

# A top-Down Approach to Prevent Early School Leaving in Malta

## Case studies: Data Literacy initiatives in schools

### Introduction

This case study is one of five developed from interviews with members of school teams and national policy authorities who have contributed to school initiatives focused on the development of teachers' data literacy or the implementation of practices of using data for teaching and learning in schools. The schools are located in five countries: Malta, Italy, Croatia, Slovenia and Greece. The data literacy initiatives represented in these

cases have been implemented at different levels: two of them represent data literacy initiatives developed by schools, one of them has been developed by teachers, and two of them have been developed at national level, with the case studies focusing on how particular schools have implemented it. The purpose of data collection and analysis varies between case studies: in some cases, improving teaching quality is the main focus, in other cases, it is observing and monitoring students' performance, and in one case the focus is on preventing early school leaving.

The intention of these case studies is to illustrate how data can be leveraged to improve education processes and inform education policy at school level. Therefore, we hope they help as inspiration and illustration for other educators and schools. To navigate these case studies, we recommend that you take a look at the yellow text box. Here, you can find a summary of the key characteristics of each of them. Bear in mind that each school is situated in a different location and context. Therefore, to replicate an initiative you may want to modify its activities. We have included a section about "Transferability" which may help in adapting the initiative to your context.

The EVIDALI project<sup>1</sup> (Evidence-Informed Data Literacy for Policy & Practice), coordinated by European Schoolnet, is an Erasmus+ European Policy Experimentation project that brings together ministries of education, regional authorities, research institutes, and teacher training organisations from four education systems (Malta, Castilla y León in Spain, Madeira in Portugal, and Trento in Italy). Its overall aim is to strengthen the capacity of policymakers and practitioners to design and implement effective, evidence-informed data literacy strategies for schools. The project aims to take an early step in understanding how data can be more efficiently utilised to improve teaching and

#### This Data Literacy Initiative at a glance

**Country:** Malta

**Age of students:** 5 to 16 years

**Level of implementation:** Mixed (school cluster and national)

**Focus on the initiative:** School attendance, early school leaving

**Keywords:** school attendance; student performance; early school leaving; data literacy; data analysis

<sup>1</sup> EVIDALI project website: <https://evidali.eun.org/>

learning processes at schools. This comes at a crucial time for digital education, with the introduction of Artificial Intelligence (AI) in education, new regulations surrounding data privacy, and new approaches to keep young students safe in a digital world. The project examines existing different data literacy initiatives in primary and secondary schools across EU Member States and explores how these initiatives are being implemented in schools.

## National context

### The education system in Malta

The education system in Malta is centralised, and the Ministry's education policy is based on three fundamental principles: wellbeing, growth and empowerment, and equity and inclusion. In 2005, a **College system** was established in the education organisation of the country. Primary, middle and secondary schools form Colleges, which are managed by Heads of College Networks who lead a Council of Heads.

Compulsory education in Malta is between the ages of 5 and 16, consisting of an 11-year programme. The primary cycle is undertaken at ages 5 to 11, and the secondary cycle, 11 to 16. The secondary cycle is taught at Middle Schools (ages 11 to 13) and Secondary Schools (ages 13 to 16). In 2012, the education provision through compulsory schooling is guided by a National Minimum Curriculum. In 2017, this was supplemented by a Learning Outcomes Framework, based on competencies. More recently, in 2024, the National Education Strategy focusing on improving the quality of life of students and educators was published (Eurydice, 2025).

### The Data Warehouse Project

The Data Warehouse project is developed by the Maltese Ministry for Education, Sport, Youth, Research and Innovation. It aims to build a **comprehensive dataset** that supports **evidence-informed policymaking** in education by providing a digital solution, as well as training and support to school leaders.

This digital solution consists of a **platform** which integrates **multiple sources of data** to enable informed and accurate decision-making at school policy level, based on **longitudinal and predictive analysis**. At the level of the Ministry, the solution allows for the **detection of students at risk of early school leaving**, as well as identifying schools in need of support particularly in terms of the schools' internal review process. At the level of the colleges (school clusters), the solution enhances decision-making based on evidence, as well as early detection of potential problematics.

The data processed in the Data Warehouse platform corresponds to attendance, performance and attainment, assessment, student support schemes and individual education plans. The datasets are sourced from student **demographic data** and **attendance and assessment** records. Most of this data is collected by teachers and school leaders through an internal and secured platform, MySchool, which has been in place in Malta for 8 years. MySchool is a school management digital ecosystem, which aggregates data on different aspects of the school: attendance, performance, admissions, etc.

The **consolidated aggregation of datasets** through the Data Warehouse allows users to monitor trends, identify risks, and plan timely interventions at the level of schools and of colleges.

The Data Warehouse project was launched in September 2024 with a limited rollout; in October and November of 2025, **Heads of Schools received training** on how to navigate the platform, interpret dashboards, and leverage its functionalities. Currently, the Ministry grants **access to the platform** to colleges and public schools through a **secure permission framework** based on the **role** occupied at school. Generally, Heads of College Networks, Heads of Schools and Education Officers in charge of Curriculum have access to the platform. Teachers and other school staff do not have access to it.

## School context

This case study focuses on the experience of **St Theresa College** with the Data Warehouse Solution. St Theresa College is a **network of six schools** located in the island of Malta in the towns of Birkirkara, Lija, Msida, St Venera, and Mriehel; four of these schools are Primary Schools (for pupils aged 5 to 11 years), and the remainder two are a Middle School (for pupils aged 11 to 13 years) and a Secondary School from age 13 to 16). While the schools are located in different villages, they are **in close proximity** to each other. This makes it possible for teachers of peripatetic subjects in Primary Schools (Physical Education, Art, Music and Personal, Social and Career Development), to teach across the network. As is often the case in Malta, most of the schools in the network have high **diversity** among students in terms of backgrounds and country of origin. The schools are located in the central part of the island, where there is high population density. Therefore, the schools are located in an **urban context**.

## Implementation

### Data literacy initiative

St Theresa College is one of the colleges in Malta which was granted access to the Data Warehouse platform in 2025, and whose Head of College Network received training on the use of the platform. In the past, the college monitored students' attendance through the MySchool platform. However, data in this platform was not **disaggregated by category** making it difficult to analyse and to derive decisions from data. As well, it was difficult for Heads of School to re-count, re-evaluate and check the data. In addition, the college was seeking to **understand the context** behind the data related to **students' absences** and the **evolution of their performance**.

Gaining access to the Data Warehouse platform, the administrative office of the college had access to an **accurate and effective tool to analyse students' data** regarding attendance and performance. In this platform, data about students' demographics, as well as education plans and support schemes is integrated with the data collected by teachers at the different schools. Therefore, this gave the college leadership a complete picture of each school and each student, allowing them to transform data into action.

## Problem identification

With one of the EU's highest shares of people with low level of education attainment (40.8% in 2024, according to Eurostat), **Early Leaving from Education and Training (ELET)** is a key concern for the education system in Malta. A comprehensive and inclusive national strategy (2023-2030) was launched to prevent and tackle this problematic<sup>2</sup>. As a result of these efforts, the rate of early school leaving dropped from 18% in 2014 to 9.6% in 2024 (Eurostat, 2025); however, the country still scores above the EU average of 9.3% and remains one of the countries with the highest rates.

Research in Malta correlates early school leaving with students' wellbeing and their socioeconomic and cultural backgrounds (Borg et al., 2015). Therefore, it becomes important not only to monitor students' absences from school, but to **analyse these absences** through the lens of the **students' context and background**. The College had an interest to prevent early school leaving, by monitoring students' absences and their performance in class. The disaggregation of different data sets, made possible with the Data Warehouse platform, facilitated a **comprehensive analysis of students' situations**, as well as an accurate monitoring of the challenges faced by each school in the cluster. The initiative promotes the idea that schools should not only focus on attendance reports as standalone data, but also consider other, contextual data for triangulation.

## Activities

Teachers **collect data** on students' attendance on a **daily basis** and upload this data to the MySchool platform. Absences are categorised as authorised (if, for instance, the student has a medical certificate), unauthorised (if the absence has not been justified nor announced by the family), or the student might be excused from school (if there is a particular reason which prevents them from attending of which the school is aware). The Head of School monitors this data collection, as well as students' attendance. They ensure that the information is correctly and timely uploaded to the platform. **Parents and guardians** contribute to **accurate data collection**: they have access to the MySchool platform and can check their child's progress report.

The attendance data collected by schools through MySchool is updated to the Data Warehouse platform on a weekly basis. Before the upload, the data is cleaned and structured. Thus, the Head of College Network, the Heads of School, and the Education Officer in charge of Curriculum receive **weekly updates** on schools' attendance and students' progress. The Data Warehouse platform allows to view the data by **categories**, disaggregating for example, by gender, nationality, educational needs or socioeconomic background. The platform is empowered by Artificial Intelligence (**AI**) to **visualise and analyse the data**, allowing the users to create daily, weekly or monthly snapshots concerning the attendance (or any other parameter) of particular cohorts of students or a given school, or college. In addition, the platform, enables tailored alerts when the data reaches certain scores. For instance, if a school's attendance is usually 95%, an alert can be placed to notify if this score drops below that level during a certain week.

<sup>2</sup> Malta ELET Strategy 2023-2030: <https://education.gov.mt/wp-content/uploads/2023/07/ELET-Strategy-English-18th-July-1530.pdf>

The analysis and visualisation of the data on the Data Warehouse platform enables the College and schools' leadership to **understand accurately and effectively** the **progress** of different categories of students, each school and of the cluster as a whole when it comes to **attendance and absenteeism**. Thanks to its capacity to **filter the data** by different categories (as mentioned previously, e.g., gender, nationality, educational needs, etc.) decision makers are able to provide **support** which is **targeted** and **contextualised**. As the platform enables users to create daily, weekly and monthly snapshots it is also possible to monitor progress and detect issues in real time. Conclusions from the data analysis are discussed at the level of the administration and leadership of the College, then with the leadership of the schools, and through them with the teachers. Schools liaise with parents and guardians to understand the data more accurately and provide support when needed. This process allows the College and the schools to **suggest targeted actions** to promote school attendance, and to understand reliably the situation behind school absenteeism. In the long term, this process aims to tackle early school leaving.

### **Example of a targeted action**

For the Head of College Network, Mr Norbert Pulis, improving attendance is not limited to monitoring students' absences. "The school must attract students to come to school and have an enjoyable experience", he declares.

At the Anthony Valletta Birkirkara Primary School and Vincenzo Borg Brared Ta' Paris Birkirkara Middle School, which are part of St Theresa College, school attendance is promoted by encouraging the educative community to get together. At the school, they organise a multicultural event where teachers, students, and parents and guardians are invited. During the event, they share their customs and cultures, and thus foster an inclusive environment where students feel safe and part of the school. Events such as this are organised by the Head of School, in collaboration and discussion with the Head of College Network. Across the other college schools, a range of multicultural activities are organised to ensure that students, staff, and parents are fully integrated within the community. For example, special assemblies are held to celebrate diversity, and, with the support of the International Learners' Directorate, the TCN Hub has been successfully integrated at Annibale Preca Lija Primary School.

While it is not possible to state that such activities directly contribute to increased attendance, it is a step towards making learning enjoyable, as Mr Pulis explained, and in making the school an inclusive environment. The data gathered through the initiative helps inform actions such as this, providing an accurate picture of the school context and their progress when it comes to attendance.

This initiative requires **every actor involved** (from the College leadership to teachers, including parents and guardians) to be **data literate**. That is, everyone involved in these activities is required to understand the basic principles behind **safe and ethical data collection, data analysis, data**

**monitoring and data processing**, among others. The Data Warehouse project **ensures support to develop data literacy at every level**. The Head of College Network, Heads of School and the Education Officer in charge of curriculum at St Theresa College received training directly from the Ministry on how to navigate and leverage the Data Warehouse platform. Teachers receive guidance on how to navigate and monitor the MySchool platform by the Education Officer (Curriculum), who demonstrates how to input pupil performance data on the MySchool platform. Heads of schools raise awareness among teachers for the importance of accurate and timely data collection and ensure that the data is inputted correctly. Parents and guardians are informed by schools and by the Ministry about the Data Warehouse project and the data collection process.

The involvement of the Ministry for Education, Youth, and Sport is crucial in this initiative. Not only do they provide secure access to the Data Warehouse platform, but they provide support and training to the Data Warehouse users. Furthermore, the data gathered country-wide from the platform allows policy makers to monitor the effectiveness of the ELET Strategy, to provide targeted interventions to state schools and Colleges, and to identify risks earlier. These efforts are already reflected on the data with rates of early school leaving dropping significantly in the last 10 years in Malta.

Below follows an account of the roles and responsibilities of each actor involved:

- **Administration and leadership of the College:** monitors the Data Warehouse platform, supports and trains teachers on how to collect data accurately, proposes and supports schools with remedying actions, liaises with the Ministry of Education, and receives support from the ministry, leverages data in policymaking through discussion and reflection.
- **Administration and leadership of the schools:** monitors data collection through MySchool, supports teachers, liaises with parents and guardians, communicates with the College leadership, observes students' contexts.
- **Teachers:** collect accurate data through MySchool platform, ensure follow up with students and their support, liaise with school leadership on training needs regarding data collection.
- **Parents and guardians:** monitor their child's progress, check the accuracy of the data uploaded to MySchool, liaise with the school to monitor the student's progress.

## Use of data

The Data Warehouse platform **aggregates different data sets**: students' attendance, their performance at school, and their demographic data (gender, socioeconomic background, nationality, support schemes and individual education plans). Some of this data is collected by schools through the MySchool platform, and some of the data is owned by the Ministry and the College.

The data in the Data Warehouse platform is **protected**, with students' names being kept private. The platforms are **GDPR compliant**<sup>3</sup>, and the data is stored within the EU. Furthermore, parents and guardians are informed of the Data Warehouse platform and are granted special access to MySchool.

<sup>3</sup> GDPR stands for "General Data Protection Regulation", more information on: <https://gdpr.eu/what-is-gdpr/>

## Challenges and solutions

Teachers play a key role in this initiative. They input data on attendance and evaluate and monitor students' progress. Therefore, an important step was to make teachers aware of the importance of accurate reporting and monitoring of data. For this purpose, they receive support from the Education Officer (EO) in charge of Curriculum, who visits schools, and supports teachers by providing demonstrations on how to input pupil performance data on the MySchool platform reliably. The EO Curriculum can also deliver information to parents on how to access their child's progress report on MySchool. It is important as well for teachers to liaise with the Heads of School and Deputy Heads of School, to find support in the process, identify risks, and improve the data collection process.

## Outcomes and added value

The Data Warehouse project signified a cultural change for St Theresa College, as well as other schools and colleges in Malta. "For the first time, Heads of School are provided with a tool which helps them retrieve data for the internal review of the school (...) The tool helps our school leaders to use data for school improvement", explains Isabelle Ciangura, the Education Officer in charge of Curriculum at St Theresa College.

The integration of AI-powered functionalities makes the Data Warehouse platform straightforward for users and facilitates the analysis of data. Thanks to this integration, users can create snapshots of the data which are easier to process and to discuss at internal reviews, school planning processes, progress reports, etc.

## Impact

At the time of writing (2026), the Project was still in its infancy stages. The test phase was launched two years prior, the implementation at the level of schools and colleges dated back no more than half an academic year. Therefore, the platform has potential to create a larger societal impact on the future.

In the long-term, data from the project is expected to provide a concrete understanding on which **factors affect and predict early school leaving**, with the long-term goal of **identifying risks** early so that **targeted action and school improvement** can be implemented to mitigate it. To aid this, the Ministry is currently developing a predictive analysis tool, which can exponentially multiply the impact of the Data Warehouse platform.

## Lessons learned and recommendations

- The **national context** can inform **data collection**, which does not need to be a comprehensive effort but rather one focused on the issue the initiative aims to tackle. In the case of St Theresa College, early school leaving was a concern at the national level which they aimed to detect and prevent. Therefore, data collection focussed on students' attendance and school performance.
- The key value of the Data Warehouse platform is the **integration of different datasets**, including demographic data. This allows to place students in their context, and to understand the larger context of a data entry point. In this case study, they use demographic data to filter

by different categories so that solutions can be identified, such as the organisation of a welcoming multicultural event.

- The **cooperation** between different members of the **education community** is a predictor of success. In this initiative, exchanges between the Head of College Network, the Education Officer in charge of Curriculum and the Heads of School facilitated the data analysis, which supported school improvement and policy making. Bringing teachers on board and making them part of the process is an important part of the success of this initiative.
- **AI-powered data visualisation** can facilitate the management of large datasets, as well as data processing. These tools help obtain immediate snapshots of the data which can facilitate monitoring of progress.

## Transferability

While the Data Warehouse project is unique to the Maltese context, it is possible for schools to replicate this initiative. Data on students' attendance and performance can be processed through other digital tools, and the conclusions of this data analysis can be leveraged as demonstrated in this case study. In addition, this case study shows the importance of developing data literacy across all levels of the education community: from school leaders to parents and guardians.

## Conclusion

This case study demonstrates the impact of data collection and processing in school policymaking and improvement. A country-wide priority, such as Early Leaving from Education and Training can be tackled at school and school-cluster level by monitoring those directly affected by the problematic: students. This initiative shows how efforts at the level of the leadership of school can have an impact on students, and how targeted support and understanding of their context can better support them.

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