
THE ELECTRONIC LEARNING DOSSIER: A TOOL FOR THE WHOLE EDUCATIONAL CHAIN - ABSTRACT

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Context

The introduction of new educational developments in the Netherlands, such as ‘competence-based education’ and the emphasis on stimulating talent and preventing early school leaving, requires a more efficient exchange of student-related information on learning and learning results. In 2008, the ELD (‘Electronic Learning Dossier’) programme will make this feasible throughout the educational chain. ELD contributes to the notion that every school is an essential link in a long chain. And that standardisation and better collaboration is essential to be able to realise a continuous learning process.

The object of the ELD Programme – started by secondary schools in 2004 and funded by the Ministry of Education as the ELDvo project – is to develop a national standard and infrastructure for the digital exchange of validated student-related information on learning and learning results throughout the educational chain in order to facilitate a continuous learning process for the student from primary education to higher education. The solution: with one press of the button, the information for the ELD is collected from one or multiple system(s) at the delivering school, converted into a standard format, secured and sent through the National Switch Point to the requesting school(s).

Both the ELD and the ePortfolio focus on the digital exchange of information on learning and learning results. Both tools aim at the facilitation of continuous learning processes. One of the essential differences between an ELD and an ePortfolio is that in the ELD, the school validates the accuracy, integrity and completeness of the information agreed on, whereas the student decides what information the ePortfolio will include. However, since students frequently include validated learning results in their portfolios that are also part of the ELD, there is often an overlap of information.

It is our conviction that the two tools can be used as supplements by schools, labour market institutions and students. That is why we have harmonised the standard and specifications for the exchange of similar information with other projects in the Netherlands, such as ePortfolio, Studielink and e-Government. The use of tools that facilitate the continuous learning process should connect seamlessly. There should be interoperability in terms of inter-institutional transfer of information. The ELD, based on the ‘IMS Specifications Learner Information Package (LIP) and The Reusable Definition of Competences and Educational Objectives (RDCEO), makes that feasible.

When e-portfolios are not only used to facilitate the coaching of the learning process in a specific school, there are some issues to solve that ELD had to reflect on:

- how to protect information that schools have to store by law,
- what is the best place to store an e-portfolio when students follow courses on different schools or in the school and on the job,
- how to guarantee that external parties have access to an e-portfolio (life long learning),
- how to facilitate the logistic processes.

Objectives

Seamless educational careers

The ELD programme aims to enable the seamless progression of students through their educational careers by facilitating the smooth transfer of student/learning process-related information among schools in the educational chain. ELD will reduce administrative burdens and facilitate continuous learning processes. It supports the policy of the Dutch government aimed at student dropout prevention and talent stimulation.

What effects will this programme have in 2008 and later years?

The ELD programme will result in the unambiguous, transparent, efficient and secure exchange of validated learning data. These exchanges will occur at the main junctions in the educational chain: from secondary to higher (vocational) education and from secondary (vocational) education to labour market trajectories. Although schools and institutes accredit the dataset, parents or the student (>18) must approve the exchange of an ELD before it can be sent to the next school or institute.

The architecture sets the stage for an even broader exchange of information, e.g. between schools and municipal government officials or healthcare institutions. In 2008, the first batch of schools will have access to the necessary data with one press of the button. The next batch will follow in 2009 and this will continue until 2011. The ELD will be a powerful tool for the early identification of talented students and students at risk. The effects will increase as schools refine the information on competences and guidance.

(Reference) Architecture

The reference architecture focuses primarily on exchanges among schools and institutes and does not concern itself with the structures within the institutes. However, the institutes must meet certain requirements, e.g. upholding certain agreements made on technical aspects of the institutes' connection to the system and the way the exchange is secured. The reference architecture is in line with the Netherlands Government Reference Architecture (NORA).

ELD exchange is facilitated by a number of joint services, which are consolidated under the National Switch Point (LSP) for education.

A few of LSP advantages:

- cheaper and more efficient: the high degree of privacy and security in the transfer of information requires an advanced technical infrastructure (certificate for the school, encryption, BSN/student number, which is needed for opening (files, etc.) It is not necessary for each individual school to provide for the expensive security that is needed for the connection with every other school, but only for a secured connection to the LSP.
- reduced workload: with one press of the button the bulk of the graduation records are sent to the LSP, which stores them until they are called up.
- dossiers are available for students (and their parents when they are < 18) by way of the web.
- dossiers are always available: also in the summer with varying holiday periods;
- option to add 'reference documents': to elucidate (and assess) test results or competences that cannot be interpreted in just one way.
- option available for collecting management information: e.g. information on school transfers.

Proof of Concept

In 2007, the concept of the digital exchange of ELDs through a national transfer and service centre (LSP) will be tested by a proof of concept (PoC) involving a group of pilot schools and 11 developers of software systems/commercial suppliers who cover the educational chain.

The PoC project is to prove that the infrastructure for the electronic exchange of learning dossiers is functional and technically sound in the primary-secondary, secondary-secondary, secondary-senior secondary vocational, secondary-higher professional and secondary-university educational chains.

All pivots will be demonstrated in the demo. The schools and suppliers were selected based on their representation of the field.

Summary of results

Key milestones

2004

- The project starts with a survey of national and international developments. The results are available on www.eldvo.nl

2005 and 2006

- Development of, testing of and agreements on the standard and the sets of data at each transfer point with study groups, expert groups and pilot schools from the whole range of the educational chain.
- Development of the reference architecture.

2007

- January: official agreement on the standard ELD and the sets of underlying data. Besides formal personal information, the ELD also contains information on school career, learning results, apprenticeships, competences and pedagogical approach
- (coaching/counselling/guidance).
- January: Official Agreement reached on the reference architecture. It remains frozen until the first phase of the proof of concept is completed
- Test of the digital exchange in a proof of concept with suppliers and schools throughout the educational chain. The chain test results will be supplied at the end of the year.
- Start of project 'preparing implementation'. An impact research report on business processes provides information about the aid/facilities that we should give schools.
- Refined datasets on 'competences' and 'guidance/coaching'
- Standards and datasets on new transition points (secondary education-jobcentre, senior secondary vocational education- senior secondary vocational education and senior secondary vocational education - higher professional education)
- Validating the standard ELD 1.0 version and policy on further development and ELD standards administration, the architecture and the LSP.
- Preparation of a Declaration of Intention to stimulate the use of ELD with the sector organisations: Netherlands Association of Schools of Secondary Education, Netherlands Association of Schools of Senior Secondary Vocational Education, Netherlands Association of Agricultural Training Centres, Netherlands Association of Universities of Professional Education and the Association of Universities in the Netherlands.

2008-2011

- The Proof of Concept will be extended to include an increasing number of suppliers and schools
- Parts of the programme will be transferred to existing organisations
- Communication campaign will be intensified to inform potential users about the added value, convenience, profit and advantages to be gained with ELDs.

Conclusions and Recommendations

The ELD is a response to the need for more and more reliable data on the learning process and learning results of students. Based on the concept of continuous learning, educational programmes attempt to cater to pupils'/students' needs in order to prevent dropout and stimulate talent. The foundation for tailor-made programmes and guidance is having the right data available. ELD provides the basic set of data on a pupil/student who starts at your school or institute. You yourself or the student/employee can then build upon this set.

This is why it is important to use international standards in the exchange of information and adhere to the ELD standard that provides the basic information on a student's learning process and learning results. Take advantage of the infrastructure and standard that has already been developed:

- validated information (digital signature guarantees integrity and completeness)
 - ELD uses a System certificate that only the managing director of an educational institution may request; every dossier is digitally signed and it is possible to see who was responsible.
- transparency (it is clear exactly what is being exchanged)
 - ELD includes syntactic and semantic agreements.
- only information which it is legal to exchange (privacy) is available
 - ELD guarantees that the standard with the set of underlying data and the exchange process is in agreement with the privacy laws of the Netherlands.
- information is compatible with various systems (meta data insure interoperability)
 - ELD uses international IMS specifications that function as a kind of uniform plug between systems that also employ these international IMS LIP specifications.
- can be linked with developments/systems such as ePortfolio and Studielink.
 - ELD information can be linked with or in the future even integrate with ePortfolio and Studielink information.
- can be linked with other basic registration systems.
 - The reference architecture is in line with the Netherlands Government Reference Architecture (NORA) which makes it possible to make connections with the Netherlands municipal basic administration for personal data, the register for certificates of qualifications and the register for companies.

'Ultimately, students benefit from it because schools now have a tool to track the student's learning history and provide tailored educational guidance'.

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