



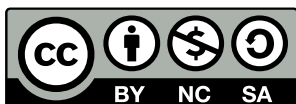
User Guide for QUALAS Trainers

User Guide

For QUALAS Trainers

QUALAS project was funded under the Erasmus+ Programme Call 2023, Round 1 KA2, Cooperation partnerships in school education, running from October 1, 2023, to September 30, 2026.

Shared under Creative Commons License CC BY-NC-SA





Contents

Glossary	2
Introduction.....	3
Purpose of the document.....	3
Project context	3
Tools and complementary materials	4
Training Module overview.....	5
How to use this guide.....	6
UNIT 1: OVERVIEW OF THE QUALITY ASSURANCE CYCLE	7
U1.1. Introduction to the concept of QA / SSE in secondary education	7
U1.2. Evidence-Informed Decision Making (EIDM).....	11
Unit 2: Learning Analytics for Quality Assurance.....	14
U2.1. What is Learning Analytics, and why does it matter	14
U2.2. Learning Analytics Types and Uses	19
U2.3. Learning Analytics in the QA/SSE Cycle Phases.....	22
U2.4. Ethical and legal/normative aspects of the implementation of LA	25
Unit 3: General vision and institutional readiness	31
U3.1. Dimensions of LA implementation.....	31
U3.2. Recommendation for Implementation and Institutional Readiness	34
Closing words	38
Further reading	38
APPENDIX A: Training Module Structure	39

Glossary

DCU:	Dublin City University – Ireland
DPIA:	Data protection impact assessment
DPO:	Data protection officer
EQAVET:	European Quality Assurance Reference Framework for Vocational Education and Training.
EIDM:	Evidence-Informed Decision-Making
INVALSI:	Istituto Nazionale per la Valutazione del Sistema Educativo di Istruzione e di Formazione – Italy
LA:	Learning analytics.
PDCA:	Plan-Do-Check-Act cycle.
QA:	Quality Assurance. In this document, the term “QA” refers to the Internal Quality Assurance process.
QUALAS:	Quality Assurance with Learning Analytics in Schools (QUALAS) is a European project funded under the Erasmus+ Programme (Call 2023, Round 1, KA2, Cooperation partnerships in school education), running from October 1, 2023, to September 30, 2026.
SSE:	School Self-Evaluation. In this document, the acronym refers to the full continuous improvement process, as used in Italy and Ireland.
UVa:	Universidad de Valladolid – Spain
VUB:	Vrije Universiteit Brussel – Flanders
GDPR:	General Data Protection Regulation

Introduction

Purpose of the document

This User Guide is a practical manual for trainers delivering the QUALAS training module. This guide provides detailed instructions for effectively facilitating the training session and seamlessly integrating the supplementary materials into the training session. Specifically, it explains how trainers can use three sets of tools:

- Content Cards: Used to deliver and outline essential theoretical concepts during content presentation phases.
- Prompting Questions: Designed to stimulate reflection, encourage peer dialogue, and facilitate the sharing of experiences among participants.
- Institutional Readiness Checklists: Configured as feedback rubrics to actively guide schools through self-assessment and practical next steps.

The guide supports trainers in providing a consistent, high-quality, and interactive learning experience that helps participants achieve the core learning outcomes across different educational jurisdictions.

Project context

The training module detailed in this User Guide is part of the QUALAS project (Quality Assurance with Learning Analytics in Schools). QUALAS is a 36-month European project funded under the Erasmus+ Programme (Call 2023, Round 1 KA2, Cooperation partnerships in school education) running from October 1, 2023, to September 30, 2026.

The central objective of the QUALAS project is to provide capacity building in secondary schools to systematically and appropriately utilise learning analytics within internal quality assurance frameworks. Specifically, the project addresses three levels of capacity building:

- Individual Level: To increase the competencies, skills, and awareness of staff members regarding the scope, methods, and ethical boundaries of learning analytics.
- Organisational Level: To create readiness and a shared lexicon that fosters deep collaboration and professional dialogue within and across secondary schools.
- Enabling Environment: To design and deploy open-licensed supporting tools and concrete training modules that facilitate long-term evidence-informed practices.

For its execution, the QUALAS project brings together a cross-national partnership combining specialised expertise in educational change management, technology-enhanced learning, and system-level performance feedback:

- Vrije Universiteit Brussel (VUB) – Belgium: Project Coordinator and lead partner for the Indicators Framework development, possessing extensive expertise in educational change management and evidence-informed practice.
- Universidad de Valladolid (UVA) – Spain: Lead partner for Tools & Training Module development, contributing expertise in learning analytics, computer science, and technology-enhanced learning.
- Dublin City University (DCU) – Ireland: Lead partner for empirical Case Studies, offering decades of research experience in quality assurance processes, internal evaluation, and inspection.

- Istituto Nazionale per la Valutazione del Sistema Educativo di Istruzione e di Formazione (INVALSI) – Italy: Lead partner for Quality Assurance & Evaluation of the project, a public research institute specialised in educational evaluation, school self-evaluation protocols, and national assessments.

The project's execution started with extensive desk research to map concepts and identify the affordances and constraints of implementing learning analytics (LA) for Quality Assurance (QA) purposes. This theoretical layer was subsequently enriched by case studies conducted across the four partner countries to capture good practices and stakeholders' training needs within their daily school contexts. The empirical and theoretical insights feed this training module and tools.

This User Guide aims to help the professionals who will deliver this open-source training module to address learning analytics for QA purposes in secondary schools at the institutional level, enabling management teams to understand complex data and obtain strategic information to take action for continuous school improvement.

Tools and complementary materials

Content Cards

Content Cards are handouts that summarise, in an infographic style, the relevant concepts discussed across the different sections of the training module and provide participants with an accessible summary of the content covered. The Cards are:

- C01. Quality Assurance and School Self-Evaluation in Secondary Education*
- C02. Evidence-Informed Decision-Making*
- C03. What is Learning Analytics?*
- C04. Affordances and Constraints of Learning Analytics*
- C05. Learning Analytics Types and Methods*
- C06. Learning Analytics in the QA/SSE Cycle Phases*
- C07. Legal/Normative Aspects of Implementing Learning Analytics*
- C08. Dimensions of LA Implementation at the Institutional Level*
- C09. Recommendations for implementation*

Prompting questions

Prompting Questions (PQs) are discussion tools introduced at specific points throughout the training module to stimulate participant engagement and reflection. The prompting questions are organised into four sections, corresponding to the training module units in which they are intended to be used:

- PQ1A. Warming-Up the Training*
- PQ1B. Internal Quality Assurance and the Use of Evidence*
- PQ2A. Affordances and Constraints of Implementing LA*
- PQ2B. Ethical Aspects of LA Implementation*
- PQ3A. Pedagogical, Technological, and School Characteristics and Culture Dimensions*
- PQ3B. Recommendations by Role*

Institutional readiness checklist (IR)

This rubric-based checklist aims to guide the assessment of each school's institutional readiness for the implementation of LA for QA purposes. It is composed of a series of statements organized by themes. In each statement, the participants can assess their level of readiness, and based on that, identify an appropriate “next step” for processing to the next level.

Examples

As complementary materials, we provide four examples, one for each jurisdiction, of learning analytics implementations in different real-world settings. These examples can be used throughout the training module to illustrate the concepts reviewed in each section.

EX1. Example from Belgium (Flanders)

EX2. Example from Italy

EX3. Example from Spain (Castilla y León)

EX4. Example from Ireland

Training Module overview

The core QUALAS training module is structured as an interactive 6- to 7-hour programme. Trainers have the flexibility to extend this duration by expanding small-group breakout sessions or other context-specific local adaptations, as needed.

The training module is composed of three units, designed in the following sequence:

Unit 1 – Overview of the Quality Assurance Cycle

Objective: Establish a conceptual baseline on Quality Assurance and Evidence-Informed Decision-Making (EIDM).

This unit begins with a theoretical overview that introduces basic concepts, such as Quality Assurance, Continuous Improvement, and the Plan-Do-Check-Act (PDCA) framework, as well as its adaptations to school settings. Cards **C01** and **C02** support this section.

The unit concludes with an open discussion using the **PQ1** tool to stimulate a collaborative peer debate on the challenges and barriers participants experience when attempting to use data in their local school self-evaluation cycles.

Unit 2 – Learning Analytics for QA in Secondary Education

Objective: Introduce the core concepts of learning analytics, examine their relationship with Quality Assurance and School Self-evaluation, and explore the related legal and ethical frameworks.

In this unit, the trainer guides participants through the definitions, types (descriptive, diagnostic, predictive, prescriptive), and methodologies of LA, with support from Cards **C03**, **C05**, and **C06**. Examples of the four jurisdictions are reviewed and discussed to demonstrate real-world implementation across the partner jurisdictions.

The unit uses the **PQ2A** tool alongside Card **C04** to facilitate an open discussion regarding the institutional affordances and technical constraints of these tools. The final block of this unit covers ethical dilemmas and GDPR alignment, presented in Card **C07** and a reflective dialogue facilitated through **PQ2B**.

Unit 3 – General Vision and Institutional Readiness

Objective: Translate the concept of learning analytics for quality assurance purposes into concrete actions, exploring institutional readiness and some practical next steps for implementation. In this part, multi-dimensional aspects of LA implementation (pedagogical, technological, cultural, and school characteristics) are presented, supported by Card **C08**. The unit aims to facilitate a wrap-up of the course content, which can be supported by the case-study recommendations in Card **C09**. The questions in **PQ3** can be used to promote discussion among participants. The final part of this module, and of the training programme overall, is a small-group activity based on the Institutional Readiness Checklist (**IR**) handout. Participants work together to assess their schools using the checklist and identify practical actions to strengthen institutional readiness.

The detailed programme of the training module is presented in Appendix A. The detailed use of the tools in the training module is covered in the following sections.

How to use this guide

In this document, trainers will find the content to be delivered in each unit, along with the related tools and a proposed instructional sequence and activities. Each content section within the units is structured as follows:

1. **Core concepts**, detailing the essential theoretical concepts that trainers should present to the participants.
2. **Supporting materials**, indicating the tools designed to be used as handouts for participants that summarise the core concepts and highlight the key points of the content.
3. **Proposed Sequence & Activities** for each topic, offering recommended instructional sequence and collaborative activities to help trainers facilitate discussion, peer dialogue, and practical application among participants. Each activity includes a suggested duration to help keep the training within the overall duration of 6.5 hours. Some activities will be marked as [optional], including those activities will extend the total duration of the training

UNIT 1: OVERVIEW OF THE QUALITY ASSURANCE CYCLE

This unit introduces the core elements of the Quality Assurance (QA) concept as a continuous process grounded in the Plan-Do-Check-Act cycle. It relates internal QA to School Self-Evaluation (SSE), focusing on evidence-informed practices to enhance—rather than replace—professional pedagogical judgment.

This unit consists of two sections, which cover the following content:

- **Section U1.1:** Plan-Do-Check-Act cycle in secondary schools and vocational training with a focus on continuous improvement. (35 minutes)
- **Section U1.2:** Internal quality assurance and the use of evidence: introduction to evidence-informed decision-making (25 minutes)

Suggested duration: **1 hour**

U1.1. Introduction to the concept of QA / SSE in secondary education

Objective: To present the concepts of quality assurance and school self-evaluation in secondary schools, introducing the Quality Assurance (QA) Cycle based on the Plan-Do-Check-Act (PDCA) framework. The EQAVET tool is introduced as a quality-assurance framework for vocational training, based on the same cycle structure.

Core content

A. Quality assurance in the educational context

Educational quality is a common concern in education systems. Various indicators and monitoring systems can be implemented to safeguard this educational quality. Most often, European countries use a combination of external and internal mechanisms to support quality assurance. *External quality assurance* refers to external bodies, such as an Inspectorate, that conduct audits with the primary aim of verifying that minimal standards are being met. *Internal quality assurance*, on the other hand, is an activity initiated by schools themselves to identify their strengths and areas for improvement.

Internal Quality Assurance (QA) is understood as a **continuous, systematic process** aimed at improving learning outcomes and teaching standards. More precisely, it can be defined as a process initiated by the school itself in which relevant members of the school community systematically describe and evaluate the school's functioning, focusing on teaching quality, student progress, curriculum design, and school management, to undertake actions for school improvement. While self-evaluation is one step in an internal QA process, in some jurisdictions, the full QA process, from self-evaluation to action and improvement planning, is called School Self-Evaluation (SSE). Therefore, for the purposes of this training module, we will use the expression QA/SSE to refer to the full quality assurance process.

While the concept of "quality" is often set by national or regional frameworks, the balance between internal self-evaluation and external inspection varies by jurisdiction. Implementing a QA/SSE approach in secondary schools as an internal process can shift from mere administrative compliance to a culture of evidence-based growth. Possible outcomes include preventing student dropout,

ensuring student wellbeing and safety (e.g., preventing bullying), and enhancing lifelong learning and transversal skills, in line with European Commission recommendations.

In a successful QA/SSE Process in secondary education, the following three aspects should be considered:

Institutional commitment from school leadership to provide the necessary time, space, and organisational support to integrate these discussions into regular school routines.

Teamwork and diverse expertise, for instance, forming a QA team that combines pedagogical knowledge with data literacy and/or engaging existing structures like subject departments to ensure broad academic input.

Involving the whole school community, including parents and students, in setting realistic goals and adopting an iterative approach in which improvement plans are monitored and updated based on evidence and collaborative reflection.

B. The Quality Assurance Cycle in Education

The Internal QA Cycle is a systematic framework for continuous improvement, designed to enhance teaching processes, student learning, and institutional management. Drawing on the Plan-Do-Check-Act (PDCA) model, this approach guides schools through a recurring four-phase process: Pedagogical Planning (Plan), Implementation (Do), Evaluation (Check), and Reviewing (Act). By identifying opportunities, executing targeted actions, and monitoring results, the cycle can provide actionable insights to support evidence-informed decision-making at the school level.



Pedagogical Planning (Plan) serves as the foundation where school teams define specific, measurable goals. In this phase, schools identify weaknesses and design targeted interventions, planning initiatives and teaching strategies aligned with the identified needs, school priorities, and national standards.

Implementation (Do) is the active execution phase. Here, schools put the plans into practice. This stage involves embedding planned interventions into daily institutional routines, aiming to translate pedagogical goals into practical classroom practices.

Evaluation (Check) centres on monitoring progress throughout the implementation. By utilising data to perform internal self-evaluation, school teams critically assess how well the implementation aligns with their initial objectives. In this phase, teams identify what is working and where discrepancies exist between goals and actual outcomes.

Reviewing (Act) serves as the final step in closing the quality loop. Schools use the insights gathered from the evaluation to adjust their approach, inform future action plans, and update strategic goals. This stage ensures that the school remains a dynamic learning organisation, capable of continuous improvement based on evidence and collaborative reflection.

Quality Assurance within Vocational Education and Training



We present the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET), based on the PDCA cycle, as an example and reference of the implementation in the educational context.

The EQAVET framework can be applied to various aspects of the vocational education and training (VET) sector at both the system and provider levels. It can support in improving the design of vocational qualifications, supporting online learning, and strengthening accreditation or validation systems, among other areas.

This cycle is widely used across Europe in initial and continuing VET, work-based learning, apprenticeships, blended learning, the accreditation of prior learning and experience, and the development of full and partial qualifications.

For additional insights regarding these frameworks, please consult the [European Commission's official documentation on the EQAVET quality assurance cycle](#).

An example: implementation of QA/SSE in Italian schools

Alongside the EQAVET framework, several European countries have developed national approaches to quality assurance. In Italy, quality assurance at school level is supported by a structured national evaluation framework defined by national regulations. This includes different stages within a three-year cycle: school self-evaluation (SSE), external evaluation, school improvement planning, and an accountability report for stakeholders. SSE is an internal process in which schools evaluate their overall functioning, review performance and processes across several areas, and identify priorities for improvement. SSE is distinct from QA, although the two approaches share some common elements, including the systematic use of evidence, review of performance and processes, and a focus on continuous improvement.

In this stage, schools are encouraged to use available data to assess their performance across various aspects, such as academic achievement, national test results, European key competencies and other long-term outcomes. They also evaluate the effectiveness of their school's processes and routines, including curriculum planning, student assessment, inclusive education, continuous professional development, and school-parent relationships.

Using an online national platform, schools can access data from various sources and produce their school self-evaluation report. A similar platform has been developed to meet the needs of vocational education centres. The data provided include student promotion rates at the end of the school year, student grades on national final exams, and student results on national tests compared with national and regional averages. Results from surveys of school principals and teachers are also included in the data. These data are examined by a 'school self-evaluation team' composed of a small group of teachers and the school principal.

However, depending on the school's specific culture, other groups can be involved in this process, such as subject teams. Schools are asked to interpret the data, explain how the results were achieved and identify the main issues before developing an improvement plan. The self-evaluation process

concludes with the identification of specific areas that the school plans to improve in the coming year.

The data analysis and interpretation are then presented to the entire teaching staff, who are asked to approve the improvement plan. This plan is included in the school's main document, the three-year Education Plan, and is published on the school website.

Schools can supplement the information provided at the central level with data from other sources. For example, this could include parent surveys or student tests conducted at the school level.



Supporting materials

- **C01.** Quality Assurance and School Self-Evaluation in Secondary Education.

Proposed Sequence & Activities

U1.1.a) Presenting the content (20 minutes)

As an introduction to the training module, the trainer can use **5 minutes** to engage participants with a prompting question. The trainer can select one question from the **PQ1A** tool to explore the participants's experiences and contextualise the presentation. Only one question should be selected, and the discussion should remain focused on the activity objectives. The trainer then presents the core concepts of Quality Assurance and the QA cycle in the educational context as described in the previous "Core content" section, relating the discussion points to the section's content.

It is important to emphasise the difference between *Internal QA* and *External QA* perspectives from the outset of the training and make it clear that the training will focus primarily on Internal QA.

U1.1.b) Reviewing the Italian example (10 minutes)

Use Card **C01** to give participants the example of the Italian implementation of the quality assurance cycle in secondary education. It is recommended to give the trainees a few minutes to read the example. After that, a brief discussion can be held to compare the Italian case with the participants' local realities.

U1.1.c) Wrap-up (5 minutes)

To close the section, a brief wrap-up is recommended to highlight the key concepts, supported by Card **C01**.

U1.2. Evidence-Informed Decision Making (EIDM)

Objective: To introduce the concept of EIDM as an important practice in the European education system and explain how it can support QA by providing relevant evidence for decision-making throughout the cycle. The unit presents the main challenges associated with EIDM and introduces how digital data can help address some of these challenges.

Core content

Evidence-Informed Decision Making (EIDM) in the educational QA context is the deliberate and structured practice of collecting, analysing, and using relevant data to support school operations and improvement planning. Central to this practice is the use of diverse data—such as learning outcomes, classroom observations, student demographics, and stakeholder feedback—to illuminate school reality. Crucially, data does not replace the intuition and professional expertise of school leaders; rather, it complements and strengthens them.

In a QA framework, leadership experience provides the contextual vision and empathy, while data provides the evidence needed to test assumptions, identify true needs, make transparent decisions, and monitor long-term impact. In the QA continuous improvement cycle, EIDM supports a systematic, transparent, and human-centred approach to decision-making throughout the QA cycle. The impact of data in informing decisions will be stronger when quantitative and qualitative data work together to inform leadership action.

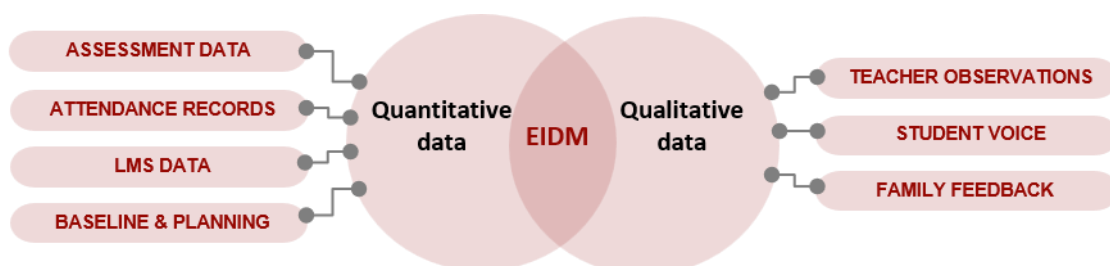
Why EIDM matters

EIDM is an increasingly important practice in European education systems. School leaders across Europe are increasingly expected to ground their decisions in evidence, combining professional judgement with structured and systematic use of evidence.

As accountability expectations grow, school leaders are also expected to use data systematically to support evaluation and continuous improvement.

Data Behind the Evidence

This diagram from Card **C02** emphasises that EIDM should be based on a mix of quantitative and qualitative data. Quantitative data provide structured information that can be systematically analysed from sources such as assessment data, attendance records, LMS data, and desired targets in documents used for pedagogical planning. Qualitative data provide the perspectives and experiences of the people represented in the data and help achieve a deeper understanding of the quantitative data. It can come from teacher observations and from students' and families' feedback (collected through observations, interviews, etc.).



Challenges and opportunities for EIDM

Digital data tools help schools identify patterns in student performance, attendance, and engagement, while also monitoring progress over time. By delivering quicker, clearer insights, they support more responsive, evidence-informed decision-making in self-evaluation and improvement planning.

Despite the promise of evidence-informed practice, several barriers continue to limit uptake in schools across Europe. Three main challenges are identified:



Time-Consuming Processes: Data collection, cleaning, and analysis place a heavy burden on school staff, diverting time from teaching and leadership. Without dedicated data roles, these tasks often fall to already stretched practitioners.



Resource-intensive: Meaningful data work requires investment in both human capacity and technological infrastructure, resources that are unevenly distributed across European school systems.



Undervalued in Practice: Practitioners may rely more on experience and intuition than on evidence, particularly when data systems are complex or results are difficult to interpret.

However, advances in digital data use can help schools address long-standing challenges in EIDM, reducing the burden on staff while improving the quality and usability of evidence available to leaders.



More Efficient Data Collection: Digital tools can streamline data gathering and reduce manual workload.



Better Organisation: Integrated systems can help schools store, manage, and access data more effectively.



Clearer Interpretation: Improved visualisation and reporting can make evidence easier to understand and use.

Overall, EIDM provides school leaders with a clearer picture of current needs and priority areas for development that support strategic planning and more focused interventions that promote sustained improvement.

Supporting materials

- **C02.** Evidence-Informed decision making
- **PQ1B.** Internal Quality Assurance and the Use of Evidence

Proposed Sequence & Activities

U1.2.a) Presenting contents (20 minutes)

To start the presentation, the trainer can take 5 minutes to prompt a brief discussion, inviting participants to recall which data sources they have available for decision-making. The trainer can use one of the prompting questions from **PQ1B** as a knowledge-activation activity.

In the brief discussion, common data sources can be mentioned as triggers for more specific ones, such as attendance records, grades, learning management systems, and students' information systems. The answer to this question can be linked to the content 'Data Behind the Evidence'.

After this warm-up activity, the trainer can dedicate a short time slot to presenting content on EIDM concepts and their relationship to the QA cycle, based on Card **C02**.

U1.2.b) [optional] Participants' discussion (20 minutes)

After reviewing the concepts, the trainer can use an **optional activity** in which participants discuss how evidence can support the implementation of the continuous improvement cycle in their own contexts. This activity helps them connect theory to practice by reflecting on the questions that matter most to their schools and on how data can inform decision-making. Participants should also consider potential challenges to implementing EIDM, particularly the availability and quality of the data needed to guide decisions and action planning.

The questions from **PQ1B** can guide this reflection. The following table links each question to discussion objectives to help the trainer guide the discussion towards the learning objectives of the unit.

Question	Discussion objective
Q1: What data or evidence do you already have at your school?	This question can be taken to continue the discussion from the start of the unit. To summarise the aspects that arose earlier, the trainer can guide the group to collaboratively map data from different systems that can provide useful evidence.
Q2: Are there parts of teaching and learning that you want to understand better?	Having discussed the available sources of information that schools use to make informed decisions, this question invites participants to reflect on which aspects of the teaching-learning process they consider most important, as a starting point for focusing the subsequent discussion on which specific questions they would want to answer with data. The trainer can gather from the audience different aspects and ask them to prioritise three areas in which they think evidence could improve decision-making in their educational context
Q3: Are there important questions that your school is not answering based on evidence?	In Q2, participants stated priority aspects for EIDM. From this point, this question aims to reflect on the school's decisions made without evidence and on the specific questions they could pose, using the available data sources. The expected outcome of this discussion is for participants to reflect on how to move from relying on gut feelings alone to an evidence-informed decision-making framework that combines intuition with data. This question could reveal a potential lack of data to answer it.
Q4: What challenges do you face when using data to help make decisions about teaching and learning?	Finally, an open discussion on the challenges participants anticipate in identifying, extracting, and analysing the data identified in the previous questions. The discussion can be linked to Q3, using the potential lack of data as a challenge, to prompt reflection on other challenges they would face in applying EIDM. At this point, it could be interesting to explore how different school roles may face distinct challenges and how complementary perspectives can help them address those challenges collaboratively. Ethical and legal challenges can be acknowledged at this stage but explored in greater depth in the following sections.

U1.2.c) Wrap-up (5 minutes)

The trainer concludes this section with a brief wrap-up to highlight the key concepts, supported by Card **C02**.

Unit 2: Learning Analytics for Quality Assurance

This unit is the core of the training module. Here, the focus shifts from high-level institutional frameworks to the practical, technical, and ethical realities of using Learning Analytics (LA) in daily school life.

This unit consists of four sections, which cover the following contents:

- **Section U2.1:** Introduction to the concept of learning analytics and the affordances and constraints of implementing it. (70 minutes)
- **Section U2.2:** Four types of LA and different computational methods commonly used. (40 minutes)
- **Section U2.3:** Relationship between LA and the QA/SSE cycle based on the PDCA cycle, and how the QA phases can be supported by LA EIDM. (40 minutes)
- **Section U2.4:** Reviewing the legal/normative aspect of LA implementation based on GDPR and AI Act and raising awareness of the ethical dilemmas inherent in implementing it. (60 minutes)

Suggested duration: **3.5 hours**

U2.1. What is Learning Analytics, and why does it matter

Objective: Introduce participants to the definition of learning analytics and its relevance in the context of EIDM and QA/SSE. Review with participants the affordances and constraints of implementing LA in secondary schools for quality assurance purposes.

Core content

Definition of Learning Analytics

According to the Society of Learning Analytics Research (SoLAR¹), Learning Analytics (LA) is defined as “*the collection, analysis, interpretation and communication of data about learners and their learning that provides theoretically relevant and actionable insights to enhance learning and teaching*”. More simply: the analysis of data collected from educational processes with the aim of enhancing them.

While Evidence-Informed Decision Making (EIDM) is a **strategic framework** for human action, LA operates at the **operational level**, capturing, modelling, visualising, and feeding decision-makers with the information they need to take timely action. LA can help address some of the challenges of EIDM discussed in the previous unit of the training module (see U1.2) by enabling more efficient data collection from digital trace data and clearer interpretations through improved visualisations.

One important aspect is the focus of the analysis promoted by learning analytics. Traditional EIDM in schools relies on administrative data and focuses on accountability and normative compliance. Learning analytics differs from this traditional use of data in its focus on the teaching and learning process. Even when administrative data complements the data about learners and their learning, the

¹ <https://www.solaresearch.org/>

objective is always to provide relevant and actionable insights to enhance the learning and teaching process. The following table from Card **C03** shows the differences between traditional data use and learning analytics.

WHAT DO CHANGE?	TRADITIONAL USE OF DATA FOR EIDM	LEARNING ANALYTICS FOR EIDM
FOCUS	Institutional accountability, compliance, and system-level reporting. <i>e.g., Did we meet our attendance rates targets?</i>	Direct pedagogical improvement. <i>e.g., How can we adapt our teaching strategies to support student progress?</i>
TIMELINE	Static, annual, or term-based snapshots (often aligned with external deadlines or inspections).	Continuous, dynamic, and live data streams generated from everyday classroom and virtual learning interaction.
ACTIONABILITY	Corrective. It is primarily used to justify past decisions or adjust strategic planning for the next school year.	Interventive and proactive. It is used laterally to steer ongoing lessons and support struggling students in real time.
STAFF ROLE	Reporting data upward to school management or educational authorities.	Collaborative problem-solving to collectively address immediate learner needs.

Learning analytics in practice

Learning analytics has many potential applications. The figure below, from Card **C03**, shows examples of LA uses relevant to QA in schools.

Identifying risk of students' failure	➡	Using a dashboard to identify students whose attendance and grades have dropped in a given period of time, signalling a risk of failure.
Assessing the quality of a learning resource	➡	Analysing "time-on-task" data for a digital module to see if students are skipping a specific resource, which may be an indication that the content is too easy, too difficult or unclear.
Monitoring students to adapt teaching to their needs	➡	Reviewing heatmaps of student responses to formative quizzes to identify aspects of the curriculum that need reinforcement, and adjust the lesson plan for the following week.
Institutional planning	➡	Mapping student progress trends over several years to decide which elective subjects should be expanded based on demonstrated student interest and success.

Affordances of Implementing LA for QA Purposes

The implementation of LA for QA purposes is facilitated by several affordances that enable its use. This section reflects on these affordances.

Support for human decision-making:

- Learning Analytics enables **evidence-informed** decisions as a school team, where intuition or practical knowledge is complemented with learning analytics insights. The ultimate advantage is that learning analytics is highly contextual, bringing insights from learning processes and the learning environment. When used adequately, this enhances the professional autonomy of school teams in their decision-making.

- Learning analytics can initiate a process of **collaborative inquiry** in which patterns and common problems or issues may be tackled within a school or teaching team. This collective effort fosters collaborative sensemaking, where school teams analyse data together to build a shared understanding of student needs. Such a shared understanding can be a powerful driver or support for change.

Capacity for internal school development

- Learning analytics offers the possibility of making data collection processes visible and open, where school staff, students, and parents clearly understand **why and how evidence is gathered** to support development.
- Learning Analytics automates data aggregation and visualisation, **significantly reducing manual workload** and potentially accelerating the journey from raw data to pedagogical action.
- Learning Analytics offers untapped potential for school self-evaluation processes, with the central objective of school development by providing teams with **formative data adapted to their contexts**.
- Learning Analytics serves to **monitor institutional** metrics and assess whether plans align with expectations and identify areas that require strategic development.
- Learning analytics offer the possibility of maintaining a broad, open view of educational quality, which can entail a school-specific perspective.
- Learning analytics offer the possibility to **tackle a diversity of topics**, ranging from student achievement and marks to aspects of well-being, transversal skills, and metacognitive skills.

Particular focus on personalisation

- Learning Analytics can have a signalling function, identifying students at risk of dropout or academic failure **at an early stage**. This does not always mean that immediate action is required, but it allows further judgement and a possible personalised intervention by the teacher.
- Learning Analytics enables the personalisation of learning through the development of school-level policies and interventions that **adapt teaching support to individual learners' needs**, making an important contribution to educational quality.

Constraints of Implementing LA for QA Purposes

While Learning Analytics offers significant potential for continuous improvement, there exist several systemic, pedagogical, and ethical challenges inherent in its implementation. This section describes the challenges that were identified in the QUALAS project:

Threat to Teacher Autonomy & Surveillance Fears

- The decision-making process resulting from a school self-evaluation **may limit an individual teacher's capacity** to make their own decisions, prioritising data-driven evidence over autonomous pedagogical decisions. This clearly indicates the need for a school culture around the use of learning analytics for QA purposes.
- The use of Learning Analytics in the context of QA risks fuels a **sense of external control, surveillance, and pressure** within the broader school team, which can affect teachers' autonomy and sense of professionalism.

Pedagogical risks

- Blind reliance on Learning Analytics may **limit teachers' creativity** in orchestrating the learning environment and stifle pedagogical innovation. This situation can discourage teachers from innovating since innovation does not improve their teaching metrics.
- Learning Analytics data may not be **accurately reflecting the complex reality of classroom dynamics**. Over-reliance on data without context could lead to missing nuances that fall outside digital metrics.
- Data used in LA can be of **poor quality**, for instance, due to integration problems between different data sources or systems, or due to incomplete information. This can lead to flawed conclusions and misguided school-level interventions.

Operational barriers

- Schools face technical and infrastructural limitations regarding **what data are available and how they can be interpreted** unambiguously by school teams.
- Schools may **lack the necessary competencies** to collect and interpret data and could require training programmes or initiatives.
- Difficulties in combining different LA sources with other evidence, due to **unintegrated systems**, may prevent adequate data analysis.

Ethical constraints

- The use of LA raises **ethical and privacy concerns that go** beyond legal compliance.

Supporting materials

- **C03**. What is learning analytics?
- **PQ2A**. Prompting Questions – Affordances and constraints of implementing LA
- **C04**. Affordances and Constraints of Learning Analytics

Proposed Sequence & Activities

U.2.1.a) Presenting Learning Analytics (30 minutes)

In the first part of the section, the trainer introduces the definition of Learning Analytics and the examples presented earlier, using Card **C03** as additional support. Examples can be adjusted to the audience's context, tools or practices.

U.2.1.b) Open discussion: Affordances and constraints to implement it in secondary education (30 minutes)

Once the concept of LA is presented, the trainer facilitates a group discussion on the implementation's affordances and constraints. The general objective of this activity is to prompt participants to reflect on the usefulness of LA in informing decision-making in their own context.

To guide the discussion, the trainer can use the questions from the **PQ2A** tool to guide the discussion. The following table presents the objectives pursued with each triggered discussion. Make sure the discussion stays within the objectives and keep track of time to avoid going beyond the planned duration.

Question	Discussion objective
Q1: How could data be introduced in your school as a support for school improvement?	The focus of this question is to encourage participants to think about examples of the use of data to support the QA/SSE process. The idea is to focus on school improvement rather than on external evaluation. Therefore, if they mention data uses that lead to comparisons, rankings, etc., the idea is to help them identify other uses that are more focused on the school's internal evaluation and to help them understand the difference.
Q2: Under what conditions would teachers and staff feel comfortable sharing and discussing data about student learning, engagement, or progress?	The goal here is to consider the conditions that would prevent staff from resisting involvement in the QA cycle. This question may also lead participants to identify conditions that make them uncomfortable. They can be discussed, too, although trying to use them to look for ways to face these issues and face resistance. Some conditions that should appear would be: teachers understand this is meant to improve their practices, teachers collaborate with others to find problems and look for ways to face them with their colleagues, who are the ones that know the contexts and conditions in which they work,
Q3: What values should guide the use of data for SSE in a school?	This question is optional and can be a follow-up to the previous one. After discussing which conditions may help teachers accept to participate in PDCA processes, the trainer can help the participants to identify general values that should lead to the use of data (For example, trust, fairness, care, inclusion, transparency, or professional autonomy)
Q4: What learning analytics data do you think could be used by your school?	This question aims to help them identify types of data they could collect from their systems. If needed, the trainer can provide examples such as, demographic data, assessment statistics, and usage data from the learning system.
Q5: What other forms of evidence should be considered alongside learning analytics?	This question is posed to help them understand that learning analytics can be used alongside other complementary data, such as teacher observations, student voice, classroom work, assessment evidence, or conversations with families.

U.2.1.c) Present affordances and constraints from the literature (10 minutes)

After closing the group discussion, the trainer presents the affordances and constraints of implementing LA for QA purposes described in the literature. This presentation can be used as a wrap-up, linking the main points discussed by participants in activity U.2.1.b to the points described in the core content presented at the beginning of the section.

It is possible that different affordances and constraints than those identified in this guide arise from the participants, which can be equally valid. In this case, these ideas should not be discarded but added to those already proposed. This comment applies to all the discussions proposed in the training module.

Card C04, which presents key affordances and constraints, can be used to support this activity.

U2.2. Learning Analytics Types and Uses

Objective: To review the types of Learning Analytics (descriptive, diagnostic, predictive, and prescriptive), illustrating them through practical examples, and briefly present different computational methods commonly used in LA and their main potential.

Core content

A. Learning Analytics Types

Learning analytics can serve different purposes, from showing data to providing recommendations. Four types of LA can be distinguished according to their purpose:



Descriptive Analytics (What happened?): Descriptive analytics gathers and summarises raw data to provide a clear picture of past performance, such as end-of-term grade averages or attendance summaries. It describes the "what" without necessarily explaining the causes.



Diagnostic Analytics (Why did it happen?): Digs deeper to uncover trends. It links different data points to identify correlations or underlying factors. For example, it might help to understand how a specific class's lower grades are related to attendance patterns or engagement with specific learning materials.



Predictive Analytics (What might happen?): Uses historical data to forecast future outcomes. It can act as an early warning system, showing educators which students might struggle before academic difficulties escalate, giving teachers the chance to intervene early and proactively.



Prescriptive Analytics (What should we do?): Synthesises insights to recommend specific, actionable strategies. It doesn't just show the problem; it suggests the best possible path or intervention to optimise learning outcomes and school improvement efforts.

The illustrative example in Card **C05** presents situations that may occur in schools and demonstrate how LA can provide insights and inform action.

	An illustrative situation	Insights from LA	Derived actions
DESCRIPTIVE	<i>A Secondary School Principal reviews an interactive dashboard at the end of the first term. The aggregated data show that while 90% of students in the 'Science Stream' access their digital resources, only 60% of students in the "Humanities Stream" do.</i>	<i>The school principal identifies a clear gap in digital engagement between streams.</i>	<i>An item is added to the next staff meeting agenda to discuss why this is happening.</i>
DIAGNOSTIC	<i>Following the example, the school's Data Coordinator cross-reference the digital access data with the student surveys and teacher feedback. They find that the Humanities digital resources are long PDF documents, whereas the Science resources include interactive quizzes. He informs that to the School Principal</i>	<i>The school realises the problem isn't student "laziness," but rather a "content format" issue.</i>	<i>The school decides to implement courses for Humanities teachers on creating interactive digital content.</i>
PREDICTIVE	<i>The school analyses the past three years of student data. In November, the system flags 15 students. Although their current grades are "Passing," their pattern of absenteeism, increasing lateness, and decreasing library check-outs matches the historical pattern of students who fail the next course in the Math track.</i>	<i>The school identifies "invisible" at-risk students who might otherwise go unnoticed because their grades.</i>	<i>The School Counsellor schedules 'preventive' check-ins with these students to identify and remove barriers to their success.</i>
PRESCRIPTIVE	<i>The school is deciding how to spend a small government grant for "Academic Support." The prescriptive tool analyses the profiles of the previously identified at-risk group. It suggests: "For this specific cohort, 1-on-1 peer tutoring has a 40% higher success rate than after-school teacher-led sessions."</i>	<i>The school team is given a clear, evidence-informed recommendation on how to spend limited funds for maximum impact.</i>	<i>The school team launches a "Peer Mentoring Program" instead of a traditional "After-School Study Hall," as an evidence-informed decision.</i>

B. Computational techniques used in LA

LA is powered by different computational techniques—spanning statistical modelling, machine learning, and natural language processing—which serve as the engine of LA, not its end. The goal is not for participants to become experts in each computational method, but rather to understand their potential applications and avoid confusing terms that are often used interchangeably (such as equating Artificial Intelligence directly with Learning Analytics).

The following table, from Card **C05**, presents five computational methods, their purposes in the educational context, and an example of their use.

THE TECHNIQUE (METHOD)	PURPOSE IN EDUCATIONAL CONTEXT	EXAMPLES OF USES
STATISTICS	Summarises large volumes of quantitative data to reveal significant trends in student performance.	Early Warning: Identify students whose performance significantly deviates from the class average. This may allow school staff to provide targeted support before academic difficulties escalate.
MACHINE LEARNING	Uses historical data to automatically recognise complex patterns and predict potential future needs.	Personalisation: Identify different types of students based on their patterns of behaviour (e.g. pace in the course and previous interactions). This may enable to suggest specific learning resources and adapt the curriculum to different learning needs.

THE TECHNIQUE (METHOD)	PURPOSE IN EDUCATIONAL CONTEXT	EXAMPLES OF USES
NETWORK ANALYSIS	Maps relationships and flows of interaction between individuals or groups within the school environment.	<i>Inclusion: Visualise networks of interactions, for example, through a digital forum. This can help identify students who are socially isolated and help teachers focus their attention on promoting their integration into the group</i>
TEXT ANALYSIS (NLP - Natural language processing)	Automatically "reads" and organises written information to extract main themes, sentiments, or common concerns.	<i>Student Voice: Help the school board summarise qualitative feedback from open-ended survey questions to understand the overall mood and specific areas of satisfaction and frustration across the student body.</i>
Generative AI (GenAI)	Synthesises information from diverse data sources to elaborate text and other format of content.	<i>Drafting Personalised Feedback: Analyse student reflection journals and draft individualised, constructive feedback that supports metacognition, while keeping teachers in the loop for review and delivery to students.</i>

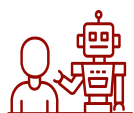
Integrating those methods into EIDM and the QA cycle can automate data compilation, freeing up valuable time to ensure SSE remains a collaborative, living, and evidence-informed process.

C. Other uses of GenAI & AI Agents in LA

As a method, GenAI can serve as an engine for extracting valuable information from unstructured data, but it can also have other uses, especially when implemented as a conversational agent.



Pedagogical precision and personalised learning: Intelligent agents powered by GenAI can map student interactions to deliver real-time, adaptive feedback and precise learning predictions. This enhances classroom diagnostic accuracy and facilitates early, targeted interventions to improve student retention and overall academic performance.



GenAI as LA translator: A recurring issue in schools is that educators find data analysis complex, confusing, or hard to navigate. AI agents can also analyse LA information to explain what is happening in plain and supportive language.

It is important to reinforce the **human-in-the-loop principle**. In the teaching and learning and decision-making processes, GenAI & AI agents should **support school teams** rather than replace professional judgement and human decision-making.

Supporting materials

- **C05. Learning analytics types and methods**

Proposed Sequence & Activities

U2.2.a) Presenting contents: Types of LA (20 minutes)

The trainer introduces the four types of LA by reviewing their definitions and characteristics, using simple pedagogical questions to discuss which type would be most suitable for answering them. After that, an illustrative example from Card **C05** can be used to show how these types operate in a real-world setting.

U2.2.b) Presenting contents: Computational techniques used in LA (20 minutes)

In this part, the trainer introduces the different computational methods used in LA. The objective is to provide a brief introductory explanation and an example of the type of analytics that each method can support. The aim is not to provide an in-depth explanation or an exhaustive overview of possible uses.

U2.3. Learning Analytics in the QA/SSE Cycle Phases

Objective: To review how the QA process, based on the PDCA cycle, can be supported by LA methods and tools for evidence-informed decision-making in schools.

Core Contents

As established in the preceding sections, LA serves as the essential operational vehicle in QA, converting raw educational data into actionable insights. These insights can directly inform the EIDM strategy and provide systemic support across the various integrated phases of the QA cycle. This section reviews the phases of the PDCA cycle and reflects how each part can benefit from the use of LA in different aspects.

The trainer can structure the integration of LA within the SSE context around the four phases of the QA process, based on the PDCA cycle. This way, rather than treating learning analytics as an isolated technological solution, this perspective can help embed data practices directly into the school's existing quality development routines.

Phase 1: Pedagogical Planning (Plan)

In this initial phase, school leadership and self-evaluation teams define clear, context-specific pedagogical goals and map out the concrete interventions required to achieve them. During planning, LA serves primarily **descriptive** and **diagnostic** purposes. Instead of relying on guesswork, school teams analyse past trends (such as historical LMS engagement or term-grade averages) to identify the specific problems or equity gaps to address in the school improvement plan.

• Practical Safeguards to Bear in Mind:

- Before collecting any data, the school team must identify exactly **how the LA system will support the assessment of goal achievement**. This means asking: *What specific evidence do we need to gather to answer our evaluation questions?*
- It is crucial for schools to **remain highly realistic during planning** by identifying data sources and digital tools that are either already accessible or can be easily integrated without overwhelming the staff. For instance, starting with existing spreadsheets is highly recommended over purchasing expensive new software.
- Ensure that any selected metrics or indicators directly **reflect the school's pedagogical values and teaching model** rather than just tracking easily quantifiable administrative tasks.

Phase 2: Implementation (Do)

In this phase, the school implements the pedagogical plan and executes the agreed-upon interventions across classrooms. The focus here shifts to **active and consistent data collection** at the source. As teachers and students interact with digital learning platforms (LMS), virtual environments, or classroom registers, they generate "live" digital footprints that must be accurately logged and managed.

- **Practical Safeguards to Bear in Mind:**

- Successfully collecting high-quality data requires specific digital and data literacy skills. Schools should actively **assess staff training needs** and design brief professional development sessions. Alternatively, schools can seek external technical or pedagogical support to help them carry out these tasks sustainably.
- A critical risk during this phase is that staff might perceive continuous data collection as an administrative **tool for performance evaluation, surveillance, or control**. To prevent resistance, school leaders must build a culture of trust. They must explicitly communicate that data is gathered exclusively to support student learning and classroom practices, never to evaluate, rank, or shame teachers.

Phase 3: Evaluation (Check)

This phase is dedicated to monitoring progress throughout the academic year, allowing school teams to conduct continuous self-evaluation and assess whether the implemented actions are yielding the expected results. This is where integrating LA into the QA/SSE cycle makes the most practical sense. Unlike traditional administrative data, which only offers static, post-hoc snapshots at the end of the year, LA provides **continuous, dynamic, and live data streams**. This allows teachers and leaders to detect "invisible" student underachievement or well-being risks early enough to intervene during the active term.

- **Practical Safeguards to Bear in Mind:**

- Data must always support, never replace, the professional judgment and intuition of the educator. Algorithms and system flags should be treated as a "digital pulse" or an early warning system, but the final pedagogical response **must always be guided by the teacher's contextual knowledge** of the student.
- Schools must avoid a model where teachers analyse data trends in isolation. It is essential to create scheduled time and collaborative spaces (such as subject department meetings or care team assemblies) where educators discuss data trends together **to reach a shared, holistic understanding of student progress**.

Phase 4: Reviewing & Improvement (Act)

This final phase closes the quality loop. The school reviews the overall effectiveness of the interventions and uses those insights to adjust strategies, refine school-wide goals, and plan the next cycle. At this stage, schools use aggregated, year-long insights to evaluate their strategic goals. LA is deployed for **diagnostic, predictive, and prescriptive** purposes: it helps identify exactly *what* did not lead to the envisioned results, provides evidence-based explanations of *why* this was the case, and suggests optimised paths forward for the upcoming school year.

- **Practical Safeguards to Bear in Mind:**

- The insights derived from LA should not remain locked in the principal's office. The evidence **must be shared and discussed transparently** with the wider school community—including teachers, parents, and students—to foster a collective sense of ownership and shared responsibility for school improvement.
- When adjusting the strategic goals for the next cycle, resist the temptation to track too many priorities at once. **Use the review phase to focus on one or two urgent areas** (e.g., math engagement or student absenteeism) and keep the subsequent planning phase lean and manageable.

Supporting materials

- **C06.** *Learning Analytics in the QA/SSE Cycle Phases*
- **EX1. to EX4.** *Example from Flanders (Belgium), Italy, Spain (Castilla y León), and Ireland*

Proposed Sequence & Activities

U2.3.a) Presenting contents (30 minutes)

To present this content, the trainer can start with a brief introduction that recalls the affordances of LA for QA, and then addressing each phase of the cycle in two steps. First, presenting content on the phase and the role of LA in each case; second, opening the discussion with participants to identify “bear in mind” aspects of LA use in each case. In the general discussion, the aspects presented in the “core content” section (see above) can be used to guide the discussion, trigger questions and structure the issues that may arise from the audience.

It is important in this activity to track time to avoid exceeding the planned duration; the duration of each phase should not exceed 10 minutes.

Once the discussion is finished and the audience comments are summarised, the trainer can provide the participants with Card **C06** as a handout.

U2.3.b) [Optional] Practical activity (30 minutes)

The trainer introduces a practical activity to consolidate the content covered in this unit, using one of the examples from the four jurisdictions. The activity can be structured as follows:

- Divide the group into small groups of approximately 4 participants each and give each group one example from the four examples provided as complementary material. You could provide the same example to all groups or distribute different examples to the groups.
- Ask the groups to read and discuss which phase of the cycle is illustrated in the example, what role LA takes in this case, and which safeguards they would recommend the implementing team to bear in mind. Give them 10 minutes to discuss.
- Ask each group to designate a participant to present the group's conclusion in 1 minute.

After each group presents, provide a wrap-up of the section that links the presentations to the content reviewed.

U2.4. Ethical and legal/normative aspects of the implementation of LA

Objective: To make participants aware of the ethical dilemmas inherent in implementing learning analytics. Additionally, it introduces and gives pointers to the essential legal and normative frameworks, with a particular focus on GDPR.

Core Content

A. Legal and normative aspects

The goal of this unit is to introduce the main legal frameworks surrounding Learning Analytics. This topic can easily feel overwhelming for participants, placing the entire burden of compliance on school staff. Instead, the focus should be on **helping them understand** these rules and emphasising **their practical implications**. It is important to remember that they can actively leverage support from their regional authorities to meet these standards.

The following content provides trainers with an overview of key provisions of the General Data Protection Regulation (GDPR) and the European Union Artificial Intelligence Act (AI Act) that are relevant to LA, but it should be contextualised to the participants' jurisdiction and the main local institutions and mechanisms that apply.

Core GDPR Principles for Schools

Article 5 of the GDPR defines several principles for data processing. These principles and how they translate to the LA process in a school are described below:

- 1. Lawfulness, fairness & transparency:** Processing must be lawful, fair, and transparent to the data subject. It means using student data honestly, following the rules, and clearly explaining to the school community what data you are collecting and why.
 - *Why it matters:* Building high-trust relationships with the school community is the only way to ensure they feel comfortable with the use of learning analytics
- 2. Purpose limitation:** Data collected for specified, explicit, and legitimate purposes must not be further processed incompatibly. In practice, this means collecting data only for a clear, specific educational goal and never using this information for any other purpose later.
 - *Why it matters:* It ensures that data is treated as a tool for student support, rather than as a bureaucratic compliance trap.
- 3. Data minimisation:** Data must be adequate, relevant, and limited to what is necessary, especially in analytics systems. It means that the data collected must be limited to what is needed for pedagogical purposes, avoiding the gathering of extra information "just in case".
 - *Why it matters:* Limiting data collection helps protect student privacy and reduces data overload for staff.
- 4. Accuracy:** Personal data must be accurate and, where necessary, kept up to date. In an educational context, it means keeping student records correct, precise, and up to date, since inaccurate data could lead to misleading pedagogical actions.
 - *Why it matters:* Flawed, incomplete, or outdated data in your systems may lead to misleading patterns and inappropriate interventions.
- 5. Storage limitation:** Retention must be restricted to the minimum necessary period. It signifies that data should be kept only as long as strictly necessary for educational purposes, and clear deletion schedules must be established when students leave the institution.
 - *Why it matters:* Deleting old data fields reduces the risk of accidental data leaks and keeps school storage systems fast and organised.

- 6. Integrity & confidentiality:** Appropriate security to protect against unauthorised processing, accidental loss, or destruction.
- *Why it matters:* Restricting access prevents accidental privacy risks and ensures that student information is handled with the highest professional care.

Children merit specific protection due to their vulnerability in the digital environment. Schools must apply heightened care when processing data relating to minors.

Student & Parental Rights on GDPR

GDPR defines a set of rights, which can be adapted to the context of schools in the following manner:



Right of Access (Art. 15): Parents and students have the right to easily view, review, and understand the collected and processed data, such as progress reports, digital portfolios, or analytics. On the other side, schools must ensure this data is presented in a readable, non-technical format.



Right to Rectification (Art. 16): Families have the right to request corrections when school platforms display inaccurate, biased, or outdated information (such as a misrecorded register code or an incorrect grade entry). Professional teacher intervention must facilitate this process.



Right to Erasure (Art. 17): Students have the right to have historical data deleted or securely archived once it is no longer pedagogically necessary. For example, behavioural logs or engagement scores from previous school years should not follow a student indefinitely.



Right to Object (Art. 21): Families have the right to object to and opt out of non-mandatory, optional data-tracking initiatives (such as predictive well-being or social-emotional dashboards) without their child suffering any academic, social, or pedagogical penalty.

Learning analytics may involve profiling, which triggers additional safeguards under GDPR:



Automated Decision-Making (Art. 22): No student should have their educational path or grades decided solely by an algorithm. Families have the right to challenge any automated flag (such as an early-warning system that marks a student "at risk of dropout") and to request a direct, empathetic review by a human educator.

To ensure a secure environment, schools must adhere to EU legal standards, specifically Article 5 of the ePrivacy Directive, which makes the confidentiality of all digital communications and school-based messaging systems mandatory.

Governance, Risk and Compliance

Effective data governance requires schools to integrate privacy protection into their systems and processes from the very beginning. Ensuring security is built-in by design and by default—rather than added as an afterthought, is an essential legal standard under Article 25.

The GDPR outlines a range of specific responsibilities for public bodies to ensure robust protection of student data throughout its lifecycle, including collaborative data governance. Rather than leaving data protection as an isolated administrative task, schools should integrate legal safeguards directly into their school development planning through the following mechanisms:

- Schools are expected to actively consult their designated **Data Protection Officer (DPO)** when planning new digital initiatives to ensure compliance.
- A simple, practical **Data Protection Impact Assessment (DPIA)** should be conducted before introducing a high-risk tool to ensure that ethical boundaries are built into the school system from the start, protecting both student privacy and the professional autonomy of the teaching team. Schools may seek help of their administration or other organisms in their jurisdiction to face this task.

The use of Artificial Intelligence in Learning Analytics

The **European Union Artificial Intelligence Act** (Regulation EU 2024/1689) provides clear guidelines on how schools should use automated systems. The Act uses a risk-based approach, classifying technologies from "Minimal Risk" to "Unacceptable Risk" (the latter of which are strictly prohibited).

Under the EU AI Act, AI systems used in education and vocational training are classified as **High-Risk** if they are intended to:

- Determine **access, admission, or placement** of students in educational institutions.
- **Assess learning outcomes**, grade exams, or evaluate student work.
- **Monitor and detect prohibited student behaviour** during examinations (e.g., online proctoring software).
- **Predict student academic trajectories** or identify student risk levels (e.g., early-warning dashboards for dropout prevention).

Because these tools have a profound impact on students' future opportunities, schools deploying them must ensure:



Human in the loop: AI tools must only act as assistants. Professional judgment, empathy, and contextual knowledge have the power to override any automated score, flag, or recommendation



Plain-language transparency: Schools must choose tools that explain their suggestions clearly and simply. Teachers, students, and parents have a right to know how a digital system generated a specific warning or learning plan.



Data quality & bias prevention: School teams must ensure that platform data is accurate and secure to prevent algorithms from creating unfair biases, labelling, or stigmatising vulnerable student groups.

It is important to point out that **for all high-risk systems, a DPIA is mandatory**.

There are also AI practices or technologies strictly prohibited under Article 5 of the Act due to the Unacceptable Risk. These practices are:

- **Emotion Recognition Systems:** The use of AI systems to detect or infer the emotional state or intentions of students within educational premises is strictly prohibited (except for strictly medical or therapeutic purposes).
- **Behavioural Manipulation:** Any AI tool designed to use subliminal or deceptive techniques to alter a student's behaviour in a way that causes physical or psychological harm is banned.
- **Exploiting Vulnerabilities:** Using AI to exploit the vulnerabilities of students due to their age, disability, or socioeconomic background to distort their behaviour is prohibited.

- **Biometric Categorisation of Sensitive Data:** Classifying individual students using biometric data (e.g., facial recognition) to deduce sensitive characteristics like race, political views, or religious beliefs is prohibited.

With the rapid rise of generative AI and the apps and software that use this technology, it is important to bear in mind that students' personal data, names, grades, or written journals should never be uploaded to public GenAI tools to draft student feedback, report cards, profiles or any other end. Public tools utilise input data to train their commercial models, thereby violating both GDPR confidentiality requirements and EU safety regulations.

B. Ethical challenges of implementing LA

Beyond regulatory considerations, there are ethical challenges that can provoke tensions when implementing LA. The Journal of Learning Analytics, published by SoLAR, summarise those challenges into six categories: duty to act, informed consent, safeguarding, equality and justice, data ownership and protection, and privacy and integrity of self². These six ethical challenges should not be viewed as barriers to adopting LA but as guiding principles for responsible implementation. Together, they emphasise that learning analytics should be learner-centred, transparent, fair, and supportive of both educational success and individual rights.

The following text is not intended to be used as material for a lecture or presentation delivered directly to participants, as this can be overwhelming and easily lead to cognitive overload. Instead, it aims to serve as material for trainers to guide participant discussion and prompt, steer, and structure their reflections on these ethical challenges, allowing them to uncover these issues naturally during their group discussions on school dilemmas.

Six ethical challenges

The **Duty to Act** refers to the ethical responsibility of educational institutions to use LA whenever they can meaningfully improve student learning and success. Since LA aims to understand and improve learning, institutions should use available data to provide timely and appropriate support to learners. However, this responsibility also requires ensuring that analytics are based on accurate, reliable, and meaningful data that reflects the complexity of teaching and learning. In that sense, incorporating qualitative information alongside quantitative data provides a more complete understanding of learners' experiences. Analytics should complement educators' professional judgment rather than replace it, and they should always be designed to benefit learners, not primarily to serve institutional or administrative interests.

Informed Consent concerns ensuring that learners understand how their data is collected, analysed, and used before agreeing to participate in LA initiatives. Obtaining meaningful consent has become increasingly important as educational data are used in more sophisticated ways and data protection regulations, such as the GDPR, have strengthened individuals' rights. Consent should go beyond obtaining permission; learners should understand why data are collected, how analytical models generate results, and what benefits and risks are involved. Because many analytical models operate as "black boxes," improving data literacy among both learners and educators is essential to enable them to make informed decisions and critically interpret analytics outputs.

² R. Fergusson, (2019), Ethical challenges for Learning Analytics, Journal of Learning Analytics, Volume 6(3), 25–30. <http://dx.doi.org/10.18608/jla.2019.63.5>

The challenge of **Safeguarding** focuses on protecting learners' interests and ensuring that LA does not cause unintended harm. Analytics should support educators in making better decisions rather than replacing human judgment or reducing students to data points. The risk that incomplete or inaccurate data may encourage inappropriate interventions or promote behaviours such as "teaching to the algorithm" or students attempting to optimise indicators instead of genuinely learning. Effective safeguarding requires using analytics as a tool to augment educators' expertise, providing mechanisms to correct errors, protecting vulnerable learners, and ensuring that ethical oversight remains central throughout the implementation of learning analytics.

The challenge of **Equality and Justice** recognises that LA can either reduce or reinforce educational inequalities. Analytics may unintentionally disadvantage certain groups if biased data or algorithms reflect existing social inequalities. At the same time, learning analytics can also help identify achievement gaps and reveal patterns of inequity that would otherwise remain hidden, enabling institutions to provide more targeted support. Ethical implementation, therefore, requires careful evaluation of how analytics affect different groups of learners, ensuring that systems promote fairness, inclusion, and equal opportunities rather than reinforcing existing disparities.

Data Ownership and Protection addresses questions about who owns educational data, how they are managed, and how it should be protected. Educational data have significant value and should not simply be treated as institutional assets. Learners should understand how their data is collected, stored, shared, and used, while institutions must ensure transparency, security, and responsible data governance. Although many students are willing to share their data in exchange for better educational support, this creates an ethical obligation for institutions to deliver the promised benefits and avoid treating learners' data merely as commodities.

The final challenge, **Privacy and Integrity of Self**, concerns protecting individuals' autonomy, identity, and control over how they are represented through educational data. There is a risk of students and educators becoming defined by analytics rather than being recognised as individuals with unique contexts and experiences. Continuous monitoring, excessive reliance on data-driven decisions, and misuse of analytics can undermine professional judgment, reduce personal agency, and create environments of surveillance. Addressing this challenge requires ensuring that learners and educators retain control over their educational data, understand how analytics influence decisions, and remain active participants rather than passive subjects of data-driven systems.

Supporting materials

- **C07.** *Legal/normative aspects of implementing learning analytics*
- **PQ2B.** *Prompting Questions – Ethical aspects of LA implementation*
- **EX1. to EX4.** *Example from Flanders (Belgium), Italy, Spain (Castilla y León), and Ireland*

Proposed Sequence & Activities

U2.4.a) Presenting contents on legal/normative aspects (30 minutes)

As a first step in this section, the trainer begins by presenting the main aspects of the GDPR that are relevant to the use of LA. Card **C07** can be used as a handout for participants to review the key points of the regulation that impact LA implementation.

U2.4.b) [Optional] Practical activity (20 minutes)

After reviewing the concepts, the trainer invites participants to think aloud about a real initiative, selecting one example from the four jurisdictions (different from the one used in activity U2.3.b), or using a local example that may be more familiar to the audience. With this example in mind, invite them to systematically answer these four chronologically ordered questions:

1. What specific student challenge or learning gap is the example trying to solve with this initiative? *(This question aims to guide the participants to the pedagogical purpose of the initiative and how it could benefit the students directly)*
2. How can we provide a clear, plain-language explanation to the families and get informed permission to track the information used in the example? *(This question is intended to trigger a discussion regarding how to balance the simplicity with the accuracy of the message)*
3. Is the data collected only the absolute minimum data required to deliver helpful pedagogical support? *(The idea here is to think if there is some piece of data that is not going directly to deliver pedagogical support)*
4. Who should have access to view the analytics presented in the example, and how could the data be secured to prevent unauthorised access? *(The objective of this question is to discuss the existence of structures, roles or designated professionals that be in charge of the information security)*

U2.4.c) Discussion: ethical challenges (30 minutes)

After the introduction to GDPR and the optional practical activity, the trainer facilitates a plenary discussion on the ethical challenges participants identify in relation to the implementation of LA. The following questions from **PQ2B** can guide the discussion.

Question	Discussion objective
Q1: <i>What risks might arise if the data used for the analysis are incomplete, inaccurate or interpreted without sufficient knowledge of the student's context?</i>	The idea here is to help participants identify risks of incomplete data (risk of bias, of taking unfair decisions, labelling without deep understanding, etc.) and understand that a human-in-the-loop approach should always be considered, as well as complementary data.
Q2: <i>What safeguards should be put in place to ensure that analytics are used to support students, rather than to make unfair or harmful judgments about them?</i>	This question complements Q1 by prompting participants to identify measures that have to be taken into account to avoid harm.
Q3: <i>What ethical dilemmas can be raised if data is telling us something, but we do not act?</i>	This can be related to the “duty to act” challenges, with the discussion intended to view this ethical aspect from a different perspective. In this case, it is not about what can happen when we use LA, but about what can happen when we do not use LA , and we should.

To close the discussion and summarise the findings, the trainer structures participants' reflections around the six challenges presented in the core content of this section.

Unit 3: General vision and institutional readiness

This unit is dedicated to organisational action, sustainable governance, and strategic closing, moving school teams from theoretical understanding to concrete actions. It examines different dimensions that interact in implementing learning analytics for QA purposes and guides participants in reflecting on their own context and identifying a clear, manageable next step that they can implement in their school.

This unit consists of two sections, which cover the following content:

- **Section U3.1:** Revision of the three key dimensions of LA: Pedagogical, Technological, and School Characteristics and Culture. To identify different aspects that can be considered when implementing and using LA tools for QA purposes. (60 minutes)
- **Section U3.2:** Summarise the full content of the training module in four takeaways and review actionable recommendations for the different roles involved in LA implementation: School Leaders, QA/SSE Coordinators, Teachers, ICT & Tech Leads. As the final activity, participants assess their school's institutional readiness using the *IR checklist*. (60 minutes)

Suggested duration: **2-hours**

U3.1. Dimensions of LA implementation

Objective: To engage participants in a discussion about the various aspects of Learning Analytics (LA) implementation, while also presenting the core dimensions identified in the literature.

Core Content

Implementing LA for QA/SSE at the institutional level is not a top-down IT installation. To be sustainable, schools must strategically align three core, interconnected dimensions: the Pedagogical dimension, the Technological dimension, and the School Characteristics and Culture dimension. The following aspects are general, and not necessarily all of them will apply to the participants' context, but the idea is to review the general implementation and, in section U3.2, apply it in their own context.

A. Pedagogical dimension

The implementation of LA at the institutional level aims to ensure the quality of the teaching and learning process. In this regard, the pedagogical dimension is among the most important factors in any implementation effort.

Because educational goals must remain the primary reference point, LA implementation **should align with the school's teaching and learning model**. The use of LA must therefore be grounded in relevant pedagogical theories, institutional requirements, and educational priorities to avoid a mismatch between data practices and educational value.

Another important aspect is the **holistic understanding of educational quality**, considering not only grades or pass/fail outcomes, but also students' well-being. LA implementation can therefore be

seen as an opportunity to create conditions in which students can realise their full potential, including the development of curricular knowledge and transversal soft skills.

The pedagogical value of using LA for QA purposes **should be shared and discussed among school leaders, staff, and teachers**. Since teachers are often responsible for generating or capturing relevant data, they need to understand how data analysis can improve educational quality. High-quality data at the source enables meaningful analysis and supports all stakeholders in working toward continuous improvement.

B. Technological dimension

Technological aspects can either support or undermine pedagogical interests in the use of LA in schools. Digital platforms can enable automated data extraction for analysis, sharing, and discussion. Technological aspects must be designed to make metrics accessible and sustainable for school teams. The following points are recommended to be addressed in a LA implementation:

Consolidating Data Sources: It is very difficult to analyse data when records are scattered across non-integrated systems. School teams can begin by gradually aligning datasets in a common data source, even if this initially involves standardising and securing existing data, such as collaborative spreadsheets.

Accessible Visual Interfaces: Educators are not data scientists, so the school platforms are more effective when they translate raw metrics into clear, visual information. Colour-coded tables or simple infographics help prevent cognitive overload and make insights immediately actionable.

Ongoing Support and Training: Providing practical, hands-on professional development and basic technical support helps alleviate staff anxiety. Keeping data systems reliable and functional ensures that teams can engage with digital tools confidently and sustainably.

C. School Characteristics and Culture Dimension

In this dimension, the main potential of LA use for internal school evaluation lies in its efficacy, effectiveness, and contribution to improving the learning and teaching process. Evidence from LA tools enables evidence-informed reflection and decision-making to support the design of strategic improvement plans at the school level.

A first aspect is to keep the concept of LA as **'Support, Not Surveillance'**. Building a high-trust environment relies on clear boundaries. Teachers, students, and parents benefit from reassurance that data is used solely to support learning trajectories, rather than to monitor educator performance, rank staff, or label struggling students. If not critically governed, this can undermine teacher agency, school autonomy, and the broader pedagogical purposes of quality assurance.

A second relevant aspect of this dimension is that the school staff do not need to be programmers or data specialists. Instead, **capacity building can focus on general data literacy**, enabling teachers to act as "translators" who critically interpret indicator trends—such as early warning signs of dropout or engagement gaps—to design timely, supportive interventions. Along the same lines, schools need to remain in control, and the use of LA should serve only to support human decision-making, interpretation, and the translation of data into actionable insights.

Establishing collaborative dialogue structures is also recommended to analyse data collectively rather than in isolation, which fosters a **shared, cohesive understanding of student needs**. Schools can seamlessly integrate data reflections into existing, trusted collaborative forums, such as subject department meetings, care teams, and class councils.

Finally, from a strategic perspective, evidence-based self-evaluation can strengthen both internal and external accountability, supporting school-level improvement while also responding to the expectations of educational authorities. In this regard, however, the use of learning analytics (LA) for **comparisons across local, regional, national, or international institutions creates a significant tension** and is recommended to be avoided.

Supporting materials

- **PQ3A.** *Prompting Questions – Pedagogical, technological, and school characteristics and culture dimensions*
- **C08.** *Dimensions of LA implementation*

Proposed Sequence & Activities

U3.1.a) Group discussion (60 minutes)

This activity aims to guide participants in identifying, on their own, the key aspects of LA implementation for QA purposes in a collaborative setting. This can be developed through a small group discussion (3–4 participants), addressing one dimension at a time.

For each dimension, participants should identify some of the most relevant aspects, using the **PQ3A** prompting questions to guide them. After the activity, the trainer concludes the discussion by providing an overview of the key aspects of the three dimensions identified in the literature and linking them to the points raised by participants.

It is possible that other aspects arise in the discussion that are equally important to participants; they should not be discarded but added to those presented in the core content of this section. In the same way, some aspects identified in the literature may not have arisen in the discussion; they can be presented to the audience to provide a broad view of each dimension.

The following tables present the questions from the **PQ3A** tool, accompanied by a brief explanation of the objectives for each case. It is important to track the discussion time to avoid exceeding the activity's planned duration.

Pedagogical dimension

Question	Discussion objective
Q1: <i>Can you name a pedagogical priority of your school? (Followed by: Do you think this priority can be enhanced by a QA cycle? And can this QA cycle be supported by an LA process?)</i>	This question aims to reinforce the idea that the training module focuses on pedagogical purposes. Based on the audience's responses, the trainer should select one pedagogical priority that aligns with the objectives of the training module. objectives, And then proceed with the two follow-up subquestions.
Q2: <i>Which key indicators can be defined? At which stage of the SSE cycle do these indicators apply?</i>	This question is also a follow-up to the previous Q1 and can be central to the training module if the audience is prepared to answer it. With it, the participants can put into practice a simple cycle of QA supported by data.
Q3: <i>Can teachers' questions contextualise or override suggestions generated by LA tools? If so, how should this be done?</i>	This question is designed to prompt reflection on the need for professional judgment and to reinforce the human-in-the-loop approach.

Technological dimension

Question	Discussion objective
Q1: <i>Can your current systems help teachers and school leaders monitor key indicators? Are the data from these systems easy for teachers to access, understand and use?</i>	The aim of this question is to guide participants in reflecting on the main limitations of their current systems, with a focus on poor integration between systems. Possible aspects related to integration problems that can arise in the discussion include data gaps, lack of timely information, or fragmented information.
Q2: <i>Who provides technical support for the school's digital systems and data analysis, and is this support sufficient for the school leaders' needs?</i>	The idea here is to prompt participants to reflect on the importance of technical support for extracting and analysing analytics from digital systems.

School characteristics and culture

Question	Discussion objective
Q1: <i>How is data used in your school? Is it mainly viewed as a support for internal improvement, or as a response to external accountability requirements?</i>	The idea here is to guide participants to consider the tension between using LA for internal development and using it as a mechanism for surveillance. Participants could go deeper by discussing the risks of comparisons when LA is used for accountability, and how it can affect adoption and undermine implementation.
Q2: <i>What should happen when LA does not seem to reflect teachers' knowledge of students, classrooms or the wider school context?</i>	This question is designed to prompt reflection on the need for professional judgment and to reinforce the human-in-the-loop approach.
Q3: <i>In which ways do you involve teachers (and other stakeholder groups, such as parents or the rest of the school staff) in collaborative action in your school?</i>	This question aims to identify opportunities already existing in the schools in which teachers and other stakeholders may be involved, which could be the starting point for a participatory approach to implementing the QA cycle.

U3.2. Recommendation for Implementation and Institutional Readiness

Objective: Provide the operational guidelines to facilitate the course wrap-up, review the "Recommendations for Implementation," and guide schools in utilising the Institutional Readiness Checklist (IR). Positioned as the final, action-oriented closing of the training module, this unit moves participants from conceptual reflection to concrete strategic planning, providing participants with immediate "first steps".

Core Content

A. Four Golden Takeaways

Learning Analytics is not about adopting sophisticated technology, but about nurturing a collaborative culture of continuous improvement. The entire QUALAS training module can be synthesised into four principles.



Pedagogical Action (Action over Storage):

Gathering metrics has limited value unless it leads to direct, real-world classroom support. Success should be assessed in terms of the supportive actions triggered (such as starting a

peer-mentoring programme or adjusting lesson pacing), never by the volume of digital footprints stored.



Professional Judgment (Human-in-the-Loop):

Learning Analytics serves as a "digital pulse" to complement, validate, and refine professional intuition—never to replace it. The final pedagogical decision must always lie in the hands of human educators who possess the context, empathy, and personal knowledge of the students.



Workload Mitigation (Protecting Teacher Time):

Schools must strictly prevent data tools from becoming a "bureaucratic burden" or "lifeless clerical work". School leaders must ensure that technology actually simplifies daily workflows and explicitly allocate dedicated time for data reflection.



Support over Surveillance (High-Trust Environment):

Trust is a key prerequisite for successful adoption. Staff, students, and parents must be fully reassured that data is used exclusively to design proactive interventions, never to surveil, rank, or shame teachers, nor to stigmatise or label struggling students.

B. Differentiated Recommendations by Role

To translate these principles into immediate reality, specific "first steps" for the different school team profiles are proposed:

Role	Strategic mission	Actionable Recommendations
School Leaders (Principals, Directors, and Academic Chiefs)	Cultivate the school's democratic and ethical data culture.	Foster Trust: Actively communicate the "Support, not Surveillance" boundary across the school community. Allocate Resources: Protect teacher workload by allocating dedicated time within the official school calendar for collective data reflection. Support Gradual Rollout: Resist school-wide mandates. Start with a phased approach, piloting LA in one enthusiastic "champion department" and utilising peer-to-peer mentoring.
Quality Assurance & SSE Coordinators (Internal Evaluation Teams)	Embed data-informed practices naturally into existing self-reflection routines.	Avoid Silos: Map LA indicators (such as VLE engagement or early-warning attendance trends) directly onto the school's existing School Self-Evaluation (SSE) or School Improvement Plan (SIP). Prioritise Simplicity: Do not try to solve every problem at once. Use the Institutional Readiness Checklist (IR) to select one urgent focus area (e.g., student well-being or VET practical hours) per term. Bridge the Data Gap: Ensure that department heads and year coordinators have easy access to department-specific metrics during their regular curriculum-planning meetings.

Role	Strategic mission	Actionable Recommendations
Classroom Teachers & Year Coordinators	Maintain precision at the source and act on timely student patterns.	Data Integrity: Commit to consistent, high-quality daily data entry (such as accurate attendance logging and timely grading), as this raw material underpins reliable analytical trends. Proactive Interventions: Use platform alerts and dashboards alongside classroom routines to trigger early, targeted support for students exhibiting dropout or underachievement patterns before academic failure occurs. Pedagogical Override: Treat platform flags as indicators rather than absolute truths. Always let classroom observations and student dialogue contextualise and, if necessary, override system recommendations.
ICT Coordinators & Tech Leads (System Managers)	Secure systems, consolidate databases, and act as "Data Translators".	Centralise Dashboards: Alleviate the workload of manual compilations by standardising and aligning data from fragmented systems (such as LMS, registers, and spreadsheets) into a unified, accessible interface. Implement Visual Signposting: Translate complex raw logs into simple visual representations (colour-coded traffic lights or simple charts) that teachers can immediately grasp without requiring data science training. Technical Safeguards: Establish strict, role-based folder permissions in compliance with data protection standards, ensuring staff see only the information necessary for their active class groups.

Supporting materials

- **C09.** Recommendation for implementation
- **PQ3B.** Prompting Questions – Recommendations by role
- **IR.** Institutional Readiness Checklist

Proposed Sequence & Activities

U3.2.a) Activity: Four Golden Takeaways (30 minutes)

These recommendations are meant to serve as closing remarks of the concepts presented in the training module. In this context, the content should be presented by linking the points to the previous content and to participants' discussions.

Trainers must emphasise that successful Learning Analytics (LA) is not a technology installation project, but a **cultural shift toward collective, evidence-informed continuous improvement**.

To examine the four core messages, the trainer initiates an active discussion rather than a content presentation, asking participants to identify their takeaways from the course. The discussion must be guided by the trainer to group comments and ideas, leading to the proposed Four Golden Takeaways. **Card C09** is intended to be a handout summarising the discussion.

U3.2.b) Activity: Differentiated Recommendations by Role (30 minutes)

Following the same approach as in the previous activity, the trainer facilitates a discussion on the strategic mission and specific actionable recommendations for each role: School Leaders, Quality

Assurance & SSE Coordinators, Classroom Teachers & Year Coordinators, ICT Coordinators & Tech Leads. To guide the discussion, the following questions can be used for each role:

- Q1. In the context of the use of Learning Analytics for Quality Assurance and Evidence-Informed Decision-Making, which is the strategic mission of [role]?
- Q2. Considering the full content reviewed during the course, what actionable recommendations would you give to [role] to start working toward a culture of collective, evidence-informed continuous improvement?

It is possible that, in the second question, recommendations different from those identified in this guide arise from the participants, which can be equally valid. In this case, these ideas should not be discarded but added to those already proposed. In the case of some proposed actions that do not arise in the participants' discussion, they can be proposed by the trainer and become the subject of discussion to assess their relevance in the context of the audience.

U3.2.c) [Optional] Small groups workshop with the Institutional Readiness Checklist (IR) (40 minutes)

Finally, as an application of the training content, participants work in small groups and use the Institutional Readiness Checklist to assess **their own institution** in light of the new knowledge they have acquired. The activity can be structured as follows:

1. Group participants either by school teams or by similar roles (e.g., school leaders together, teachers together).
2. Distribute the **IR**. Ask teams to review the four dimensions: **Technological, Pedagogical, School Culture, and Ethical Aspects**.
3. Explain the four levels of development proposed. Emphasise that schools are not expected to be at Level 4 on all statements; the goal is to map where they are and identify the next developmental milestone.
4. Ask the groups to locate their current achievement levels from Level 1 ("Not yet") to Level 4 ("Already there").
5. Based on the "Next Step" feedback column provided in the checklist, each team must select one single, high-priority statement and write down a brief, 3-step action plan to execute when they return to school in the short-term. It is possible that the next step proposed by the tool does not fully apply to the assessed school; in this case, participants can make their own proposal for the next step.
6. Invite each team to share their chosen priority and action step with the room to foster cross-school collaborative exchange.

Closing words

This document provides trainers with a practical framework for delivering the QUALAS training module and supporting secondary schools in exploring how LA can contribute to quality assurance and school self-evaluation. Throughout the module, LA is presented not as an end in itself, but as a means of strengthening evidence-informed reflection, professional dialogue, and continuous school improvement.

A central principle of the training is that data and analytics should support, rather than replace, professional judgement. Their value depends on how evidence is interpreted within the educational context and combined with the knowledge, experience, and perspectives of school leaders, teachers, students, and other members of the school community.

Effective implementation therefore requires more than technological capacity. It also depends on clear educational goals, appropriate data and evidence, staff involvement, collaborative structures, ethical and responsible data use, and a school culture based on trust. Schools may differ considerably in their starting points, available resources, and institutional readiness. For this reason, the implementation of LA should be understood as a gradual and context-sensitive process.

The tools and activities presented in this document are intended to support reflection on these conditions, help participants identify priorities within their own school context, and facilitate the definition of realistic next steps. In this way, the QUALAS training module aims to contribute to sustainable, human-centred, and evidence-informed approaches to quality assurance and continuous school improvement.

Further reading

Society for Learning Analytics Research. (s.f.). *Society for Learning Analytics Research webpage*. In <https://www.solaresearch.org/>

European Parliament and Council of the European Union. (2016). *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)*. In <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32016R0679>.

European Parliament and Council of the European Union. (2024). *Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts*. Official Journal of the European Union, OJ L 2024/1689. In <https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng>

R. Fergusson, (2019), **Ethical challenges for Learning Analytics**, Journal of Learning Analytics, Volume 6(3), 25–30. <http://dx.doi.org/10.18608/jla.2019.63.5>

APPENDIX A: Training Module Structure

Introduction

This training module is part of QUALAS, a 3-year Erasmus+ project that aims to build capacity in secondary education schools for the use of Learning Analytics (LA) within the Quality Assurance (QA) framework. Within the project, the training module specifically seeks to increase the awareness and competencies of school leaders, middle managers, and teaching staff regarding what LA is and how it can be used responsibly, and to build institutional readiness by establishing a shared lexicon and fostering collaboration and dialogue within and across schools. This document outlines the content of the training module, which is organised into three units. It includes tools designed for each unit. These tools will serve as handouts for trainers during the training module.

The tools are composed of “cards”, which outline relevant concepts to be delivered to the participants of the training, a set of “prompting questions” to trigger discussion among participants that guide to deeper reflections on implementing LA for QA purposes, and an “Institutional readiness checklist”, organised by dimensions and shape as a rubric with feedback and suggested next step for institutions in each item/level of the checklist.

The core of the training module is designed to last 6 to 7 hours. It could be extended with deeper reflections from participants, adding small-group discussions based on the prompting questions and readiness checklist.

Learning Outcomes

- Understand and apply the Plan-Do-Check-Act (PDCA) cycle as a framework to structure Quality Assurance (QA) and School Self-Evaluation (SSE) in secondary and vocational education and training (VET) schools.
- Understand the foundations of Learning Analytics (LA), and how the use of dynamic pedagogical data streams complements, validates, and strengthens teachers' professional intuition and autonomy under a strict "human-in-the-loop" approach.
- Ensure legal, ethical, and data protection compliance within the school environment, translating GDPR principles and the EU AI Act into practical safeguards in the institutional culture.
- Assess school readiness and draft an implementation approach using the Institutional Readiness (IR) Checklist to align pedagogical, technological, and cultural dimensions, with clear, role-specific responsibilities.

Course Programme

UNIT 1: Overview of the Quality Assurance Cycle

This unit introduces the core elements of the Quality Assurance (QA) concept as a continuous process grounded in the Plan-Do-Check-Act cycle. It relates the internal QA with School Self-Evaluation (SSE), focusing on evidence-informed practices to enhance—rather than replace—professional pedagogical judgment.

This unit is composed of two sections, which cover the following contents:

- **Section U1.1:** Plan-Do-Check-Act cycle in secondary schools and vocational training with a focus on continuous improvement. (35 minutes)
- **Section U1.2:** Internal quality assurance and the use of evidence: introduction to evidence-informed decision-making (25 minutes)

Proposed duration of the unit: 1 hour.

Activities and supporting Tools by Section

U1.1) Introduction to the concept of QA / SSE in secondary education

Objective:

To present the concepts of quality assurance and school self-evaluation in secondary schools, introducing the Quality Assurance (QA) Cycle based on the Plan-Do-Check-Act (PDCA) framework. The EQAVET tool is introduced as a quality-assurance framework for vocational training, based on the same cycle structure.

Activities:

- a) Presenting contents: Introduction to the concept of QA / SSE in secondary education (20 minutes)
- b) Reviewing the Italian example (10 minutes)
- c) Summarise discussion on the example (5 minutes)

Supporting material:

- **C01.** Quality Assurance and School Self-Evaluation in Secondary Education.

U1.2) Evidence-Informed Decision Making (EIDM)

Objective: To review the concept of EIDM as an important practice in the European education system and explain how it relates to QA (by providing objective data to the cycle). The unit presents the main challenges of EIDM and an introduction to how they can be addressed using digital data.

Activities:

- a) Presenting the concept of EIDM (20 minutes)
- b) *[optional] Participants' discussion (20 minutes)*

- c) Main concepts (Wrap-up) (5 minutes)

Supporting materials:

- **C02.** Evidence-Informed decision making
- **PQ1B.** Internal Quality Assurance and the Use of Evidence

UNIT 2: Learning analytics for Quality Assurance

This unit is the core of the training module. Here, the focus shifts from high-level institutional frameworks to the practical, technical, and ethical realities of using Learning Analytics (LA) in daily school life.

This unit is composed of four sections, which cover the following contents:

- **Section U2.1:** Introduction to the concept of learning analytics and the affordances and constraints of implementing it. (70 minutes)
- **Section U2.2:** Four types of LA and different computational methods commonly used. (40 minutes)
- **Section U2.3:** Relationship between LA and the QA/SSE cycle based on the PDCA cycle, and how the QA phases can be supported by LA EIDM. (40 minutes)
- **Section U2.4:** Reviewing the legal/normative aspect of LA implementation based on GDPR and AI Act and raising awareness of the ethical dilemmas inherent in implementing it. (60 minutes)

Proposed duration of the unit: 3.5 hours

Activities and supporting Tools

U2.1) What is Learning Analytics, and why does it matter

Objective:

Introduce participants to the definition of learning analytics and its relevance in the context of EIDM and QA/SSE. Review with participants the affordances and constraints of implementing LA in secondary schools for quality assurance purposes

Activities:

- a) Presenting Learning Analytics (30 minutes)
- b) Open discussion: Affordances and constraints to implement it in secondary education (30 minutes)
- c) Present affordances and constraints from the literature (10 minutes)

Supporting tools:

- **C03.** What is learning analytics?
- **PQ2A.** Prompting Questions – Affordances and constraints of implementing LA
- **C04.** Affordances and Constraints of Learning Analytics

U2.2) Learning Analytics Types and Uses

Objective:

To review the types of Learning Analytics (descriptive, diagnostic, predictive, and prescriptive), illustrating them through practical examples, and briefly present different computational methods commonly used in LA and their main potential.

Activities:

- a) Presenting contents: Types of LA (20 minutes)
- b) Presenting contents: Computational techniques used in LA (20 minutes)

Supporting materials:

- **C05.** *Learning analytics types and methods*

U2.3) Learning Analytics in the QA/SSE Cycle Phases

Objective:

To review how the QA process, based on the PDCA cycle, can be supported by LA methods and tools for evidence-informed decision-making in schools.

Activities:

- a) Presenting contents (30 minutes)
- b) *[Optional] Practical activity (30 minutes)*

Supporting materials:

- **C06.** *Learning Analytics in the QA/SSE Cycle Phases*
- **EX1. to EX4.** *Example from Flanders (Belgium), Italy, Spain (Castilla y León), and Ireland*

U2.4) Ethical and legal/normative aspects of the implementation of LA

Objective:

To make participants aware of the ethical dilemmas inherent in implementing learning analytics. Additionally, it introduces and gives pointers to the essential legal and normative frameworks, with a particular focus on GDPR.

Activities:

- a) Presenting contents on legal/normative aspects (30 minutes)
- b) *[Optional] Practical activity (20 minutes)*
- c) Discussion: ethical challenges (30 minutes)

Supporting materials:

- **C07.** *Legal/normative aspects of implementing learning analytics*
- **PQ2B.** *Prompting Questions – Ethical aspects of LA implementation*
- **EX1. to EX4.** *Example from Flanders (Belgium), Italy, Spain (Castilla y León), and Ireland*

UNIT 3: General vision and institutional readiness.

This unit is dedicated to organisational action, sustainable governance, and strategic closing, moving school teams from theoretical understanding to concrete actions. It examines different dimensions that interact in implementing learning analytics for QA purposes and guides participants to reflect on their own context to leave the training with a clear, low-workload 'next step' to implement in their school.

This unit is composed of two sections, which cover the following contents:

- **Section U3.1:** Revision of the three key dimensions of LA: Pedagogical, Technological, and School Characteristics and Culture. To identify different aspects that can be considered when implementing and operating LA tools for QA purposes. (60 minutes)
- **Section U3.2:** Summarise the full content of the training module in four takeaways and review the role of. As the final activity, participants assess their school's institutional readiness using the **IR checklist**. (60 minutes)

Proposed duration of the unit: 2 hours

Activities and supporting Tools

U3.1) Dimensions of LA implementation

Objective:

To engage participants in a discussion about the various aspects of Learning Analytics (LA) implementation, while also presenting the core dimensions identified in the literature.

Activities:

- a) Group discussion on the key aspects of LA implementation (60 minutes)

Supporting materials:

- **PQ3A.** *Prompting Questions – Pedagogical, technological, and school characteristics and culture dimensions*
- **C08.** *Dimensions of LA implementation*

U3.2) Recommendation for Implementation and Institutional Readiness

Objective:

Provide the operational guidelines to facilitate the course wrap-up, review the “Recommendations for Implementation,” and guide schools in utilising the Institutional Readiness Checklist (IR). Positioned as the final, action-oriented closing of the training module, this unit moves participants from conceptual reflection to concrete strategic planning, providing participants with immediate “first steps”.

Activities:

- a) Collaborative activity: Four Golden Takeaways (30 minutes)
- b) Collaborative activity: Differentiated Recommendations by Role (30 minutes)

- c) *[Optional] Small groups workshop with the Institutional Readiness Checklist (IR) (40 minutes)*

Supporting materials:

- **C09.** *Recommendation for implementation*
- **PQ3B.** *Prompting Questions – Recommendations by role*
- **IR.** *Institutional Readiness Checklist*



**Funded by
the European Union**