



OpenQAsS

Open Source Quality Assurance System for Vocational Education

THE OPENQASS TOOLKIT

Outcome 4 of the OpenQAsS project is the production of an open source software toolkit to support the management of QA systems in vocational schools and training providers. There are two obvious hurdles to be overcome before the Toolkit can be developed: (i) there is a need to be able to define 'quality' in the context of the jobs and responsibilities that teachers have, and (ii) there needs to be a specification for a toolkit that fits with practice and existing systems.



Designing phase

Initially the project focused on the exemplar Quality Manual (QM) brought by one of the partners, plus the examples in the [CEDEFOP Quality Handbook](#) for VET Providers – now on the system portal in four languages. Today the project has a pilot implementation, which was demonstrated at Meeting 5 in Dublin, which will soon be piloted initially in Hungary. It is the practical result of some early experimentation coupled with the unequivocal outcome of the survey covered in Newsletter 3. That survey answered the “what are the practical quality processes that would help teachers?” question, where the top requirements were for: (i) a lesson planning tool, and (ii) a document repository. The Toolkit should be therefore be developing explicit tools to support these activities, but internally it will be based on a ‘micro’ toolkit that can be used to develop similarly structured tools as well as offering great flexibility to adapt the reference Lesson Planning tool for any specific institutional variations. It will also be linked to a Document Repository that will enable teachers to include any relevant supporting materials, much of which may represent valuable background experience that could otherwise be lost.

Any toolkit has to be developed in a specific system. In this case the project has gone with the open source PHP-based Drupal CMS (content management system), which is accessible, widely used, and extremely flexible. It is backed up by a MySQL database, which again is open, widely used and capable of being used as a ‘linked server’ to institutional databases such as SQL Server. The Toolkit will take the form of an add-on ‘App’ installable within a standard Drupal 7 framework.

This Drupal ‘App’ is capable of being used by non-IT specialists, though it does require them to have confidence in the use of CMS systems. This is a commonly found skill today, and one that might reasonably be expected to be found within a VET institution. It automatically creates the required database structures to capture the data from the Toolkit’s screens and forms, thereby relieving institutions of the need to be able to develop at this level. It is a goal of the OpenQAsS project to develop a ‘quality’ community, which will greatly enhance the potential use and adaptation of the initial Toolkit. Once piloted, it is hoped that the approach, the underlying micro-toolkit, and the flexibility of the implementation will encourage much wider use and development.

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OpenQAsS

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to include a range of quality management processes specific to an institution. In this way, the Toolkit can be seen as an IT-based enabler of an ever growing range of quality processes and requirements. It is essential that the Lesson Planner and the Document Repository are seen not as a prescriptive tool and approach but as an approach – backed up by tools – directly addressing quality management issues. The OpenQAsS IQAM course (which will be developed as Outcome 5) will orient and guide teachers and administrators in the use and application of the Toolkit.

Prior to the prototyping in Drupal the project looked at a purely standards-based approach to the possible implementation of a Quality Manual (using the CEDEFOP Handbook as an example). This was explored in the then absence of the survey results that homed in on Lesson Planner as the key value-add process to target. However there is a commonality across the micro-requirements of Lesson Planner and the various examples in the CEDEFOP Handbook. Most requirements need forms elements of various types, aggregated to design an overall set of forms. This initial experiment defined a very simple XML vocabulary that could be used to insert form elements requirements into any web page. The assumption was that many QMs might exist on institutional web site, and therefore could be readily enabled in situ, rather than develop a standalone toolkit. Background scripting could then auto-generate the interactive pages, linking all elements to a background database.

While of great interest, this idealistic approach was subsequently replaced with the much more practical Drupal-based approach to developing an open, flexible toolkit with its initial focus on Lesson Planning. This is by no means limiting, though there always has to be a choice of tools, and it does offer flexibility and adaptability for a self-supporting community. It also meets the requirements that were expressed very clearly by headmasters interviewed in the first phase of the project:

- The Toolkit must support Modular Design.
- A User-centred Design is essential ensure adoption of the methodology, the tool and the approach.
- The Toolkit must be supported by Exemplary IT-based solutions, hence the focus on Lesson Planning.
- The Toolkit and its implementations should not increase the administrative workload of the teachers. This is crucial, otherwise there is no real prospect of it being adopted.

The Lesson Planning Toolkit may not be appropriate for the retro-planning of established courses, so it will be targeted at new course developments. This may imply that the target user will be a more junior teacher saddled with the responsibility of developing lesson plans for a new or revised course, and establishing a repository of learning materials and other supporting content. This probably means that the Toolkit may not necessarily be used by the senior staff and management of an institution, so it is vital that it is willingly adopted by doing an valued job and being easy to use so that it is seen at decision-making levels.

The future goals of the project was to include identifying 10 institutions across the partner countries in which to test and evaluate the Toolkit.



OpenQAsS

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Prototyping and testing phase

The Consortium started with the development the first prototype adopted mainly to the structure of the Hungarian VET System, and after elaborating a skeleton and wireframe with the planned functionalities we put the focus on the lesson planning module.

After testing the first prototype with Hungarian teachers on multiplier event, we received several intention regarding the usability of the planned system. The most important suggestions were (based on the practical work of teachers, while they are working on a special lesson plan) as follows:

- (1) The lesson plans are based on standard curriculum of a certificate officially published by the educational authorities. Would it be possible to store the components of the standard curriculum (learning outcomes, units, subjects, topics, subtopics etc.) in a database, and offering them in a drop-down list, while she/he is editing the lesson plan.
- (2) The VET teachers are usually not familiar with the pedagogical terminology required for professional planning the classroom activities, students works, didactic aims. Could the software include a taxonomy for the pedagogical and methodological planning?
- (3) The external evaluation of teachers (in Hungary and in other European countries as well) needs a well working self-reflection practice. They need to follow the PDCA cycle in their own teaching processes: planning, doing, evaluating (controlling) and reacting for improvement. Could the software support this process?
- (4) Could the software support some kind of collaboration among the teachers of the school in order enable them to share the lesson plans among each-other?

Next Iteraton of Prototyping

After the multiplier event a new version of the Hungarian software was developed based on the suggestions on the teachers. The developer found a solution how the standard curricula and the lesson planning terminology could be stored by a special module of Drupal.

The new version was again tested by the teachers of 10 Hungarian VET schools, however the main focus was put on the lesson planning module. After a relative long testing phase we implemented the English version with full solution for creating, editing, sharing, printing, evaluating the lesson plans, and managing the repository of the digital learning materials (learning objects).

At this phase, we faced very hard difficulties regarding the structural differences among the structure of the standard curricula, and the requirement for the teachers in lesson planning methods.

It came out, that in Ireland and in the UK, where the vocational education is a part of the adult education, the lesson planning is not obligatory. While our partners from UK and Ireland are working in the third level of vocational education(CVET), the traditional pedagogical approach are applied mainly in IVET, in Junior and Senior Vocational Certificates of secondary education.



OpenQAsS

Open Source Quality Assurance System for Vocational Education

Finally, we used the Irish “Leaving Certificate for Vocational Programme as a model for the English prototype. However, this working phase caused delay in the project progress. As a consequence, there was no more time for carry out user testing in Italy and Spain. After implementing and testing the English version the next iteration was again an improved Hungarian version, followed by a stress-test involved the several VET schools, and almost hundred Hungarian teachers. For now, we completed the OpenQAsS Toolkit 1.0 in four languages, however we had now time to test the Spanish and Italian versions during the project period.



On the last partner meeting the Consortium agreed, that the software will get a new, more simple name: **EQOS**, the acronym of **Educational Quality Open Software**.

EQOS 1.0

The main idea of this open source software is, that the practical implementation of a Quality Management System in a vocational school or in any educational institute must be focused on the core process of teaching and learning, and a leaving quality culture can be developed only if the teachers get support to do it. The other point: now-a-days an effective QMS is unimaginable without using IT. EQOS 1. was developed to help the school to build a knowledge sharing atmosphere, to facilitate the collaboration among the teachers, and at the same time to reach their individual professional aims as well. The main goal is to support a QMS for learning and teaching better in a community of quality culture.

The main menu includes the functions as follows: *Repository, Forum, Taxonomy, Evaluation, Lesson planner, QMS, Calendar.*

Repository	Forum	Taxonomy	Evaluation
For storing, sharing digital object. The teachers can upload their own teaching, learning materials in a variety of digital formats, and can attach them to their lesson plans.	Discussion among the teachers of the school. Supporting inside collaboration, knowledge sharing among the staff members.	A database of the standard curriculum and lesson planning terms.	Collection of questionnaires for evaluation the teaching process at different level (institution, teachers school manager, students, etc.
Lesson planner	QMS	Calendar	Help
The teachers put together the lesson plan with drag&drop technics, as she/he has all information at-hand.	Supporting creating, editing and sharing QMS documents, strategic planning, and describing processes.	In the calendar the deadlines defined in the QMS Action plans are stored automatically. Good tool of the Quality Managers.	The platform is very is very user-friendly. Here the teachers find a guide to do the first steps.

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Detailed information, on EQOS are available publicly on the website, under the menu **Results/Software.**

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The OpenQAsS project vision is to utilise the potential of today's networking technology in all areas of the implementation of the EQAVET Reference Framework principles, and so make the resulting tools part of the daily practice of institutional Quality Assurance in our VET schools.

Target groups

- Teachers and headmasters of VET schools; managers and trainers of VET provider companies;
- VET schools and VET providers;
- Researchers working in the field of the vocational education;
- Software developers joining the OpenQAsS.org community.

Objectives

- To improve the culture of quality assurance by involvement of VET teachers and trainers into online consultation in the partner countries;
- To develop Open Source Software toolkit (OpenQAsS) to promote and facilitate QA management in VET schools and adult educational VET providers;
- To develop a certificate – Institutional Quality Assurance Manager (IQAM) – for VET teachers and trainers who take responsibility for quality management tasks in institutions.

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Partners





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Countries: Hungary, Spain, Italy, United Kingdom, Ireland