. Collaborating with colleagues and sharing good practices helps educators acquire new skills. Teacher collaboration leads to personal and

professional development (Babichenko et al., 2024; Ghamrawi et al., 2024; Futernick, 2007; Fütterer et al., 2024; Pan et al., 2024; Retallick & Butt, 2004; Shah & Abualrob, 2012; Swanson et al., 2023) and meaningful changes in the educational process by sharing their experiences and ideas (Babichenko et al., 2024; DuFour, 2004; Leonard & Leonard, 2003). Collegially collaborative teachers become more open to new ideas, teaching methods, and resources, i.e., teachers develop more professionally. Sharing successful approaches with colleagues has also been found to result in much better outcomes for students (Timperley, 2008).

Saka (2021), when discussing teacher collaboration as a form of CPD, firmly holds the opinion that there is a great need for teacher collaboration that is aimed at the success of the learner rather than various courses and seminars that teachers have to undertake, which have shown to be costly and not aligned to a particular educational context, situation or learner. Teacher collaboration can be implemented using several methods. “These methods range from one-on-one or small group interactions within the school to inter-school collaboration to exchange ideas with other professionals” (Saka, 2021, p. 34). Graham (2007) suggests that collaboration activities of teachers who teach the same subject and the same grade-level can possibly lead to a notable positive change in teaching effectiveness. Nevertheless, all possible outcomes of teacher collaboration are affected by various factors. Such factors might be comprised of, for example, the specific school’s leadership, established organizational practices, specific nuances of various school’s collaboration activities, and the development of community among teachers who actually collaborate. Forte and Flores (2014) extend this list by including such factors as time, specific conditions of work at a particular school, the training that teachers are provided on collaboration, motivation and teachers’ personal difficulties that they experience.

Deep learning. Deep learning is one of the key features of a sustainable school. This includes learning not only by students, but also by members of the whole school community to change attitudes, expand knowledge, and develop the skills needed to achieve long-term results. According to Pella (2015), in-service training for teachers is only effective when it is intensive, takes longer, is linked to real-life practice that arises or might arise, and addresses such issues that are truly relevant to teachers or their students. Darling-Hammond et al. (2017) emphasize that teachers need to have sufficient time to learn, practice, implement and reflect on new strategies to facilitate change in their practice. Continuity of experience (rather than one-off training) is most effective because it allows teachers to link existing knowledge and experience with new ones. Here we would like to highlight another key point in relation to teacher learning. The clear distinction between finite formal certification studies and the need for a lifelong learner’s attitude and commitment is clear. When analyzing such issues, Goe (2007) suggests that defining teacher quality solely through paper qualifications is not sufficient for ascertaining teacher quality. Since the means are at hand to evaluate teachers’ characteristics, practices, and effectiveness, reliance on paper qualifications as proxies for teacher quality is simply not sufficient for valid determinations of high- and low-quality teachers. From this perspective, the certifications and qualifications that a future-to-be teacher ascertains are not enough to ensure success from a learner’s point

of view. This means that an attitude of stagnation when one achieves a desired rank in the teacher qualification cannot be the final and ultimate step in the learning process of a teacher. As stated by Yoo (2016), even though experience is vital, one can become an experienced non-expert regardless of the years of experience (Bereiter & Scardamalia, 1993). Therefore, it can be stated that a good educator can be called as such, if he or she is the one who is constantly improving his/her competencies and thus strives to best meet the challenges that arise in practice. The professional development of teachers should be seen as a lifelong process that should be taken into account by its organization.

In summary, teacher sustainability is primarily about educators, creating an inclusive, collaborative, and learning community. Additionally, an effective teacher educating for sustainability communicates and collaborates with all children and their families to meet diverse learner needs. Such teachers advocate for every child and stand for fairness and excellence in the school, community and country. Thus, in this study, we aim to investigate the expression of teacher sustainability in the three Baltic countries (Lithuania, Estonia, and Latvia). Based on the data of Teaching and Learning International Survey (TALIS, 2018), we have analyzed three elements of teacher sustainability: (1) the moral goal of teachers' work with all students, regardless of their level of achievement, cultural background, special needs, or other; (2) capacity building through networks and (3) deep learning.

Materials and Methods

Study Participants

This section analyses the results of TALIS 2018. Its participants included general education teachers from three Baltic countries (Estonia, Latvia, and Lithuania). The research data are accumulated in the national databases (<http://www.oecd.org/education/talis/talis-2018-data.htm>), which include the data of 3004 Estonian teachers, 2315 Latvian teachers, and 3759 Lithuanian teachers. The distribution of teachers by country, age and educational background is presented in Table 1.

Table 1

The Distribution of Teachers by the Country, Age, and Educational Background

		Estonia		Latvia		Lithuania	
Age Groups							
Under 29 years	210	7%	181	7.8%	102	2.7%	
30–49 years	1159	38.6%	946	40.9%	1549	41.2%	
50 years and above	1626	54.1%	1183	51.1%	2106	56%	
Not specified	9	0.3%	5	0.2%	2	0.1%	

See next page for continuation of table

Continuation of Table 1

Highest level of completed formal education						
ISCED level 5 and below	194	6.5%	70	3.1%	7	0.2%
ISCED level 6	662	22%	763	32.9%	2379	63.2%
ISCED level 7	2119	70.6%	1463	63.3%	1349	35.9%
ISCED level 8	22	0.7%	9	0.3%	21	0.6%
Not specified	7	0.2%	10	0.4%	3	0.1%

More than half of the teachers in Estonia, Latvia, and Lithuania have more than 20 years of teaching experience. The distribution by teaching experience of the respondents is shown in Table 2.

Table 2
Descriptive Statistics of the Teaching Experience by Country

	Mean	SD	Min	Max	Less than or equal to 5 years	6 to 20 years	More than 20 years
Estonia	22.11	13.09	1	58	12.9%	31.6%	55.5%
Latvia	22.95	12.54	1	58	10.3%	28.6%	61.1%
Lithuania	23.80	10.92	1	54	4.5%	29.7%	65.8%

Instruments

Five questions from TALIS 2018 (Organisation for Economic Co-operation and Development [OECD], 2018) have been chosen for this article (Table 3). Seeking to disclose one of the elements of sustainability, i.e., public service with a moral purpose, one question has been chosen from TALIS 2018, which demonstrates how education of learners with various learning needs is ensured:

1. TT3G35: We would like to understand the composition of the “target class”. Please estimate the broad percentage of students who have the following characteristics. Response options: 1 = None, 2 = 1% to 10%, 3 = 11% to 30%, 4 = 31% to 60%, 5 = More than 60%. The following variables have been analyzed:
 - a) TT3G35A. Students whose first language is different from the language of instruction;
 - b) TT3G35B. Low academic achievers;
 - c) TT3G35C. Students with special needs;
 - d) TT3G35D. Students with behavioral problems;
 - e) TT3G35E. Students from socioeconomically disadvantaged homes;

- f) TT3G35F. Academically gifted students;
- g) TT3G35G. Students who are immigrants or with migrant background;
- h) TT3G35H. Students who are refugees.

Another aspect of sustainability – teacher capacity building through networks and collaboration – has been disclosed through two questions provided below.

1. TT3G22H: During the last 12 months, did you participate in a network of teachers formed specifically for the professional development of teachers? Response options: 1 = Yes, 2 = No.
2. TT3G33: On average, how often do you do the following in this school? Response options: 1 = Never, 2 = Once a year or less, 3 = 2–4 times a year, 4 = 5–10 times a year, 5 = 1–3 times a month, 6 = Once a week or more. The following variables have been analyzed:
 - a) TT3G33A. Teach jointly as a team in the same class;
 - b) TT3G33B. Observe other teachers' classes and provide feedback;
 - c) TT3G33C. Engage in joint activities across different classes and age groups (e.g., projects);
 - d) TT3G33H. Take part in collaborative professional learning.

The third aspect of sustainability – deep learning of teachers – has been identified through the questions specified below.

1. TT3G25. Thinking of all of your professional development activities during the last 12 months, did any of these have a positive impact on your teaching practice? Response options: 1 = Yes, 2 = No.
2. TT3G26. Thinking of the professional development activity that had the greatest positive impact on your teaching during the last 12 months, did it have any of the following characteristics? Response options: 1 = Yes, 2 = No. The following variables have been analyzed:
 - a) TT3G26E. It provided opportunities for active learning;
 - b) TT3G26F. It provided opportunities for collaborative learning;
 - c) TT3G26I. It took place at my school;
 - d) TT3G26K. It took place over an extended period of time (e.g., several weeks or longer).

Data Analysis

The statistical analyses have been performed using IBM SPSS Statistics 26.0. Frequency, percentage, and mean have been calculated to determine the demographic characteristics of the teachers (age group, the highest level of formal education, and duration of teaching experience in total). For the analysis of the research data, Pearson's Chi-square test has been used to find differences among teachers from different countries.

Cramér's V is used to evaluate effect size for the Chi-square test. The possible values for Cramér's V range from 0 to 1, with 0 representing no association and 1 representing a perfect association. The interpretation of the magnitude of the Cramér's V is as follows: a small effect size: $V \leq 0.2$; a medium effect size: $0.2 < V \leq 0.6$; a large effect size: $0.6 < V$ (Cohen, 1988). A statistical significance at $p < 0.05$ has been established for all tests.

Results

Public service with a moral purpose. The generalized data of TALIS 2018 (Table 3) has revealed that the absolute majority of teachers from the three countries has never taught students who are refugees, immigrants, or with migrant background. More Latvian than Estonian or Lithuanian teachers have reported that they teach a class where more than 10% of students have a first language different from the language of instruction ($\chi^2 = 874.869$; $p < 0.0001$). A quarter of Estonian teachers and almost one third of Latvian and Lithuanian teachers have classes with more than 10% of low academic achievers. According to the survey results, a higher percentage of Estonian teachers have to teach a class with more than 10% of students with special needs ($\chi^2 = 156.360$; $p < 0.0001$). Classes in which over 10% of students have behavioral problems are more commonly taught by Estonian and Latvian teachers than by Lithuanian ones ($\chi^2 = 156.372$; $p < 0.0001$). However, more Lithuanian teachers have indicated that they teach classes with more students from socioeconomically disadvantaged homes and academically gifted students (24.8% and 61%, respectively). Referring to Table 3, we can see that although the results are statistically significant, Cramér's V indicates that variables are only weakly associated. Thus, generalizing it can be stated that teachers from all three countries encounter a diversity of learners.

Table 3
Percentage of Teachers, Indicating That They Teach Learners With Diverse Educational Needs, by Country

		Estonia	Latvia	Lithuania	Chi-square and Cramér's V
Students whose first language is different from the language of instruction	More than 10%	12.9	22.9	6.2	$\chi^2 = 874.869^*$ $V = 0.222^*$
	1% to 10%	29.8	39.7	18.6	
	None	57.3	37.4	75.2	
Low academic achievers	More than 10%	24.2	32.3	31.1	$\chi^2 = 279.541^*$ $V = 0.126^*$
	1% to 10%	50.6	59.7	52.5	
	None	25.2	8	16.4	
Students with special needs	More than 10%	14.9	7.4	11.2	$\chi^2 = 156.360^*$ $V = 0.094^*$
	1% to 10%	48.4	43.8	53.2	
	None	36.7	48.8	35.6	

See next page for continuation of table

Continuation of Table Appendix 1

Students with behavioral problems	More than 10%	22.7	25	16.9	$\chi^2 = 156.372^*$ $V = 0.094^*$
	1% to 10%	49.4	56.8	51.6	
	None	27.9	18.2	31.5	
Students from socioeconomically disadvantaged homes	More than 10%	18	15.5	24.8	$\chi^2 = 91.017^*$ $V = 0.072^*$
	1% to 10%	48.8	49.8	46.3	
	None	33.2	34.7	28.9	
Academically gifted students	More than 10%	41.6	37.9	61	$\chi^2 = 472.997^*$ $V = 0.163^*$
	1% to 10%	45.8	49.9	35.4	
	None	12.6	12.2	3.6	
Students who are immigrants or with migrant background	More than 10%	2	0.9	1.3	NS
	1% to 10%	12.5	16.4	13.3	
	None	85.5	82.7	85.4	
Students who are refugees	More than 10%	0.7	0.2	0.5	NS
	1% to 10%	3	1.5	1	
	None	96.3	98.3	98.5	

Note: * $p < 0.0001$; NS – no statistically significant difference.

Teachers' professional development through collaboration. Participation in a network of teachers provides teachers with possibilities of establishing links, exchange knowledge with each other, and collaborate, thus contributing to the improvement of teaching quality. Following the research data of TALIS 2018, more Estonian (58.6%) and Lithuanian teachers (55.6%) compared to the Latvian ones (39.4%) ($\chi^2 = 212.258$; $p < 0.0001$; $V = 0.154$ represent a small effect of association) participate in teacher networks activities. Various forms of professional collaboration help teachers collectively learn from each other. Frequent participation in collaborative activities in the workplace is of utmost importance for professional development (Table 4). The conducted research has revealed that 20.7% of teachers in Estonia, 16.6% in Latvia and only 5.1% in Lithuania delivered lessons as a team in the same class ($\chi^2 = 692.735$; $p < 0.0001$). Moreover, it has been identified that 19.5% Estonian teachers, 12.9% Latvian teachers, and 10.8% of Lithuanian teachers ($\chi^2 = 149.535$; $p < 0.0001$) take part in professional development activities through cooperation. However, a majority of teachers observe lessons of other teachers and provide feedback less than once a month – 80.7% of Latvian, 83.1% of Lithuanian, and only 60.5% of Estonian teachers ($\chi^2 = 716.691$; $p < 0.0001$). A similar percentage of teachers from all the three countries engage in joint activities across different classes and age groups less than once a month. As shown in Table 4, the Cramér's V indicates only a small association between variables.

Table 4*Percentage of Teachers, Indicating Participation in the Collaborative Activities, by Country*

		Estonia	Latvia	Lithuania	Chi-square and Cramér's V
Teach jointly as a team in the same class	At least once a month	20.7	16.6	5.1	$\chi^2 = 692.735^*$ $V = 0.198^*$
	Less than once a month	46.1	54.9	75.1	
	Never	33.2	28.5	19.8	
Observe other teachers' classes and provide feedback	At least once a month	5	9	4.1	$\chi^2 = 716.691^*$ $V = 0.201^*$
	Less than once a month	60.5	80.7	83.1	
	Never	34.5	10.3	12.8	
Engage in joint activities across different classes and age groups	At least once a month	9.3	9.7	6.1	NS
	Less than once a month	81.2	84.9	85.6	
	Never	9.5	5.4	8.3	
Take part in collaborative professional learning	At least once a month	19.5	12.9	10.8	$\chi^2 = 149.535^*$ $V = 0.092^*$
	Less than once a month	74.2	82.9	85.8	
	Never	6.3	4.2	3.4	

Notes: 1. "At least once a month" covers the following response options: "1–3 times a month", "Once a week or more".
 2. "Less than once a month" covers the following response options: "Once a year or less", "2–4 times a year", "5–10 times a year".
 3. * $p < 0.0001$; NS – no statistically significant difference.

Teachers' deeper learning. Following the research data of TALIS 2018, 89.4% of Latvian, 89.1% of Lithuanian and 76.7% of Estonian teachers think that deeper learning has a positive impact of professional development on teaching practice ($\chi^2 = 241.750$; $p < 0.0001$; $V = 0.165$ represent a small effect of association). Table 5 shows the characteristics typical of professional development activities with a positive effect. The results disclose that more Lithuanian teachers (61.4%) compared to their Estonian (49.8%) or Latvian (42.5%) colleagues participate in professional development activities held in their school ($\chi^2 = 189.624$; $p < 0.0001$; a small effect – $V = 0.159$). Considerably more Estonian (40.5%) and Latvian (30.8%) teachers compared to Lithuanian ones (18.4%) ($\chi^2 = 327.469$; $p < 0.0001$; a small effect – $V = 0.209$) engage in long-term professional development. Most of the teachers in the study have indicated that professional development is based on active learning, as 81.9% of the Estonian teachers, 79.5% of the Latvian and 68.2% of Lithuanian teachers ($\chi^2 = 157.733$; $p < 0.0001$; a small effect – $V = 0.145$) have stated this view. An absolute majority of teachers from

all the three countries engage in such professional development activities, which are based on learning through cooperation. Generalizing, it can be stated that according to the opinion of the majority of teachers, professional development activities that have a positive impact are characterized by active collaborative learning.

Table 5

Percentage of Teachers, Indicating Characteristics of Professional Development Activity as Having a Positive Effect, by Country

	Estonia	Latvia	Lithuania	Chi-square	Cramér's V
Work-based learning	49.8	42.5	61.4	$\chi^2 = 189.624^*$	$V = 0.159^*$
Long-term learning	40.5	30.8	18.4	$\chi^2 = 327.469^*$	$V = 0.209^*$
Active learning	81.9	79.5	68.2	$\chi^2 = 157.733^*$	$V = 0.145^*$
Collaborative learning	78.3	73.7	83.2	NS	–

Notes: * $p < 0.0001$; NS – no statistically significant difference.

Discussion

Three neighboring countries – Lithuania, Latvia and Estonia – have been chosen for the comparative analysis of teacher sustainability. In 1990, they regained their independence and, as Rado (2001) argued, together with other counties of Central and Eastern Europe, moving from a totalitarian system, they went through several fundamental changes: the transition to democracy, building a free market economy, and adapting to global change. It should be noted that having similar starting points, now the Baltic countries represent different education models. As Želvys et al. (2017) point out, Latvia and Lithuania are closer to the liberal Anglo-Saxon model, while Estonia is in some respect more similar to Finland. This leads to our guiding question: What is the expression of the three dimensions of sustainability – public service with a moral purpose, capacity building through networks, and deep learning – in these Baltic countries?

The results of the conducted survey show that teachers in all three countries teach children with one or another clearly expressed individual needs. Classes taught by Latvian teachers have students whose first language is different from the language of instruction and also students with behavioral problems. The majority of Estonian teachers work with classes, which contain more than 10% of students with special needs, as well as students with behavioral problems. Lithuanian teachers have stated that they teach classes with more students from socioeconomically disadvantaged homes and academically gifted students. Although teachers in these three countries are seen working with different groups of students, it is clear that the ideas of inclusive education to work with and respond to the needs of all students (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017) are important for teachers in all three countries. We would

see this as the realization of a moral goal, since education in its very essence must help discover every child, help him develop, and provide the foundations for independent life (United Nations, 2015). It is also likely that the results of this study demonstrate that all three countries (Latvia, Estonia, and Lithuania) recognize that one of the key provisions of sustainability, i.e., diversity, is a good thing (Hargreaves & Fink, 2006). However, it is necessary to note that according to the data of this international teacher survey TALIS 2018, an absolute majority of teachers in the three countries have not had an opportunity to teach students who are refugees, immigrants, or with migrant background. We dare say that the situation is changing now because the current military conflicts are also creating special situations for education systems, obliging them to admit children fleeing the war to schools and to provide them with the best possible educational conditions.

Discussing teachers' capacity building through networks, it can be noticed that Lithuanian teachers should learn from their neighbors – Estonian and Latvian teachers. As it can be seen from the research results, Lithuanian teachers are least active in teaching jointly as a team in the same class, observing lessons of other teachers and taking part in collaborative professional learning. Hargreaves and Fullan (2006) argue that the key to successful high sustainability is shared experience, as collaboration enhances human capital through social capital, i.e., by collaborating with colleagues in a variety of ways (planning curriculum, monitoring their work, and then discussing it). Collaboration creates relationships and networks, so that teachers can implement more and more effective educational practices together over time. It is obvious that teacher professional development is a continuous process (Meesuk et al., 2021); therefore, networks of learning communities are vital as they promote active, partnership-based and reflective learning (Salīte, 2008). On the other hand, there is a very important practical aspect to this cooperation process. Researchers (Meihami & Salīte, 2019) argue that teachers need to be able to put what they have learned into practice in order to be more motivated for their profession.

Finally, the expression of the third aspect of sustainability, i.e., deep learning, also differs in the three countries. The research data show that Lithuanian teachers mostly study at their workplace (school), but their training is not long-lasting. It can be assumed that this type of educational training may be one of the factors why the achievements of Estonian students are higher than those of Lithuanian and Latvian students (Schleicher, 2019). On the other hand, it should be noted that researchers do not have an unambiguous answer as to whether long-term learning is significant. For example, Basma and Savage (2018) claim that short-term but high-quality teacher learning is effective. However, as indicated by Darling-Hammond and his colleagues (Darling-Hammond et al., 2017), effective teaching practice takes time to practice and reflect on new strategies. However, we would like to point out that recent research (Asterhan & Lefstein, 2024; Babichenko & Asterhan, 2025) highlights that research on teacher professional development is often methodologically unsound and many questions remain unanswered. Therefore, further research is needed to focus more on developing, testing, and refining theories of teacher professional learning. In conclusion, we would like to emphasize once again the finding of this article. The quality of a teacher's work is one of the most important factors in students' achievement, but for teachers' work to be sustainable, it must first be

related to a moral goal, i.e., to include the very essence of education – to help everyone develop, regardless of their individual characteristics/peculiarities (gender, abilities, living place, etc.). Fullan (2005) states that educational organizations must be guided by moral goals when creating a vision, implementing a strategy or making changes, as sustainable progress starts with a strong moral goal. The vision of the goal helps discover the meaning of education and refine it, i.e., to ensure that all students can live and work with quality in our changing and increasingly complex society. As mentioned at the beginning of this article, the quality of education is mainly dependent on teachers. Therefore, we agree with the statement of researchers (Tonga et al., 2019), who analyzed experience in five countries (Finland, Estonia, Japan, Singapore, and China) with the highest achievements in PISA survey, that “countries with low-to-middle PISA results need to advance to a position where the teaching profession is staffed by teachers who take responsibility for their further education and PD” (p. 14). On the other hand, we would like to build on Jermolajeva and Trusina’s (2022) ideas that the necessary changes in people’s thinking and attitudes can be made by encouraging a broader and more research-based interdisciplinary perspective on sustainability and sustainable development. As emphasized by Tillmanns (2020), sustainability education should focus on developing an understanding of personal sustainability by critically reflecting on one’s own values and behavior. The emotional and ‘being’ aspects become particularly important here because together with knowledge, systematic thinking, and values, they form the basis for deep learning and, at the same time, create a new sustainable mindset (Hermes & Rimanoczy, 2018). Therefore, in our view, further sustainability research should focus more on moral aspects and their links to the phenomenon of sustainability. As Sterling (2011) argues, education for sustainability should move beyond the acquisition of knowledge and skills and engage with deeper levels of values, ethics, and worldviews. Only through such transformative learning can individuals and communities develop the capacity to live sustainably. This implies that sustainability education is not only about what we know or what we can do, but also about who we are and how we relate to others and to the world. It is clear that moral action is an integral part of various sustainability practices (Dunn & Hart-Steffes, 2012), but research related to moral aspects is multifaceted, complex, and does not provide immediate and unambiguous answers. Nevertheless, it is precisely this moral aspect that we consider to be very important and that must be strengthened if we want sustainability to be truly sustainable and long-lasting.

Conclusions

Sustainability in education can mean many different things. This research is based on the elements of sustainability that should be implemented in schools as suggested by Fullan (2005) and focuses on identifying how three of them (public service with a moral purpose, capacity building through networks and deep learning) manifest themselves in the work and learning and Latvian, Lithuanian, and Estonian teachers. The results of the study show that all three countries are pursuing the moral goal of achieving inclusive education – to educate all children, regardless of their individual characteristics, so that

they can live and work in our society in a quality way. The second aspect of sustainability – capacity building through networks – is also very important, as the overall experience of teachers can increase the human capital of each of them. It is becoming clear that Lithuanian teachers are less involved in cooperation than Latvian and Estonian ones, so we believe that Lithuanian teachers should strengthen this element of sustainability. Finally, it has been established that long-term and active learning, which is likely to be a basis of deep learning, is most characteristic of Estonian teachers compared to their Lithuanian and Latvian colleagues. Deep learning – the third element of teacher sustainability – is also very important, as it develops the ability to meet challenges and open to real and meaningful change, and such learning should become an essential part of teacher professional development.

It should be noted that the first element of sustainability – the moral aspect – seems very important to us. Therefore, we would encourage researchers to continue their research, delving deeper into the links between the moral values of the individual (community, society) and the phenomenon of sustainability. This is likely to lead to the creation of a new sustainable mindset that is not momentary but long-lasting.

References

- Asterhan, C. S. C., & Lefstein, A. (2023). The search for evidence-based features of effective teacher professional development: A critical analysis of the literature. *Professional Development in Education*, 50(1), 11–23. <https://doi.org/10.1080/19415257.2023.2283437>
- Babichenko, M., & Asterhan, C. S. C. (2025). Pedagogically productive dialogue in teacher learning communities: From concept to measurement. *Studia Paedagogica*, 30(2), 1–42. <https://asterhan.huji.ac.il/publications>
- Babichenko, M., Lefstein, A., & Asterhan, C. S. C. (2024). Teacher collaborative inquiry into practice in school-based learning communities: The role of activity type. *Learning, Culture and Social Interaction*, 49, 100852. <https://doi.org/10.1016/j.lcsi.2024.100852>
- Basma, B., & Savage, R. (2018). Teacher professional development and student literacy growth: A systematic review and meta-analysis. *Educational Psychology Review*, 30(2), 457–481. <https://doi.org/10.1007/s10648-017-9416-4>
- Bell, C. A., Gitomer, D. H., McCaffrey, D. F., Hamre, B. K., Pianta, R. C., & Qi, Y. (2012). An argument approach to observation protocol validity. *Educational Assessment*, 17(2–3), 62–87. <https://doi.org/10.1080/10627197.2012.715014>
- Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise*. Open Court.
- Cohen, J. (1988). *Statistical power and analysis for the behavioral sciences*. Lawrence Erlbaum Associates.
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.
- DuFour, R. (2004). What is a “professional learning community”? *Educational Leadership*, 61(8), 6–11. <https://www.ascd.org/el/articles/what-is-a-professional-learning->

community

- Dunn, M. S., & Hart-Steffes, J. S. (2012). Sustainability as moral action. *New Directions for Student Services*, 139, 73–82. <https://doi.org/10.1002/ss.20024>
- Forte, A. M., & Flores, M. A. (2014). Teacher collaboration and professional development in the workplace: A study of Portuguese teachers. *European Journal of Teacher Education*, 37(1), 91–105. <https://doi.org/10.1080/02619768.2013.763791>
- Fullan, M. (2005). *Leadership and sustainability: Systems thinkers in action*. Corwin Press.
- Futernick, K. (2007). *A possible dream: Retaining California teachers so all students can learn*. California State University: The Center for Teacher Quality. <https://www.calstate.edu/impact-of-the-csu/teacher-education/educator-quality-center/Documents/Futernick%202007.pdf>
- Fütterer, T., Richter, E., & Richter, D. (2024). Teachers' engagement in online professional development – The interplay of online professional development quality and teacher motivation. *Zeitschrift für Erziehungswissenschaft*, 27, 739–768. <https://doi.org/10.1007/s11618-024-01241-8>
- Ghamrawi, N., Shal, T., & Ghamrawi, N. A. R. (2024). Cultivating teacher leadership: Evidence form a transformative professional development model. *School Leadership & Management*, 44(4), 413–441. <https://doi.org/10.1080/13632434.2024.2328056>
- Goe, L. (2007). *The link between teacher quality and student outcomes: A research synthesis*. National Comprehensive Center for Teacher Quality. <https://eric.ed.gov/?id=ED521219>
- Graham, P. (2007). Improving teacher effectiveness through structured collaboration: A case study of a professional learning community. *RMLE Online*, 31(1), 1–17. <https://doi.org/10.1080/19404476.2007.11462044>
- Guskey, R. T. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership*, 6, 24–27. <https://www.ascd.org/el/articles/does-it-make-a-difference-evaluating-professional-development>
- Guskey, T. R., & Yoon, K. S. (2008). What works in professional development. *Phi Delta Kappan*, 90(7), 495–500. <https://doi.org/10.1177/003172170909000709>
- Hargreaves, A., & Fink, D. (2006). *Sustainable leadership*. Jossey-Bass.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.
- Hermes, J., & Rimanoczy, I. (2018). Deep learning for a sustainability mindset. *The International Journal of Management Education*, 16(3), 460–467. <https://doi.org/10.1016/j.ijme.2018.08.001>
- Hill, H. C., Beisiegel, M., & Jacob, R. (2013). Professional development research: Consensus, crossroads, and challenges. *Educational Researcher*, 42(9), 476–487. <https://doi.org/10.3102/0013189X13512674>
- Jermolajeva, E., & Trusina, I. (2022). Is sustainable development really sustainable – Theoretical reflections, statistics and the need for changes. *Journal of Teacher Education for Sustainability*, 24(2), 166–179. <https://doi.org/10.2478/jtes-2022-0023>
- Klieme, E., Pauli, C., & Reusser, K. (2009). The Pythagoras study: Investigating effects of teaching and learning in Swiss and German mathematics classrooms. In T. Janík & T. Seidel (Eds.), *The power of video studies in investigating teaching and learning in the*

- classroom (pp. 137–160). Waxmann.
- Leonard, L., & Leonard, P. (2003). The continuing trouble with collaboration: Teachers talk. *Current Issues in Education*, 6(15), 1–10. <https://cie.asu.edu/ojs/index.php/cieatasu/article/view/1615>
- Loeb, S., Miller, L. C., & Strunk, K. O. (2009). The state role in teacher professional development and education throughout teachers' careers. *Education Finance and Policy*, 4(2), 212–228. <https://doi.org/10.1162/edfp.2009.4.2.212>
- Makovec, D. (2018). The teacher's role and professional development. *International Journal of Cognitive Research in Science, Engineering and Education*, 6(2), 33–45. <https://doi.org/10.5937/ijcrsee1802033M>
- Meesuk, P., Wongrugsu, A., & Wangkaewhiran, T. (2021). Sustainable teacher professional development through professional learning community: PLC. *Journal of Teacher Education for Sustainability*, 23(2), 30–44. <https://doi.org/10.2478/jtes-2021-0015>
- Meihami, H., & Salite, I. (2019). EFL teachers' cultural identity development through participating in cultural negotiation: Probing EFL students' perspectives. *Journal of Teacher Education for Sustainability*, 21(1), 115–127. <https://doi.org/10.2478/jtes-2019-0009>
- MGore, J., Miller, A., Fray, L., Harris, J., & Prieto, E. (2021). Improving student achievement through professional development: Results from a randomised controlled trial of Quality Teaching Rounds. *Teaching and Teacher Education*, 101, 1–12. <https://doi.org/10.1016/j.tate.2021.103297>
- Mukherjee, M. (2017). Educating the heart and the mind: Conceptualizing inclusive pedagogy for sustainable development. *Educational Philosophy and Theory*, 49(5), 531–549. <https://doi.org/10.1080/00131857.2016.1185002>
- Organisation for Economic Co-operation and Development. (2018). *Teaching and learning international survey (TALIS): Teacher questionnaire*. <https://www.oecd.org/education/school/TALIS-2018-MS-Teacher-Questionnaire-ENG.pdf>
- Pan, H.-L. W., Hung, J.-H., & Truong, T. M. T. (2024). Teacher clusters of emotions and self-efficacy in curriculum reform: Effects on collaboration and learner-centered teaching. *Teaching and Teacher Education*, 144, 104604. <https://doi.org/10.1016/j.tate.2024.104604>
- Pella, S. (2015). Pedagogical reasoning and action: Affordances of practice-based teacher professional development. *Teacher Education Quarterly*, 42(3), 81–101. <https://eric.ed.gov/?id=EJ1090800>
- Pellegrini, M., Lake, C., Neitzel, A., & Slavin, R. E. (2021). Effective programs in elementary mathematics: A meta-analysis. *AERA Open*, 7. <https://doi.org/10.1177/2332858420986211>
- Pipere, A., Veisson, M., & Salite, I. (2015). Developing research in teacher education for sustainability: UN DESD via the Journal of Teacher Education for Sustainability. *Journal of Teacher Education for Sustainability*, 17(2), 5–43. <https://doi.org/10.1515/jtes-2015-0009>
- Praetorius, A.-K., Pauli, C., Reusser, K., Rakoczy, K., & Klieme, E. (2014). One lesson is all you need? Stability of instructional quality across lessons. *Learning and Instruction*, 31, 2–12. <https://doi.org/10.1016/j.learninstruc.2013.12.002>

- Rado, P. (2001). *Transition in education*. Open Society Institute.
- Retallick, J., & Butt, R. (2004). Professional well-being and learning: A study of teacher-peer workplace relationships. *Journal of Educational Enquiry*, 5(1), 85–99. <https://ojs.unisa.edu.au/index.php/EDEQ/article/view/518>
- Saka, A. O. (2021). Can teacher collaboration improve students' academic achievement in junior secondary mathematics? *Asian Journal of University Education*, 17(1), 33–46. <https://doi.org/10.24191/ajue.v17i1.8727>
- Salite, I. (2008). Educational action research for sustainability: Constructing a vision for the future in teacher education. *Journal of Teacher Education for Sustainability*, 10, 5–16. <https://doi.org/10.2478/v10099-009-0021-6>
- Schleicher, A. (2018). Educating learners for their future, not our past. *ECNU Review of Education*, 1(1), 58–75. <https://doi.org/10.30926/ecnuroe2018010104>
- Schleicher, A. (2019). *PISA 2018: Insights and interpretations*. OECD Publishing. <https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf>
- Shah, M., & Abualrob, M. A. (2012). Teacher collegiality and teacher professional commitment in public secondary schools in Islamabad, Pakistan. *Procedia – Social and Behavioral Sciences*, 46, 950–954. <https://doi.org/10.1016/j.sbspro.2012.05.229>
- Sterling, S. (2011). Transformative learning and sustainability: Sketching the conceptual ground. *Learning and Teaching in Higher Education*, 5(11), 17–33.
- Sumaryanta, Mardapi, D., Sugiman, & Herawan, T. (2019). Community-based teacher training: Transformation of sustainable teacher empowerment strategy in Indonesia. *Journal of Teacher Education for Sustainability*, 21(1), 48–66. <https://doi.org/10.2478/jtes-2019-0004>
- Swanson, E., Stewart, A. A., Stevens, E. A., Scammacca, N. K., Capin, P., Bhat, B. H., Roberts, G., & Vaughn, S. (2023). The efficacy of two models of professional development mediated by fidelity on fourth grade student reading outcomes. *Journal of Research on Educational Effectiveness*, 17(2), 288–317. <https://doi.org/10.1080/19345747.2023.2181897>
- Thommen, D., Sieber, V., Grob, U., & Praetorius, A. N. (2021). Teachers' motivational profiles and their longitudinal associations with teaching quality. *Learning and Instruction*, 76, 101514. <https://doi.org/10.1016/j.learninstruc.2021.101514>
- Thurlings, M. C. G., & den Brok, P. J. (2017). Learning outcomes of teacher professional development activities: A meta-study. *Educational Review*, 69(5), 554–576. <https://doi.org/10.1080/00131911.2017.1281226>
- Tillmanns, T. (2020). Learning sustainability as an effect of disruption. *Environmental Education Research*, 26(1), 14–26. <https://doi.org/10.1080/13504622.2019.1682125>
- Timperley, H. (2008). Teacher professional learning and development. *Educational Practices series 18*. International Bureau of Education. <https://unesdoc.unesco.org/ark:/48223/pf0000179161>
- Tonga, F. E., Eryiğit, S., Yalçın, F. A., & Erden, F. T. (2019). Professional development of teachers in PISA achiever countries: Finland, Estonia, Japan, Singapore, and China. *Professional Development in Education*, 1–18. <https://doi.org/10.1080/19415257.2019.1689521>

- United Nations Educational, Scientific and Cultural Organization. (2017). *A guide for ensuring inclusion and equity in education*. <https://unesdoc.unesco.org/ark:/48223/pf0000248254>
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. <https://sdgs.un.org/2030agenda>
- Yoo, J. H. (2016). The effect of professional development on teacher efficacy and teachers' self-analysis of their efficacy change. *Journal of Teacher Education for Sustainability*, 18(1), 84–94. <https://doi.org/10.1515/jtes-2016-0007>
- Želvys, R., Jakaitienė, A., & Stumbrienė, D. (2017). Moving towards different educational models of the welfare state: Comparing the education systems of the Baltic countries. *Filosofija. Sociologija*, 28(2), 139–150. <http://mokslozurnalai.lmaleidykla.lt/filosofijasociologija/2017/2/7395>

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