CHAPTER 3
TEACHER RESEARCH LITERACY IN LITHUANIA THROUGH NATIONAL FRAMEWORKS AND ACTION RESEARCH CASE STUDIES

Milda Ratkevičienė, Jolita Horbačauskienė, Berita Simonaitienė and Edita Štuopytė

National Context for Teacher Research Literacy Policy

Lithuanian higher education institutions train teachers for pre-school, primary, secondary, and non-formal education, as well as vocational teachers, social pedagogues, and special educators for the country's education system. There are four different pathways to becoming a teacher in Lithuania:

- by completing a university or college undergraduate degree programme in pedagogy, leading to a bachelor's or professional bachelor's degree in educational sciences and a formal teacher qualification.
- by completing modules in pedagogy alongside a university or college undergraduate degree programme in a non-pedagogical field, leading to a bachelor's or professional bachelor's degree in the main field of study, plus a teacher qualification.
- by completing a one-year non-degree pedagogical programme, open to individuals who already hold at least an undergraduate qualification degree.
- by having teaching competences acquired through teaching practice and/or non-formal education formally recognised in accordance with procedures established by law (Association of Lithuanian Higher Education Institutions for Centralised Admissions, n.d.; Ministry of Education, Science and Sport, 2010).

Depending on the chosen pathway, the duration of studies ranges from one year (60 ETCS) to four years (240 ETCS). The graduate degree does not lead to a teaching qualification corresponding to the sixth level of the Lithuanian Qualifications Framework and the European Framework for Lifelong Learning. However, it does lead to the development of higher competences in subject didactics, education, and educational activities (Ministry of Education, Science and Sport, 2015).

In Lithuania, research literacy education is integrated into the curriculum of teacher education study programmes. However, because, as noted above, there are several different routes to obtaining a teacher qualification, research literacy education is understood and implemented in different ways. For example, in first-cycle study programmes that also lead to a teaching qualification – in line with the description of the group of education and development fields of study (Ministry of Education, Science and Sport, 2015) – the student will acquire certain skills in conducting research, such as identifying a problem, formulating an objective, conducting a literature analysis, developing a research methodology, collecting and analysing data, and applying research to solve problems. In contrast, non-degree pedagogy programmes, which are designed for practice-oriented teachers, do not formally require the development of research competencies. The development of these competences is usually reflected only in the final project (3 ECTS), which is oriented towards the investigation of practical activities (Ministry of Education, Science and Sport, 2010). However, in terms of the specific competences required for a practitioner-educator and regulated by legislation, research- and data-analysis-oriented cognitive competences – like all other competences included in the teacher qualification – must be continuously developed throughout the entire period of active professional practice (Ministry of Education, Science, and Sport, 2023). The development of teachers' research literacy competences is of great importance in both practical and scientific contexts, and research-based pedagogical activities have been a priority in Lithuanian education policy for several years now (Jakavonytė-Staškuvienė et al., 2023; Rutkienė & Kaminskienė, 2023). Thus, it is natural that the scientific basis is an important element not only of teacher education but also of teachers' professional practice itself.

Jakavonytė-Staškuvienė et al. (2023) emphasise that Lithuania seeks to develop teachers who ground their pedagogical practice in the systematic development of reflection skills. According to Pečiuliauskienė (2011, p. 113), a teacher-researcher is "a practitioner who continuously reflects on his/her own practice, organises

research on pedagogical activities, and applies various research methods" (authors' translation), with research activities directed towards 1) teachers' own research activities and 2) the supervision of students' research activities. However, there is still a lack of research that reveals how to organise these activities in a qualitatively robust way (Jakavonytė-Staškuvienė et al., 2023). Studies show that teachers in Lithuania often lack skills in data analysis and in applying research findings to practice, including setting specific goals, collecting data, and planning interventions to achieve those goals (Melnikova et al., 2023).

As Druskienė (2021) notes, teachers do not associate research activities with their professional (pedagogical) work. At best, they consider them as a complementary task and assume that only scientists, researchers, or experts – not teachers – can conduct research. However, according to Jakavonytė-Staškuvienė et al. (2023), teachers need to be able to investigate students' performance, select appropriate content, and create a supportive learning environment. Various studies (Batuchina et al., 2022; Sabaliauskas et al., 2018) have shown that a lack of specific knowledge – such as difficulties in correctly interpreting data or planning data-based interventions – prevents teachers from applying innovative, research-oriented tools and methods in their practice. Therefore, teachers need to develop a sufficient level of data literacy that enables them to transform information into practical knowledge and to engage in the collection, analysis, and interpretation of different data types, as well as make pedagogical actions based on these data (Melnikova et al., 2023; Jakavonytė-Staškuvienė et al., 2023).

Teaching Class: Action Research Assignment

Introduction to the Case

This case presents a teacher qualification programme designed to highlight the development of teachers' research competences. The programme targets those who already hold a bachelor's degree, are working, or intend to work as teachers, but still need a qualification. In the 2023-2024 academic year, 60 students were enrolled. Approximately 20 were preparing to become STEAM subject teachers, around 20 to become teachers of languages, history, and other humanities subjects, and the remainder to become teachers of preschool education, primary education, sports, and other subjects not included in the first two groups. The programme lasts one year (60 ECTS) and culminates in a final project in which students assess changes in six competences related to the teacher profession throughout their studies. The first of these, research competence, is mandatory

for all students. Students can select the remaining five competences from various educator competence frameworks, such as the Digital Competence Framework for Educators (DigCompEdu) or the Competence Inventory for Teachers and Student Support Professionals (in Lithuanian). They analyse the development of their research competence in detail, such as describing specific activities, developing a research design, formulating a research question, collecting and analysing data, and formulating recommendations for improvement.

During their studies, students complete the teaching internship (integrated school-based practice) under the guidance of school-based mentor teachers. The assignments for the Pedagogical Internship module are prepared, supervised, and evaluated by the university lecturers. The module's learning outcomes specify that upon completion, students will be able to plan, conduct, analyse, and evaluate their pedagogical activities, make appropriate choices, and apply action research (AR) methods. One key assignment requires students to plan, conduct, and report on AR. The assignment aims to develop and strengthen researcher attitudes, deepen understanding, and build skills in applying AR methodology to pedagogical practice, while developing core research competencies, such as identifying research needs and problems, collecting and analysing data, and presenting results.

The AR assignment consists of two parts: in the fall semester, students plan the AR through an action research design; in the spring semester, they implement, document, and reflect on the AR by producing a reflective action research report. This assignment requires 65 hours of student workload in the fall semester and 80 hours in the spring semester. Prior to commencing the AR project, a two-hour contact seminar introduces and discusses the methodology, assignment requirements, and the AR process. Detailed instructions for conducting AR, reporting and reflection forms, and descriptions of core principles, methods, and examples of AR are provided via Moodle. Additionally, two one-hour tutorials offer interim feedback on the AR design and report drafts, supplemented by individual question-and-answer sessions.

Feedback from observers

Observers provided feedback across three thematic areas:

Interaction patterns

Observers noted that the lecture was mostly constructed on a lecturer-student interaction framework, with the instructor delivering most of the content and

reserving the remaining time for a question-and-answer session that included some student-student interactions. This format was deliberate, as the lecture introduced students to their teaching internship, during which they must conduct pedagogical AR. The instructor covered key topics – such as AR design, implementation, reporting, and reflection – and outlined the course assignment, which will be assessed as their final project. Consequently, the lecturer-student format best served these objectives. Observers also questioned whether incorporating more interactive learning methods – such as small group discussions where students could share their insights on AR or their experiences – might be appropriate. However, the instructor's experience shows that, given the limited classroom time in the Pedagogical Internship module, the lecturer-student interaction format during sessions is the most effective. These sessions deliver essential AR guidance, with lectures recorded for absent students due to the mixed-mode delivery. Primary interaction occurs instead during individual supervision tutorials, where students address specific AR-related questions and challenges.

Content

Observers highlighted the importance of AR in initial and in-service teacher education, which one observer described as "potentially powerful professional learning". They praised the consistency of the information provided, the emphasis on essential elements, and detailed coverage of the assignment: structure, AR process stages, competences to be developed, and time management. This blend of theoretical and practical approaches is crucial for constructing students' AR knowledge and is necessary for this research context. Observers recommended grounding the AR presentation more firmly in scientific literature – by discussing different approaches to AR and citing more scientific sources – and questioned the absence of references to course readings or other literature in the instructor's slides. However, the list of required and supplementary readings for AR is provided in the course description on Moodle.

An observer also questioned why a source referenced in the slides was not included in the list of required readings in the course description. However, given that the course description is a rather static document updated only at a certain point in time, the instructor occasionally includes additional sources deemed useful for complementing the listed literature and adding value to the students' AR work. Another observer noted that the instructor's views appeared to contradict a specific source they cited. However, as with any scientific discussion, different perspectives on AR are possible; neither position represents the sole correct interpretation, and the instructor's stance simply represents one of many views on AR.

Scientific grounding of the assignment

In the feedback analysis, observers recommended strengthening the scientific grounding of the assignment. Specifically, they suggested that students be required to justify the relevance of their work beyond only their own needs and to base their search for solutions to the problem in scientific reasoning and research-based insights. However, as noted by the instructor, the research method used was deliberately chosen for its practicalities. This choice was also influenced by the specificity, limited duration, and limited scope of the study itself, as well as by the overarching aim of preparing students for the practical realities of teaching in educational institutions. From this perspective, the assignment was designed to enable students to address authentic problems faced by in-service teachers and to find the most appropriate solutions. Furthermore, the instructor highlighted that AR was chosen because it is widely regarded as a research method that is relatively accessible to practitioners. Unlike more theoretically demanding research approaches, AR is easy to understand and apply within professional practice, making it particularly suitable for teacher education contexts.

However, it is also important to note that one of the observers pointed out that during the discussion of possible topics, it became evident that the students were already aware of ethical issues and personal data protection when research involves children. This finding demonstrates that these students entered the non-degree pedagogical programme with basic research competences acquired during their undergraduate studies. According to the instructor's experience, such prior knowledge and basic research competences enable students to produce high-quality AR projects that are strongly practice-oriented while still adhering to basic research principles.

Critical insights into practice given the received feedback

Observers' feedback and instructor's reflections after the observation and subsequent discussions provide valuable insights into further course development. In particular, the feedback highlights two key areas for improvement: 1) the introduction of more varied forms of interaction during the lecture, and 2) the integration of more activities related to engaging with scientific literature. The following section presents concrete examples of how course practices can be improved through the integration of scientific content and interactive elements in lectures.

Regarding interaction as a possible means for improving the course, changes can be implemented in both teaching formats: lectures and the post-lecture tutorials. In terms of interaction during lectures, one of the observers recommended considering a flipped classroom approach. This suggestion represents a very pertinent and useful insight that could be applied either fully or partially within course design. For example, it may enhance student engagement and promote student-teacher interaction during lectures. With this approach, students would attend the lecture having completed the assigned readings and having prepared relevant questions in advance, thereby allowing in-class time to be used more effectively for discussions, clarification, and deeper engagement with course content. Regarding post-lecture tutorials, combining individual tutorial supervision with group tutorials could be beneficial. Many of the challenges students encounter while conducting AR – especially in the early stages – are common across projects, and a substantial proportion of individual tutorial time is spent on discussing these same issues. Therefore, introducing group tutorials would provide a more efficient use of instructional time by allowing shared concerns to be discussed collectively. At the same time, individual tutorials, which are necessarily time-limited, could focus more on individual issues related to each student's specific AR topic.

With regard to strengthening the integration of scientific literature into the module, this can be done in two complementary ways: 1) by engaging students to read scientific literature in preparation for lectures, and 2) by encouraging them to ground their AR processes in relevant scientific literature. Regarding preparatory reading, the previously referred to recommendation to adopt elements of a flipped classroom approach is relevant. By engaging students with scientific literature prior to lectures, students would be better prepared to participate actively in class. A flipped classroom format could be used to ascertain students' existing knowledge of AR and other research concepts, thus making it possible to identify knowledge gaps and variations in preparedness. Such insights would allow the instructor to adapt lecture content accordingly, for example, by adjusting the emphasis placed on specific theoretical concepts, recommending targeted readings during the course, and ensuring that uneven levels of prior knowledge are addressed through systematic engagement with scientific literature.

As one of the observers noted, incorporating selected readings from the theoretical literature on AR would broaden students' understanding of the methodological foundations of AR. Such engagement would likely enable

students to engage more actively in the lecture, raise relevant questions, contribute to discussions, and produce stronger AR projects. With regard to supporting students in grounding their AR processes in scientific literature, consideration should be given to introducing a requirement that students draw on a limited number of scientific sources. These sources could be integrated throughout the research process, including both the description of the research process itself, the analysis of the data, and the formulation of recommendations.

At the same time, it is important to acknowledge the specific context of the course under analysis. As a Pedagogical Internship module, the course is primarily focused on practical activities within a specific educational institution. The observed lecture, in particular, was narrowly focused on the development of pedagogical competences, pedagogical internship, and teacher qualification. The programme is limited to 60 ECTS, of which 30 ECTS are devoted to modules in pedagogy (including a maximum of 3 ECTS for the final project) and 30 ECTS to the pedagogical internship. When pedagogy is pursued as an integrated part (minor studies) of undergraduate studies, the development of the students' scientific competences follows the disciplinary requirements for that field. However, when pedagogy is undertaken as an additional, non-degree study programme – as in the case of the course under analysis – then students must have completed undergraduate and postgraduate studies. Consequently, students enter the programme with research competences from their previous studies, an insight also highlighted in the observers' feedback. In light of these considerations, the development of scientific competences in pedagogy studies is integrated into the courses aimed at developing pedagogical competences. Programme lecturers thus make every effort to integrate scientific content into the development of practical competences, thus ensuring that professional training is informed by foundational research principles.

Reflective Comments

The analysis of observer feedback collected during the pre-observation, observation, and post-observation phases reveals a recurring concern regarding the limited degree of "scientific grounding" in the course. Observers emphasised the need for a stronger focus on the development of research competences and the transfer of research-related knowledge. This concern was expressed across multiple dimensions of the course, including lecture content, the formulation of assignments, and the monitoring and assessment of students' work. However, it

should be noted that, in some cases, the development of research competences in teacher education depends on specific legal regulations. In the case of pedagogical studies, whether pursued as minor studies or as a non-degree programme, current legislation does not stipulate the development of students' scientific competences. This legislative orientation is also reflected in the formal requirements for the final project, which integrates theory and practice in pedagogical studies, leading to a teaching qualification. Students are required to produce an original, independently prepared non-degree qualification project, the primary purpose of which is to "demonstrate the results of the study achieved by collecting, systematising, reflecting on and critically analysing, integrating and applying theoretical, practical, empirical information on the objects and subjects of pedagogical activity" (Description of the Group of Educational Studies, 2015, point 40.3.2.1., authors' translation).[2] Moreover, the final project in non-degree pedagogical studies emphasises the application of knowledge in practice rather than the demonstration of explicit scientific competences.

The choice of AR is deliberate. As Elliott (2009) argues, one of the major challenges facing teacher educators is the need to reconcile their dual roles as educational researchers and practitioners. From this perspective, teacher educators are encouraged to understand their pedagogical role as an opportunity to empower pre-service teachers to develop, test, and refine shared understandings to pursue worthwhile educational goals. This entails orienting research activities toward addressing some of the most pressing and contextually grounded problems encountered by teachers in classrooms and schools (Elliot, 2009). In this context, AR – with its strong emphasis on practical applicability and its close alignment with research activities embedded in professional practice – represents a particularly appropriate approach for incorporating a research aspect into programmes primarily focused on the development of practical pedagogical competences.

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