

The Limited Classroom Application of Teacher Digital Literacy Training and Its Improvement Paths

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Abstract

Teacher digital literacy training is an important part of teacher professional development, but its effect is often limited when training content is not fully transferred into classroom practice. Teachers may learn how to use digital tools but still find it difficult to connect them with lesson goals, subject content, student needs, and real classroom conditions. This paper examines the main forms of limited classroom application and the reasons behind them. The discussion focuses on the separation between training and teaching needs, the strong focus on tool operation, limited practice opportunities, weak follow-up support, completion-based evaluation, and the practical costs of digital teaching. The paper argues that training should start from real classroom problems, connect digital skills with subject teaching, provide repeated practice, offer continued support, and evaluate changes in teaching practice rather than course completion alone. Teachers also need enough space to decide when and how digital tools should be used.

Keywords: teacher digital literacy, teacher training, classroom application, professional development, digital teaching

1. Introduction

Digital literacy is now an important part of teacher professional development. Although training can improve teachers' technical skills, many teachers still struggle to apply what they learn in daily classroom teaching. They may use digital tools only for basic tasks or return to familiar methods after a short trial.

This gap exists because classroom technology use depends on lesson goals, student needs, available resources, time, and classroom conditions. Training often focuses on how tools work rather than how they can solve specific teaching problems. Therefore, digital literacy training should be evaluated not only by participation or technical performance, but also by whether teachers can use technology appropriately and consistently in real classrooms. This paper examines the reasons for this transfer gap and discusses ways to improve training content, practice, follow-up support, and evaluation.

2. Teacher Digital Literacy Training and Classroom Application

2.1 The Main Goals of Teacher Digital Literacy Training

Teacher digital literacy training is not limited to teaching teachers how to operate devices or software. Its basic purpose is to help teachers use digital technology in ways that support teaching. This requires both technical skills and the ability to make suitable choices in real teaching situations.

Basic digital knowledge and skills remain an important part of training. Teachers need to know how to use common teaching platforms, digital devices, presentation tools, online resources, and communication systems. They also need basic skills in file management, information search, data use, and online communication. Without these skills, even simple digital teaching tasks can become difficult. However, technical ability is only

the starting point. Knowing how to use a tool does not mean knowing how to use it in a lesson.

The selection of digital teaching resources is another important part of digital literacy. Online resources are easy to access, but their quality varies greatly. Teachers need to judge whether a resource is accurate, suitable for the lesson, and appropriate for the age and learning level of students. A video, online exercise, or digital textbook may contain useful information, but it may not match the purpose of the lesson. Teachers also need to avoid adding digital content only because it is attractive or convenient. Resource selection should be linked to what students need to learn.

Digital lesson design requires a stronger connection between technology and teaching. Teachers need to decide where digital tools should appear in a lesson and what role they should play. A tool may be used to explain a difficult concept, organize classroom interaction, provide practice, collect student responses, or support review. These uses require different forms of lesson design. If technology is added after the lesson structure has already been decided, it can easily become an extra part with little teaching value. Training should help teachers think about technology while they are planning the lesson, rather than treating it as a separate technical step.

Teacher digital literacy also includes the use of technology to support student learning. Digital tools can provide different types of materials, allow students to work at different speeds, and give teachers access to learning records and student responses. These functions may help teachers identify common mistakes or provide more focused support. Digital assessment is also part of this process. Online quizzes, learning platforms, and digital records can provide useful information, but teachers still need to interpret the results. A score or data report cannot explain every learning problem. Teachers must connect the information with classroom observation and their knowledge of students.

Responsible use of digital technology is equally important. Teachers need to consider student privacy, information security, copyright, screen time, and the reliability of online content. They also need to understand that not every digital tool is suitable for every teaching task. Some lessons may work better through direct explanation, discussion, reading, writing, or hands-on activities. Digital literacy includes the ability to decide when technology is useful and when it is not necessary.

2.2 What Classroom Application Means

Classroom application should not be measured by how many digital tools a teacher uses. A classroom filled with devices, platforms, and digital materials is not necessarily a digitally effective classroom. The more important issue is whether technology helps the teacher solve a teaching problem or helps students understand, practice, discuss, or apply what they are learning.

This distinction matters because digital teaching can remain at a very simple level. A teacher may replace a blackboard with presentation slides or play a video instead of giving an oral explanation. These changes make technology visible, but the basic teaching process may remain the same. In such cases, digital tools change the form of teaching more than the learning process. The classroom use of technology becomes more meaningful when it changes how teachers organize learning or respond to student needs.

Classroom application also depends on teaching objectives. Teachers need to know what students should learn before deciding which technology to use. If the goal is to help students understand an abstract idea, a visual simulation may be useful. If the goal is to improve discussion and argument, a digital response tool may help collect different views. If students need repeated practice, an online exercise system may provide quick feedback. The value of the tool comes from its connection with the task, not from the tool itself.

Subject content also affects the way digital technology is used. The same tool may have different value in different subjects. A digital map may be useful in geography, while a simulation may be more suitable for science. Language teaching may use audio, video, or collaborative writing tools. Mathematics teaching may use visual models or immediate practice feedback. General training can introduce common tools, but teachers still need to adapt them to the logic and needs of their own subjects.

Student differences are another part of classroom application. Students do not have the same level of digital skill, learning ability, attention, or access to devices. A digital activity that works well for one class may not work in another. Teachers need to judge whether students can use the tool without being distracted and whether the activity helps those who learn at different speeds. They may also need to prepare non-digital alternatives when equipment or access is limited.

Classroom conditions can further shape teachers' choices. Time, internet quality, available devices, class size, and school rules all affect whether a digital method can be used smoothly. A method demonstrated in training may require stable equipment and enough preparation time. In daily teaching, these conditions may not always be available. Teachers often have to simplify or adjust what they learned.

For this reason, classroom application should be understood as a change in teaching decisions and teaching

practice. A teacher who has completed digital literacy training should be able to judge whether a tool fits the lesson, adapt it to the classroom, and stop using it when it does not improve learning. The key point is not frequent technology use, but appropriate use based on teaching goals, subject needs, student conditions, and classroom reality.

3. Main Problems in the Classroom Application of Digital Literacy Training

3.1 Training Content Is Separated from Real Classroom Needs

A common problem in digital literacy training is the gap between what teachers learn and what they need in daily teaching. Many training courses spend considerable time introducing software functions, online platforms, digital resources, and operating procedures. Teachers learn where to click, how to upload materials, how to create online activities, or how to use a new application. These skills are useful, but they do not directly answer the questions teachers face in class.

Classroom problems are usually more specific. A teacher may need to explain a difficult concept, keep students focused, support students with different learning levels, or check whether students have understood the lesson. In these situations, knowing how a digital tool works is not enough. Teachers also need to know whether the tool fits the problem and how it should be used without interrupting the lesson.

This gap becomes clear when teachers return to their own classrooms. They may remember the steps taught in training but still be unsure where the tool fits into a lesson. Some tools may require more preparation time than teachers can provide. Others may not suit the subject, the age of the students, or the classroom environment. Teachers then use only the simplest functions or stop using the tool after a short period.

The problem is not always a lack of digital ability. Teachers may already have enough technical knowledge. What is missing is a clear link between that knowledge and daily teaching tasks. When training gives limited attention to real classroom problems, teachers have to make this connection by themselves.

3.2 Training Emphasizes Learning Tools More Than Designing Teaching

Digital literacy training often treats technology as a separate skill. A course may be organized around a particular platform, application, or type of software. Teachers are shown its main functions and asked to complete several practice tasks. This makes the training easy to organize, but it can place too much attention on the tool itself.

Teaching does not begin with a digital tool. It begins with decisions about what students need to learn, what difficulties they may have, and what teaching activities can help them. Technology should be selected after these questions are considered. When training starts from the tool, teachers may try to find a place for it in the lesson even when it is not needed.

The weak connection between digital skills and lesson design can also lead to separate digital activities. A teacher may add an online quiz, a short video, or an interactive task because these methods were introduced during training. The activity may look different from traditional teaching, but it may have little connection with the main learning goal. Students complete the activity, yet the teacher may not use the results to adjust later teaching.

Subject differences receive limited attention in some general training programs. The same digital tool is introduced to teachers from different subject areas, even though their teaching tasks are not the same. A tool that supports visual explanation may be useful in one subject but have little value in another. Without subject-based examples and lesson design practice, teachers may find it difficult to judge how a general digital skill can be used in their own teaching.

3.3 Training Tasks Differ from Everyday Teaching Conditions

Training activities are often completed under conditions that are easier to control than normal classroom teaching. The equipment is prepared in advance, internet access is stable, the task has a clear structure, and participants know what they are expected to do. Trainers can also provide immediate help when technical problems appear. These conditions make it easier to demonstrate the value of a digital tool.

Daily classrooms are less predictable. Teachers have limited lesson time and must deal with student questions, different learning speeds, classroom order, equipment problems, and changes in the teaching schedule. A digital activity that works smoothly during training may take too much time in a real class. Students may have trouble logging in, devices may not work as expected, or an online task may take longer than planned.

Teachers also have to consider the cost of preparation. A digital lesson may require teachers to search for materials, prepare online tasks, test links, check devices, and prepare a backup plan. These tasks add to normal lesson preparation. If the teaching benefit is small or uncertain, teachers may decide that the extra work is not worthwhile.

Demonstration tasks can also create expectations that are difficult to meet. Training examples are often carefully

prepared and show a smooth teaching process. Real lessons rarely follow such a clear pattern. Student responses may differ from what the teacher expected, and the teacher may need to change the activity during the lesson. When teachers are trained mainly through ideal examples, they receive little guidance on how to deal with these common classroom problems.

3.4 Classroom Use Often Remains at a Surface Level

Limited classroom transfer does not always mean that teachers stop using digital tools. In many cases, they continue to use technology, but only for simple tasks. Presentation slides, videos, digital textbooks, online resources, and basic response tools are common examples. These uses can make teaching more convenient, but they do not always change how students learn.

Presentation is a clear example. Teachers may replace writing on the board with slides or replace printed pictures with digital images. The form of delivery changes, but students may still mainly listen, watch, and record information. The teacher remains the main source of content, and students have little change in their role during the lesson.

A similar problem can occur with digital interaction. Teachers may use online quizzes, polls, or response systems to make the classroom appear more interactive. If the answers are collected but not used to identify learning problems or adjust teaching, the activity adds a digital step without changing the learning process. Technology is present, but its teaching value remains limited.

Surface-level use can also result from the way digital teaching is understood. When visible technology use is treated as a sign of good digital teaching, teachers may feel pressure to include digital tools even when the lesson does not require them. Attention then shifts from whether students learn better to whether technology appears in the classroom.

Some teachers also stay with simple uses because they are easier to control. Playing a video or showing slides carries less risk than reorganizing a lesson around student collaboration, digital feedback, or different learning paths. Deeper use requires more planning and stronger classroom control. Without enough practice and support, teachers may choose forms of digital teaching that are familiar, stable, and easy to manage.

4. Why Classroom Transfer Remains Limited

4.1 Training Design Gives Too Little Attention to Classroom Context

Digital literacy training is often designed for a broad group of teachers. The same course may be used for teachers from different subjects, grade levels, and teaching environments. This makes training easier to organize, but it also reduces its relevance to daily classroom work. A language teacher, a science teacher, and a mathematics teacher may all learn the same digital tool, even though they use technology for very different teaching purposes.

Teachers also have few chances to bring their own classroom problems into the training process. Many courses use fixed examples prepared by trainers. These examples may explain the functions of a tool clearly, but they do not always match the problems teachers face in their own lessons. A teacher may want to know how to support students with different learning levels, how to use digital feedback in a large class, or how to avoid losing lesson time when using a platform. If these issues are not included in training, the teacher must find solutions later without much guidance.

Classroom context also affects whether a digital method can be used at all. Available devices, internet quality, class size, student age, lesson length, and subject content can all change the result. A method that works well in a small training group may be difficult to use in a crowded classroom. When these conditions are not considered during training, teachers may understand the method but still find it hard to apply.

4.2 Short-Term Training Provides Limited Opportunities for Practice

Many digital literacy programs are short courses, workshops, or online learning tasks. They can introduce a new tool or method within a limited period, but classroom use requires more than understanding the basic steps. Teachers usually need to try the method several times before they know how to fit it into a lesson.

Some problems only appear during real teaching. An activity may take longer than expected. Students may misunderstand the instructions. A platform may work slowly. A digital task may create more classroom management problems than the teacher expected. These situations cannot be fully learned through demonstrations or short practice tasks.

Teachers also need time to adjust their lesson plans after each attempt. A method that does not work well the first time may become useful after changes in task design, timing, or student grouping. Short-term training rarely leaves enough space for this process. The training ends before teachers have tested the method in different lessons.

Reflection is also limited when training is compressed into a short period. Teachers may finish a task and move directly to the next topic. They have little time to think about what worked, what failed, and why. Without repeated use and reflection, new digital methods often remain temporary skills rather than part of regular teaching.

4.3 Follow-Up Support After Training Is Weak

Support often decreases once formal training ends. During the course, teachers can ask trainers for help and receive clear instructions. After returning to their classrooms, they may have to solve new problems alone.

Technical problems are only one part of this difficulty. Teachers may know how to fix a login problem or change a platform setting, but they may not know how to adjust the teaching activity itself. For example, students may focus too much on the device, the task may not produce useful responses, or the digital activity may take time away from more important parts of the lesson. These are teaching problems rather than simple technical problems.

Without follow-up support, small difficulties can reduce teachers' willingness to continue trying. If a method fails several times, teachers may decide that it is not suitable for their classes. They may return to familiar methods because these methods are easier to manage and involve less risk.

Peer support is also not always built into training programs. Teachers often face similar problems, but they may have few regular opportunities to discuss classroom use, compare lesson designs, or share adjustments that worked. In this situation, the experience gained by one teacher may remain personal rather than becoming useful to others.

4.4 Evaluation Focuses More on Completion Than on Teaching Change

The results of digital literacy training are often measured through indicators that are easy to record. These may include attendance, course hours, online learning records, test scores, certificates, or completed assignments. Such information can show whether teachers finished the training, but it says little about what happens in their classrooms later.

A teacher can complete a digital course successfully without changing daily teaching practice. Online assignments may also be completed mainly to meet course requirements. If the evaluation ends when the training ends, there is little reason to examine whether the new knowledge is used after the course.

This form of evaluation can also affect how teachers approach training. When course completion becomes the main goal, teachers may pay more attention to meeting formal requirements than to testing new methods in class. They learn what is needed for the assessment, but classroom use may remain limited.

Teaching change is harder to measure because it takes time. It may involve changes in lesson design, classroom interaction, feedback, student participation, or the teacher's choice of resources. These changes are not easily shown by a certificate or a test score. They require classroom evidence and continued observation after training.

4.5 Teachers Face Practical Costs When Trying New Digital Practices

Using a new digital method usually increases the amount of preparation needed at the beginning. Teachers may need to search for suitable materials, create digital tasks, test links, check devices, prepare student instructions, and think about possible technical problems. They may also need a backup plan in case the system does not work.

These tasks take time. Teachers already have lesson preparation, marking, student support, meetings, and other duties. If a digital method requires much more preparation but brings only a small improvement in learning, it is difficult to use it regularly.

Technical uncertainty also creates pressure. Even a well-prepared digital lesson may be interrupted by unstable internet access, device failure, software updates, or student login problems. The teacher must then solve the problem while keeping the class under control. This risk can make familiar teaching methods more attractive.

Teachers also consider whether a new method is worth the effort. If they cannot clearly see how it improves student understanding, participation, or feedback, they may not continue using it. A digital activity may look new, but if it adds extra work without solving a real teaching problem, it is unlikely to become part of everyday practice.

5. Improvement Paths for Stronger Classroom Application

5.1 Start Training from Real Classroom Problems

Digital literacy training should begin with teaching problems rather than digital tools. Teachers usually care less about what a platform can do than about whether it can help them solve a problem in class. Training topics can therefore be built around lesson planning, classroom interaction, student assessment, homework feedback, and

support for students with different learning needs.

This approach changes the role of technology in training. A tool is no longer introduced as the main content of the course. It becomes one possible way to deal with a teaching task. For example, a training activity on classroom feedback can begin with the problem of finding out which students have understood a concept. Teachers can then compare different methods, including digital response tools, short quizzes, or non-digital questioning. The focus remains on the teaching purpose.

Teachers should also be encouraged to bring their own classroom cases into training. A teacher may have difficulty keeping students involved in group work or giving timely feedback in a large class. These problems can become training tasks. Teachers can design a possible solution, try it, and discuss whether the digital method is useful. This makes the training more closely connected with daily teaching.

5.2 Connect Digital Skills with Subject Teaching

General digital skills need to be linked with subject teaching. Teachers from different subjects do not use technology in the same way. A tool that works well in science may have limited value in language teaching. A useful training program should show how digital methods can support the learning goals of different subjects.

Subject-based examples can make this connection clearer. Language teachers may need digital tools for listening practice, writing feedback, or text discussion. Mathematics teachers may use visual models, graphing tools, or practice systems. Science teachers may use simulations, videos, or digital experiments. Art and music teachers may need tools for creation, recording, or performance review.

Training tasks should also require teachers to explain why a tool is suitable for a particular lesson. This helps move attention away from tool functions. Teachers need to think about the learning goal, the type of student activity, and the value of the digital method. If a simpler method works better, there is no need to use technology.

Subject teaching can also be used as the main setting for training practice. Teachers can work on a real unit or lesson from their own subject rather than completing a general digital task. This gives them a clearer idea of how the method can be used after the training ends.

5.3 Add Classroom Practice to the Training Process

Teachers need chances to use new digital methods in real classrooms during the training period. Demonstrations and practice tasks can show how a tool works, but they cannot fully prepare teachers for the problems that appear in daily teaching.

Classroom practice does not need to begin with a large change. Teachers can test one small method in one part of a lesson. They may use a digital quiz to check understanding, try an online discussion task, or use a shared document for group work. A small trial creates less pressure and makes it easier to see what needs to be changed.

The experience from the trial should return to the training process. Teachers can discuss what happened in class, what problems appeared, and how students responded. They can then revise the activity and try it again. This cycle of design, trial, discussion, and revision gives teachers time to turn a new method into a usable classroom practice.

Repeated use is important because the first attempt may not work well. A teacher may choose the wrong task length, give unclear instructions, or use a tool that does not fit the students. These problems are easier to correct when the training allows more than one classroom trial.

5.4 Build Continuous Support After Formal Training

Support should not stop when a workshop or course ends. Many teachers meet the most difficult problems only after they begin using a new method on their own. They may need help with lesson design, classroom management, student response, or technical issues.

Schools can provide regular spaces for teachers to discuss these problems. Small teaching groups can share examples, compare lesson plans, and talk about failed attempts as well as successful ones. This type of discussion is often more useful than another general introduction to a new tool.

Mentoring can also help teachers who are less confident with digital teaching. A more experienced teacher can observe a lesson, review a task, or suggest a simpler way to use a tool. The aim is not to create a fixed model for everyone. The support should help teachers adjust a method to their own classroom.

Shared resources can reduce repeated work. Teachers often spend time searching for materials or creating similar digital tasks. A common resource space can include lesson examples, activity templates, technical guides, and notes about common problems. These materials are more useful when they come from real classroom use rather than from tool descriptions alone.

5.5 Change the Evaluation of Training Effectiveness

Training evaluation should pay more attention to classroom use. Attendance, course hours, test scores, and certificates can show whether teachers completed the program, but they cannot show whether teaching practice changed.

Lesson plans can provide some evidence of transfer. They can show whether teachers are able to connect digital tools with learning goals and student activities. Classroom observation can provide more direct information. It can show whether technology supports teaching or simply adds another step to the lesson.

Teacher reflection is also useful. After using a digital method, teachers can record what worked, what caused problems, and what they would change next time. These reflections can help trainers understand whether the course content is suitable for real classrooms.

Student activity should also be considered. The value of digital teaching is not shown by the number of tools used. It is more important to see whether students receive clearer feedback, take part in useful interaction, understand difficult content more easily, or gain more chances to practice. A teacher who uses one digital tool effectively may show stronger classroom transfer than a teacher who uses many tools without a clear purpose.

5.6 Give Teachers Space to Adapt Digital Practices

Digital teaching should not become a fixed model that every teacher is expected to copy. Teachers work with different subjects, students, class sizes, schedules, and resources. The same method may produce different results in different classrooms.

Teachers need room to change what they learned during training. They may shorten an activity, replace one tool with another, combine digital and non-digital methods, or decide not to use technology in a particular lesson. These choices are part of professional teaching rather than signs that the training has failed.

Training should also help teachers judge the limits of digital methods. Some tasks can be completed more clearly through direct explanation, discussion, reading, writing, or hands-on work. A digital tool should be used when it adds value to the lesson, not because its use is expected.

Giving teachers more choice can also make digital practices easier to maintain. When teachers are allowed to select methods that fit their own teaching style and classroom conditions, they are more likely to continue using them. The purpose of digital literacy training is to improve teachers' ability to make suitable decisions about technology, not to make every classroom look the same.

6. The Boundary of Effective Digital Literacy Training

Digital literacy training should not encourage teachers to use more technology simply for the sake of using it. A lesson is not better because it includes more digital tools. The real question is whether the technology helps students understand the content, take part in the lesson, receive useful feedback, or complete a learning task more effectively.

Some teaching activities do not need digital support. Direct explanation may be more suitable when a teacher needs to clarify a difficult point. Reading, writing, discussion, experiments, and face-to-face interaction may also work better without extra digital steps. If technology makes the task more complicated or takes attention away from the learning goal, its use may have little value.

Teachers therefore need the ability to judge when a digital tool is useful. This judgment depends on the lesson goal, subject content, student needs, available time, and classroom conditions. A tool may be suitable in one lesson but unnecessary in another. Training should help teachers compare different options instead of giving the impression that digital methods are always preferred.

The value of training should also be judged by the quality of teachers' decisions. A teacher who chooses not to use a digital tool after considering the needs of the lesson may show stronger digital literacy than a teacher who uses several tools without a clear purpose. Effective digital teaching includes knowing the limits of technology.

For this reason, training needs to move beyond teaching teachers how to operate devices, platforms, and software. Teachers need to understand why a tool may be useful, when it should be used, how it can be adjusted, and when it should be replaced by another method. This type of judgment is more closely connected with classroom teaching than simple technical skill.

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