OpenQAsS

Open Source **Q**uality **As**surance **S**ystem for Vocational Education

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OpenQAsS Toolkit

System Concept

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Introduction

OpenQAsS should provide an open-based-systems, extensible toolkit that is capable of being used, adapted, copied, etc. by any VET School that wants to adopt the ICT supported approach of OpenQAsS for their Quality Management. There will be no single toolkit available off-the-shelf for this purpose, not least because there is no single purpose that cuts across all member states and school needs within any state. Equally there is no point in OpenQAsS developing a single toolkit for all as this would only suit a few, though OpenQAsS should certainly produce a toolkit as an exemplar that can be adopted, extended, adapted, etc.

Resources for system planning

The system design is based on the studies elaborated as a part of the first two outcomes:

O1 - QA System in the practice of the European VET institutions	
	Setting up a research plan, define the tools and methods
	National reports - review the current level of implementation of EQAVET Reference Framework (and the related tools: EQF, ECVET) in each of the partner countries
	Identify best practices of QAs in the European VET providers (IVET/CVET)
	Review existing ICT supported QA Solutions
O2 - Teachers' Requirements against OpenQAsS - Study/analysis	
	Development of QA knowledge repository and implementation of a multilingual platform for online course and collaboration
	Online consultation with VET teachers and trainers
	Preparing and establishing an online survey, and statistical analysis of the results that will direct the consequential activities

The consortium carried out comprehensive desktop research in order to map out the state-of-the-art with respect to the implementation of EQAVET and of running quality assurance systems in European VET institutions. The aim of this work phase is twofold: to create a solid basis for the development of OpenQAsS Toolkit via a detailed requirement analysis; to produce a valuable study for use by all actors in vocational education, systematically revealing both the problems and good practice.

Conclusions of the national reports

QA practices, levels of usage QA systems, QA criteria and indicators highly differ across countries as well as administrative regions or jurisdictions (e.g. England, North Ireland, Scotland, Wales in UK; regions and autonomous provinces in Italy; autonomous communities in Spain). They can also depend on the levels of education and on the legal form of the providers (e.g. school-based and adult education is regulated separately in Hungary). Finally, responsibility for quality control can be centralized (e.g. Scotland; Denmark) or distributed (in most of the countries, different ministries and institutions are responsible for QA in different sectors). Nevertheless, two important facts emerge from the national reports:

1. There is little if any evidence of ICT support to the various 'toolkits' that can be found. Toolkits tend to be in the form of forms plus guidance […] [UK National report]
2. The existing QA solutions are focusing rather on administrative issues, than on operating QA cycles in the schools, or supporting quality culture among the schools' staff. […] We did not find any IT solution for supporting the operation of the institutional Quality Assurance System in Hungary, what we intend to develop in the frame of the OpenQAsS project [HU National Report]

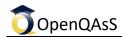## Practical suggestions based on the interview with headmaster

1. The design of the OpenQAsS system should focus on the common components of QA practices and systems that have been depicted in each National report (the *QA core*). Specifically, **QA indicators** defined at national level, still referenced to EQAVET, should be used as a primary source of information for the OpenQAsS system; similarly, the system design should focus on some **core functions** which reflect the typical QA practices in the investigated country, as reported in the national reports;
2. **Modular design** is essential for two main reasons: firstly, to meet the different QA requirements which characterize QA practices in each member state and in each VET sector; secondly, to promptly answer to the dynamism of the VET sectors, which modify QA regulations and criteria very quickly;
3. **Modular implementation and open source**: by having in mind the difficulties described above about the high variability and diversity of QA practices across member states, the open source approach perfectly fits the requirements of a software platform that needs continuous re-adaptation and personalization, in order to address all the demands arising from national and local regulation, but also from the diversity of VET providers as well as from the flexibility in QA implementation allowed in some countries;
4. **User-centred design** is necessary both to raise awareness about QA in education, but also to answer to practical and real end user needs. To this aim, involvement of teachers, headmasters, social parties, policy makers is extremely important. OpenQAsS explicitly foresees involvement of stakeholders, through interviews of headmasters, questionnaires for teachers and multiplier events. **Important results have been already gained from the interviews to the headmasters of two Hungarian vocational schools**. Their recommendations for an ICT-based QA system have been summarised in sections 7.1.6 and 7.3.2 of the Hungarian National report, and should be taken into account in the ICT system design phase. **Similar insights are expected from the questionnaires for teachers and from the multiplier events;**
5. **Exemplary IT-based solutions should be used as inspiring source.** The above listed application include functions that prove to be extremely effective to support QA practices in VET schools and providers[1]. As a part of the system design, the experts will carry out deeper analysis of the functionalities and services of the selected applications listed above.

The new system should not increase the administrative workload of the teachers. The question – how to avoid the redundancy of the stored data – is crucial for achieve a really usable solution. For instance, we have to avoid storing the figures of the students separately in the different systems.

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[1] refer to the document "Aica suggestions for O2 - Teachers' requirements and O4 - OpenQAsS Toolkit based on ReQuS teachers' and school self assessment online platform")

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Discussion and decisions on the partner meeting in Milan
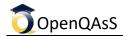
Managing quality goals related indicators.

We agreed that the project has not enough resources to cover all possible functions of a QAS. It was suggested that the main focus of the application should be the **learning and teaching process and the main target group should be the teachers and students –** as it was stated in the proposal**.** We agreed, that only some of the 10 EQAVET indicators could be produced and monitored at school level, as most of the indicators need system-level figures.

Indicator 1: Relevance of quality assurance systems for VET providers

Indicator 2: Investment in training of teachers and trainers

Indicator 3: Participation rate in VET programmes

Indicator 4: Completion rate in VET programmes

Indicator 5: Placement rate in VET programmes

Indicator 6: Utilisation of acquired skills at the workplace

Indicator 7: Unemployment rate

Indicator 8: Prevalence of vulnerable groups

Indicator 9: Mechanisms to identify training needs in the labour market

Indicator 10: Schemes used to promote better access to VET

Decisions

(1) **Main focus: teaching and learning** – **process** (I am a teacher, the tool should support me, in order to enable me to support my students on an optimal way. It helps me to manage my professional carrier as well.)

(2) **Actors**
   a. Teacher
   b. Students of the teacher
   c. Parents
   d. Principals
   e. Program leader

(3) The application should be built around the **quality cycle** (suggested by EQAVET): PLAN/DO/CONTROL/ACT (not focused on a system supporting teaching tasks but the QA aspects of them)

(4) The system should not increase the administrative workload of the teachers.

(5) **Functionalities – very draft based on the consultation in Hungary**
   a. Supporting **self-assessment** of teachers, supporting for quality goals of teachers
   b. Supporting **collaboration and knowledge sharing** among teachers of a department
   c. **Document repository** (standard documents, curriculums, lesson plans, etc.)
   d. Supporting communication (students, parents, fellows)
   e. **Supporting the teaching-learning process** (help to follow the changes during the semester/trimester)
   f. **Survey module** with questionnaire templates in four languages
   g. Event managements (workshops for talents)
   h. Climate test?
   i. Support the relationship to the world of work
   j. Support for Alumni – placements, after 5 years, asking about competences his/her work needs

    k.   Support for follow-up basic skill-test
    l.   Periodically asking the students on their aims (what would she/he become?)
    m. Supporting the self-assessment of teachers and headmasters
    n.   Supporting inside flow communication

Requirements and needs of stakeholders – results of the Hungarian Survey

Survey question: What would help You in your Quality Assurance work?

We get the following answers/request from the Hungarian responders, which are grouped by theme.

In terms of external conditions:

- precise and clear tasks and objectives of the institute
- exact policy
- **standards, handbooks**
- school's strategy and concept
- well qualified fellows in QA

It would be helpful, if Quality Assurance course exists

- direct access to the knowledge base
- less administration
- possibility of further training and consulting request
- refreshing methods and methodology

It would be helpful, if specific software exists

- proper quality control software
- process-oriented, easy to use supporting system
- **online software, supporting research and ongoing evaluation**
- later availability and usage of evaluations
- prioritization of important things and milestones
- easy to understand, well focused frontend with quick filling and processing time
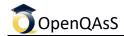
It would be helpful, if templates and proper documentation exist

- **online standard document library**
- **flexible templates**
- **electronic documentation**
- time-saving solution adapted to local needs
- action following a review of evaluation (PDCA in practice)

It would be helpful, if get useful information from their available data

- **collecting and processing quality indicators according to individual needs**
- **interoperability**
- **visibility of other institution's experiences and results**

Requirements and needs of stakeholders – results of the Italian Survey

Survey question: Do you use any other IT tool for Quality Assurance System? Please specify which tool

- CAF
- Moduli online[2]

Survey question: What would help You in your Quality Assurance work?

- MEASUREMENT OF OTHER STAKEHOLDERS SATISFACTION
- CUSTOMER SATISFACTION - QUALITY MANAGEMENT SYSTEM
- **Teachers' reflection on progress and the effectiveness of their approach**
- **Improve use of ITC**
- **A tool to set and review quality policies.**
- **project management tools**
- **A deeper knowledge of what might be done in order to increase quality.**
- Comparing our practices to the ones performed in other similar schools
- working in team and quality control software
- Sharing models, ideas and practical examples to have a more comprehensive approach to quality

Survey question: If you use any other IT tool for Quality Assurance System, can you specify for which activity?

- For planning teaching/learning process and for internal audit
- progettazione delle uda
- control of quality records and students' educational improvement

Requirements and needs of stakeholders – results of the Irish Survey

Database of Student Records

What would help you in your Quality Assurance work?

- **Guidelines**
- Specific position of responsibility within the Post of Responsibility framework.
- QA administrator role
- a clear transparent system
- Specifics quality assurance training in the education sector
- Consistency of documentation
- Training (5)
- Self-populating forms, simplification of forms
- Review of current system
- Basic upskilling re it-how to use it every day, creating resources, filing of these resources, how to use excel and shared forums etc.
- **Improved communication and monitoring**

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[2] „CAF" and „Moduli online" are internal quality tools used on a voluntary basis from teachers in their schools.

- **More guidance** in common information that could be included and shared between schools in order to maintain continuity across certain department sections.
- External Moderation and advice
- Monthly meetings, staff awareness/training
- A clear definition of standards: within the school, among similar schools
- Better involvement in its implementation as teacher
- More time made available to do it (
- An IT tool to monitor and analyse examination results
- user friendly system
- improved communications
- more time (3)
- team work
- A Computer based system to roadmap QA
- Support

Result of the event with stakeholders in Spain

The consultations with teachers, school managers and education experts in Spain to inquiry on their needs of support for QA in the VET education University of Alcalá organized three events in different locations to help stakeholders to attend them. A total of 6 centres (1 private, 1 private publicly funded and 4 public) participated involving a total of 32 people: on the meeting at University of Alcalá with two attendants from two regions (Madrid and Castilla-La Mancha), one in a school in Alcalá de Henares and one in Villaviciosa de Odon in the region of Madrid. The events adopted a shape of workshop where the agenda started with the presentation of the project and EQUAVET methods for QA in VET. Then the attendants discussed on the functionalities and requirements for a system or a set of tools to help them in implement QA in VET, based on an initial non functional prototype.

The participants expressed several barriers for effective implementation of QA in their VET programs and schools: lack of resources, overload of work (especially in management tasks) without recognition thus creating reluctance in the staff to adopt new roles and activities, restrictions on the use of communications and systems imposed by authorities, already existing tools for specific functions imposed by authorities (e.g. for controlling absence of students or for class timetables) which are not good or easy to use, etc. **The functionalities requested by each centre were really varied as some of them have already arranged some processes while others have got a solution for others. In general, the possibility of a repository for educational documents and resources is generally well considered even un the centre with more percentage of supported processes**. Another one is **the communication with students, other teachers and other actors (parents, companies**, etc.) as well as an easy tool for surveys and satisfaction studies.

OpenQAsS Toolkit - draft system concept

The conclusions of the preliminary research for the consultation with teachers (studies, presentation): there are several factors effecting the performance of the performance of the school, of the students: the size of the classes, the quality of school management, spending per students, etc., BUT **the most significant factor is the quality of teaching staff. This confirmed us: the focus of the system should be on supporting the work (lesson planning, self-reflection, etc.) of teacher.** The discussions on the consultation with teachers were organised around the main characters, attitudes and activities of a successful teacher:

1. Careful lesson planning, perfect classroom management
2. Collecting, managing self-reflection of teachers
3. Following professional development
4. Teaching methodology (frontal, group work, project based, using ICT, the way of assessment, etc.), behaviour, teachers' attitudes
5. Gathering feedbacks from all stakeholder (students, parents, principals, fellows)
6. Collaboration with other teachers (among teachers)
7. QA documentation (repository of standard documents, questionnaires)

The draft concept based on the suggestions which were categorized around the possible functionalities of the planned application. The application includes **an interactive QM Manual with the main concepts, methods, tools of quality management together with a database of standard QM documents and questionnaires, as the results of survey clearly declare the lack of knowledge of QA.**

OpenQAsS Toolkit

It is a Pedagogical Quality Management System of Teaching Staff, a web based application offering an own, closed working platform of every teacher, and supporting their daily work, as follows

- Lesson planning, classroom management with several functions (like entering, editing, printing, exporting), including options for linking and sharing methods, digital contents, list of tools, and self-reflections
- Searching among the lesson plans by several criteria, and creating reports (for instance with total hours of a certain topic)
- Creating a database of the linked digital learning objects (pictures, videos, presentations, etc.), with the option of making the objects private or public offering for further use by other teachers, and asking for external evaluation
- Creating professional e-portfolios from the collection of lesson plans and the digital learning objects
- Collecting feedbacks from students and parents (offering standard questionnaires, and online evaluation), from leaders, fellows,
- Supporting collaboration and knowledge sharing among the teachers on teaching methods, tools, resources, results of further trainings,
- Collaboration on quality goals, school' strategy at institutional level,
- Following the performance of students (home works, tests) by simple statistics (option for export to Excel).

Summary of teachers' suggestions

Module	Needs, suggestions by the teachers
Lesson plans Separate working platform for teachers for creating, storing lesson plans, Remark: The teacher can teach several subjects, and to teach the same subject in several classes.	• The teacher has option to make his/her plans public for others, and the sharing option should support the cross-subject collaboration. • There is a need for entering topics to discuss with students, the home work, etc., what kind of support should be given for learning, for project work etc. • Standard sentences for make the data entry easy. • Like option for public objects, options for further suggestions • E-mail message for others when somebody make a content public. • **Remarks** on crucial points, and on tasks to pay attention before the class. For example: to prepare copies, what to do when something would not work. • Storing and linking supporting materials (pictures, figures, concept maps, exercises, presentations, methods)
Database of learning/teaching objects Each of the teachers has its own database from digital objects (pictures, figures, concept maps, exercises, presentations, pedagogical methods). <u>There are two store: a public available for every members, and a private available only for the teacher, who uploaded them.</u>	There is a need for a database of teaching methods, and different forms of classroom work. Would it be possible to offer 100 sentences for confirmation, reflection on students? There is a need for uploading examples of assessments and for a reliable link- and literature-collection. Can be edited jointly, like bookmark collectors, such as "Delicious" The objects can be tagged, liked and stored together notes. They can be uploaded independently from the lesson plan, or while creating lesson plan.
Self-reflection Most important component of the lesson plan is the self-reflections of	For example: the evaluation of the method used on the classroom – was it relevant in this class, or not. The teacher can record a video on the lesson, than discuss it with others Popup window with notes: e.g. your plan contains 70% frontal instruction, 10% will be enough for

Module	Needs, suggestions by the teachers
teachers after the lesson.	practicing, are you sure?
Survey module for feedbacks **From students', parents' fellows, schools leaders** The application has to handle the reflections of other teachers to the public content (lesson plans, digital objects, video on classroom.	- Voting by students – how did you feel yourself? Could you use the today material in the future, what do you think, etc. - Videos: recording the classroom work, upload and analyse. - The classroom videos would be especially useful to discuss among the teachers. E.g.: how the students behave with different lessons, with different teachers? - Standard questions to videos: what would you do another way? What was the problem? The reflection of other teachers should not be public! - Options for **messages** for classroom leader, for other teachers.
Knowledge sharing	The knowledge sharing should be implemented not only by reflections but also through **forums**, **blogs**. The application should make possible the collaboration on QA documents like strategic aims and quality goals of the school. Standard documents supporting this work. Comparing the aims what was established. Explanations on why the goals could not been fulfilled?
Process track, teachers' portfolios	Summary of self evaluation after closing the semester, analysis and explanations. Creating a portfolio from the successful lesson plans? Creating a further training plan for the semester/year.
QA Manual	A comprehensive, interactive learning content of the institutional quality assurance and management. It works like an own learning material with notes, self assessment.