Title of the Paper
Expero: an European model of excellence to evaluate the quality of the learning outcomes in vocational trainings

Abstract: Approximately 200 Words
Through two European Projects, named “ExPerO” and “Expero2Eu”, founded by the LLP Leonardo da Vinci Program, a model has been developed to assess and evaluate the quality of the learning outcome in the vocational education.

ExPerO (the European LLP project started in 2005 and ended in 2007) aimed to create, on the basis of the international scientific literature, a model able to evaluate the quality of the learning outcome in the upper secondary not tertiary context. This project took in consideration the multiplicity of stakeholders of the vocational courses, considering quality also in relation to the capability to answer to the needs of the labour market.

Expero2Eu (the European LLP project started in 2008) aims to make ExPerO model as supranational standard (model of excellence) for the certification of the learning outcome quality in the educational field.

Key words: Approximately 20 Words
Quality model, stakeholder oriented, ExPerO model, vocational education, post secondary not tertiary education, Quality assurance, learning outcome, customer satisfaction, service quality, expectation and perception, competences.

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1 A draft of this contribution will be presented and discussed at the Decowe Conference: Ljubljana, Slovenia, 24-25 September 2009.
Paper

The length of the paper should be approximately 4000 words.

1. Introduction

The most famous quality evaluation models (EFQM, ISO, ServQual) applied to the evaluation of educational organization point out their attention on the evaluation of the processes and/or of the service. Instead until now, very few models aim to the evaluation of the learning outcome.

Through two European Projects, named ExPerO and Expereo2Eu, financed by the LLP Leonardo da Vinci Program, a model has been developed to monitor and evaluate the quality of the learning outcome in the vocational education. This is coherent to the last European standards and recommendations about credits and certification (see “European Quality Assurance Reference Framework for Vocational Education and Training”, 2008).

In the model we refer to the definition of learning outcomes used in the European qualifications (Cedefop, 2008): “Learning outcomes are statements of what a learner knows, understands and is able to do after completion of learning”.

2. ExPerO Project

ExPerO² aimed to create, on the basis of the international scientific literature and the permanent feedback from the involved school, a model and a set of tools able to evaluate the quality of the learning outcome in the VET (vocational education and training) context, initially oriented to upper secondary not tertiary level. A multidisciplinary approach was used in order to design the ExPerO model. The main frameworks were related to social psychology, work and organizational psychology and adult education, as well as Total Quality and Marketing Management literature³. The most used quality models had been surveyed and analyzed and consequently the objects of the assessment, their indicators and their main referents were defined and tested.

The indicators have been elaborated during the project period starting both the literature mentioned above and from the analysis of the main European Framework documentation (Cedefop, Eurovillage, CQAF), as well as consulting other European project results (QiS,

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² European LLP project started in 2005 and ended in 2007, code I/05/B/F/PP-154171
³ The whole theoretical structure is available in six languages at the website www.expero.org/hypertext
Helen). Big attention was given, besides, to the European partners feedbacks, in particular the participant schools. A first release of the model and indicators had been submitted to an expert panel composed by scholars and educational government from the five Countries involved in the project (Italy, Slovenia, Spain, Lithuania and Bulgaria). The indicators have been again reviewed after the first and the second survey analyses to assess the applicability on the field. Finally one expert in each country and one European quality referee evaluated the conformity of the model.

Main features of the Expero model state in considering on one side, the multiplicity of stakeholders of the VET courses, and, on the other side, the different ways to analyze Customer Satisfaction and Service Quality.

2.1 ExPerO theoretical model: the stakeholder approach

A commonly shared definition of the term “stakeholder” is about “bodies, entities, people who have a kind of interest in the organization and that are able to influence its activities and results by their decisions and behaviours” (Cervai, 2007, p. 13). People, bodies, companies, which feel themselves involved in a problem, are usually considered stakeholders (Mc Daniel, Miskel, 2002). Trying to define a discrete list of stakeholders for one specific organization, one can easily start a never-ending path: everything, in one way or another, can influence a situation to some extent. Considering the organization as an open system, we need to define its limits and carefully analyze which stakeholders need to be taken in consideration.

Translating this concept from the organization point of view, stakeholders are the ones that the organization considers important in order to achieve its mission; they are interested in the outcome and also, more generally, in the organization’s being.

A main interest of an organization for the stakeholders derives from the customer-oriented approach. In the 70’s most of the companies were focused on the direct customer, oriented to satisfy and to maintain him/her as the fundamental condition for the company’s survival. But a renewed view of the company strategy to succeed proposes an enlarged consideration of all those who have direct interest in the companies. It started with the increasing interest of the US companies toward shareholders: their satisfaction was more important than to satisfy the customer, because they could determine the market and the share index. So the companies were still more oriented to create networking with companies (supplier, customer, competitors) and with public bodies able to influence the market. After this, a more recent
tendency has emerged to create and spread a company’s image toward the wider public. In this path we cannot forget the fundamental contribution of TQM philosophy (Kekale, 1998), in which the role of the primary stakeholder is taken by the employees as human resources inside the organization. To consider stakeholders means to dedicate time and resources to individuate them, to analyze their needs, to negotiate and to create a solid relationship with them (Wright, Palmer, 1995; Reavill, 1998).

Coherently with this approach, it has to be considered that a stakeholders oriented approach does not directly mean that the organization has to satisfy all the stakeholders expectations, differently it should mainly act in order to know these expectations, to consider them when possible and to create networks and communication flows between stakeholders and the organization.

Stakeholders need to be listened in order to get acquainted with their interests (it is not enough supposing them), to understand them and to tailor the service closer to their needs, but only if it doesn’t collide with the organizational mission, its resources and institutional interests. Coherently a school that uses a stakeholders approach has mainly to consider its mission, values and resources before to elaborate strategies to meet its stakeholders expectations.

Following these considerations and after a data collection in vocational schools about their own stakeholders, we have classified them in four categories on the basis of their direct or indirect involvement in the educational process (figure 1):

- **Leadership (STK-L)** is represented by the headmaster and the managerial staff (also the Quality Group where present), who are requested to express and formalize the school mission (in the model related to the stakeholder weight) and the Vision (the values of the image that the school should have).

- **Internal stakeholders (STK-I)** participate in the creation of the training and they directly determine its process and result. They are mostly the staff of the school organization (teachers, administrative staff, other school employees). They have a critical interest in the organizational achievements and in their own professional motivations.

- **Trainees (STK-T)** have been considered as a specific category of stakeholders. They are simultaneously internal and external ones and completely different from others. They are first of all “users” of the educational service; they are directly involved in the process and determinant in performing the learning outcome. Without stimulating the motivation of the trainees and without achieving the educational aim, the learning process would be empty and
unsuccessful, despite excellent educational service proposed by the school. The trainee is the foremost beneficiary of the service school.

- **External stakeholders (STK-E)** have a direct or indirect interest in the result of the process. Usually, they don’t actively participate in the process, but they can influence it, even with no direct actions. In the model they are: companies, their customers, vocational associations, chamber of commerce, trade unions, families, association of families of students with special needs, the national- and European- institutional bodies.

The first step each school has to elaborate, is to analyze the importance of each stakeholder. It has no sense to figure out a *common standard* based on the average of weights of different schools in different countries; the policy makers of the school (leadership) should have a clear vision about the level of importance of each stakeholder, consequentially the declaration of stakeholders’ weights contributes to clarifying the mission and the vision of the school.

Figure 1 – Stakeholders classification in the Expero Model

2.2 **ExPerO theoretical model: Customer Satisfaction** and **Service Quality**.

In order to create a model that analyse the quality if the learning outcome it is important to underline the differences between the concepts of Service Quality and Customer Satisfaction. In an extensive literature review, we highlight the conceptual differences between what is mean with “Service Quality” and what is mean with “Customer Satisfaction”. Table 1 synthesizes the main differences between these two approaches found in literatures.
<table>
<thead>
<tr>
<th>Influences</th>
<th>Customer Satisfaction: CS</th>
<th>Quality of the Service: QS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A broader set of factors including those not strictly related to the service (i.e. if one is in a good or bad mood in the moment of evaluation)</td>
<td>Factors are quite specific linked to the service</td>
</tr>
<tr>
<td>Sphere involved</td>
<td>Composed both by cognitive elements and by affective elements (i.e. emotions linked to surprise)</td>
<td>QS evaluation is mostly cognitive, being a representation of knowledge in consumer memory</td>
</tr>
<tr>
<td>Type of evaluated event</td>
<td>Both specific event and general service</td>
<td></td>
</tr>
<tr>
<td>Type of expectation</td>
<td>Expectations as “predictive standard”</td>
<td>Expectations as “ideal standard”</td>
</tr>
<tr>
<td><strong>Expectation (E)</strong> and <strong>Perception (P)</strong></td>
<td>E – P (ServQual) [8]</td>
<td>Complex relation between E and P</td>
</tr>
</tbody>
</table>

The first difference between CS and QS refers to the influence of external factors. The
factors that cannot be controlled by the service (since they derive from external causes, i.e. the emotional status of the user, environmental variables, etc. Provider) are considered external (Oliver, 1993).

Customer satisfaction is mainly a feeling rather than a judgement, such as a temporary status of the mind, and therefore is more influenced by external factors. By contrast, the quality of the service is more an evaluation than an emotion, and so it is not influenced by temporary factors, such as emotions or contextual factors not related to the service.

Thirdly, although in Oliver’s opinion (1997), QS defines a general attitude about a kind of service, while CS is related to a specific service, we agree with Teas (1994), who says opposing Oliver that the quality of the service could be both related to a general service and to a specific transaction.

About the type of expectation considered by the two approaches, the customer satisfaction refers to the predictive standard, while the quality of service to the ideal standard.

Expectation as predictive standard (Boulding, Kalra, Staelin and Zeithaml, 1993) is focalized on the sure forecast about what is going to happen (will happen) in the next match with the service (or with the company). This kind of expectation is usually used in the customer satisfaction studies.

Expectation as ideal standard (Boulding et al., 1993) consists in what the customer should want to obtain (should happen) in the next match with the service or with the company. This kind of expectation is usually used in the models of quality of service and they refer to expectations as the desired level of performance for the customer (Boulding et al., 1993; Spreng, MacKenzie, Olshavsky 1996).

Even if both concepts (CS and QS) take expectation and perception into consideration, there is a different kind of approach about the type of relation existing between them.

Customer Satisfaction models are based on the idea that the final satisfaction derives from subtraction of expectation from the perception. In this sense, CS models have been using a “subtractive” relation. By contrast, QS models are based on a general relation among expectation and perception. To clarify the evolution of the theories, it can be useful to briefly summarize the conceptual development of the studies, started with Servqual (Parasuraman, Zeithaml Berry, 1988), maybe the best known (but not the most recent) model about customer satisfaction.

In Servqual model, satisfaction is the result of expectation less perception. A same survey scale (a Likert scale) was used to measure both expectation and perception, simply subtracting the perception score from the expectation score. A positive result means that expectation is
major than perception, consequently the customer is unsatisfied; and when the result is minus, the customer is satisfied.

Among the various critics to Servqual model, one of the most important is represented by the ServPerf model (Cronin, Taylor, 1994). These authors state that when somebody is called to evaluate the perception, she or he in one’s own mind has already considered the personal past expectation of the service, thus the evaluation of the perception already contains the expectation. In other words, the subtraction proposed by Servqual becomes double (first, implicitly done by people in their mind, and second, explicitly done by Servqual model); therefore ServPerf proposes a perception-only investigation (perception based approach).

Differently, QS models are rather based on a general and complex relation among expectations and perceptions (Robinson, 1999).

Tailoring those concepts for ExPerO model, we have used:

- QS approach for External Stakeholders investigation. We choose to analyze the expectation in the form of “should”, and to consider the relationship between expectation and perception a complex relation. Consequently we used QS approach to evaluate the “Quality of Results” ExPerO indicator (see afterward).

- CS approach for trainees. The trainees are the only category of stakeholders for which we decided to apply the CS approach. The reason stated in adult learning dynamics and especially in considering the motivation of the student participating to the course. Satisfaction is closely related to motivation to learn (Knowles, 1980; Podeschi, 1987). To measure it, we have accepted the perception-only approach (expectations are already taken into account in the perception process). Consequently we used CS approach to evaluate the “Satisfaction of Results” ExPerO indicator (see afterward).

### 2.2 ExPerO theoretical model: the indicators

Figure 2 – The two areas
The model is composed by two macro areas: SHOULD and IS (Figure 2). SHOULD area includes the analyses of ideal expectations, tailored for different stakeholders, and it takes into account their interests and their knowledge about the VET course. The second area, named IS area, collects the perceptions about the learning outcome. SHOULD area is investigated at the beginning of the course, whereas IS area is explored at the end.

Inside these two areas we elaborated several indicators described as follow:

**Mission** consists in the stakeholders’ importance calibration (Figure 3). Headmaster or other school policy makers (STK-L) defines in the stakeholders’ weight, in order to ponder the Quality of Results to the shape of the school stakeholders network.

**Vision** contains the policy makers (STK-L) views about the values that the school should transmit to the external and internal stakeholders (also called “brand” image
values). This is surveyed through a validated questionnaire and it is compared, at the end of the course, with the scores given by all the other stakeholders. The comparison among the “ideal image values” (Vision) and the stakeholders real perception about the school image (QI indicator) gives an indicator about the whole image coherence, and, as consequence, about the communication management efficacy (Figure 4).

**Figure 4 - Vision**

![Vision Diagram](image)

**OP - Organizational Processes indicator** (derived from Work Psychology Literature) contains data about how the organizational processes should be improved in the view of internal stakeholders (via focus group) and by trainees (via semi-structured interviews) (Figure 5).

**Figure 5 - OP**

![OP Diagram](image)

**QC - Quality of Competences indicator** (derived from Adult Education Literature) represents the evaluation of competences (knowledge, skills and professional behaviours)
acquired by the trainees during the VET course. It is planned by the teachers (via a competences matrix) indicating the competences a student should have gained at the end of the course. It is compared with the teachers and trainees perceptions when the course is finished (Figure 6).

Figure 6 - QC

**QR (EX-PER) - Quality of Results indicator** is composed by two parts: expectations (QR-EX) and perceptions (QR-PER). QR-EX includes expectations asked at the beginning of the course to the external stakeholders (via semi-structured interviews); QR-PER consists of all the perceptions of the same stakeholders (external) about the learning outcome collected when the course is ended. QR matrix derives from an evaluation of the gap between QR-EX and QR-PER pondered on the stakeholders weight (Mission). QR is composed by five sub-indicators, surveyed to the proper stakeholder: Competences, Employability, Drop out, Meeting the future needs, Credits (Figure 7).

Figure 7 - QR
SR- **Satisfaction of the Result indicator** represents the satisfaction of the training performance as general judgement expressed by the trainees (via semi-structured interviews). Adults’ motivation is a necessary condition to learn and this factor regulates the psychological processes connected to satisfaction (Figure 8).

![Figure 8 - SR](image)

**QI – Quality of Image indicator** is based on the idea that organizational image can strongly influence the choice of a service. Moreover, it gives an indicator to monitor and to compare the school image with other similar services and to compare its changes along years. In order to manage the image, one of the aims of the organization is to maintain coherence between internal and external communication (*integrated communication system*). This indicator results by a comparison of the ideal image (Vision), Identity and External Image surveyed by questionnaires (Figure 9).

![Figure 9 - QI](image)
After the explanation of each indicator, in figure 10 the whole model is illustrated, composed by all its indicators.

Figure 10- the whole set of indicators

2.3 ExPerO theoretical model: the Tools

As reported before, ExPerO model aims to assess the quality of the learning outcome of a vocational course. The survey has to be done in two phases, before and after the training.

It is based on qualitative instruments (semi-structured interview and focus group) and quantitative tools (questionnaire).

Should area indicators (OP and QR-EX) have to be surveyed before the beginning of the training, by a focus group to internal stakeholders and by semi-structured interviews to trainees and external stakeholders.

The Image is surveyed through a questionnaire mainly based on semantic differential scale.

At the end of the course, better after 3 or 6 months, the Is area has to be surveyed through semi-structured interviews to external stakeholders and trainees.

Expero model provides the theoretical background, the tools and a MSExcel® data sheet to store and manage all the survey phases. The data sheet automatically processes the input data and gives syntheses, diagrams and scores as outcomes.

3. Expero2Eu Project

After a very good evaluation of the ExPerO Project by the European LLP Commission (9/10), the transfer of the model to a larger sample has been approved with a new project: Expero2Eu
Expero2Eu is funded by LLP (LifeLong Learning programme – code: LdV/TOI/08/IT/518), and it started on October 2008 and it will end on October 2010. This project aims to transfer the ExPerO model (as innovative content) in the specific field of mechatronics and to make ExPerO an European model of excellence in the VET learning outcome evaluation. The Partner network is composed by: five VET schools (4°/5° level of EQF in UK, Belgium, Italy, Spain and Turkey) providing a similar vocational programme (mechatronics); three consultancy firms in school quality (from Spanish, Demark and Austria); two Universities (Italy and Finland); a Switzerland Educational Centre as critical friend and quality manager; two Italian schools for local area dissemination.

3.1 Expero2Eu Project: The theoretical plan envisions.

On the theoretical side, Expero2Eu aims to present ExPerO model as a model of excellence for the certification of the learning outcome quality in the educational field. Thus, each VET provider will be able to obtain ExPerO certification by applying for an audit to accrediting institutions, and demonstrating to apply the model and its instruments as tools to improve their quality of the learning outcome.

Accreditation of a supranational type appears as the most effective choice with the purpose of making the Expero “seal” as broad, general, and attractive as possible.

Another aim, in course of development in Expero2Eu, is a feasibility study on the possible utilization of the ExPerO model as a useful tool for the social reports, an increasingly frequent requirement in the world of education also. One of the objectives of the social report is to show how much the stakeholders influence the decision-making processes of the organization. Consequentially, it appears reasonable to forecast that applying ExPerO a school will effectively satisfy the requirements of its stakeholders in the various organizational processes.

3.1 Expero2Eu Project: the applicative level.

On the applicative level, Expero2Eu is triggering a first European network of VET institutes that will offer courses in mechatronics. These schools are applying both ExPerO model in order to act for mutual recognition of credits and qualifications.

The quality of learning outcome certified by the ExPerO model is based essentially on the stakeholders’ requirements and perceptions. Consequentially, the explosion of the self-referential singularity of a VET institute in a constellation of European evaluation networks.
will generate a sharing process in the stakeholders’ networks, effecting closer and closer communication not only between the school and its stakeholders, but also among the school and other schools, and among stakeholders and other similar stakeholders (according to the dynamics typical of a social network).

By planning a circular evaluation it will be possible for every involved school to work at the same time as evaluator and as object of evaluation. This will increase awareness of the concepts of quality, transparency, and mobility.

A further applicative objective of Expero2Eu is moulded on the ‘Recommendation 2001/166/EC of the European Parliament and of the Council of 12 February 2001 on European cooperation with regard to the qualitative assessment of school education’”. This recommendation encourages the creation of an Internet database for the dissemination of “best practices” concerning quality evaluation in the European school system. The ExPerO project had envisioned a “database for management of divergences” as a static container of the “best practices” utilized by partner schools to solve possible gaps between expectations and perceptions noted through the application of the model. In Expero2Eu it has been planned to create a “Troubleshooting Knowledgebase” (TKB), that will have a dynamic base capable of hosting the “best practices” drawn from new partners in an enriching and continuous way. TKB will become the portal through which one may access the shared knowledge derived from the experience of executives in the European school system. Such knowledge will no longer remain secluded in each single school, but will be fit to be shared and broadened, thereby enriching the problem-solving capacity of European VET institutes.

3. 2 Expero2Eu Project: outcomes and results.
As main intangible outcomes, Expero2Eu will develop consciousness about the assessment of the learning outcome in the school personnel involved. Expero2Eu is also impacting on the European vocational training system, accrediting a model of excellence (ExPerO) able to assess and compare the Quality of the learning outcome of the European VET institutes, towards a mutual recognition of Competences and Credits and promoting the transparency and the mobility in the VET education field. The certification of educational organizations through a model dedicated to evaluate the learning outcome signs a new development in the quality models. The realization of this first network in mechatronics area and a European seal available for schools and other educational bodies is the first step to produce a increasing flexibility and mutual recognition among competencies belonging to different Countries.
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