Validation of a Conceptual Quality Framework for Online and Blended Learning with Success Factors and Indicators in Adult Education: A Qualitative Study

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ABSTRACT
This qualitative study was designed to identify a framework for the quality of OBL in adult education (AE), which are of interest to the needs of students. Following a review of the literature, we opted for the theoretical framework as proposed by Ossiannilsson and Landgren (2012). This framework suggests success factors for OBL that are of interest to the needs of students. Qualitative data was collected through group interviews (n=12 groups) with stakeholders involved in AE. Professionals from five institutions, at the policy level (n=17) or programme level (n=20) were interviewed. Findings were discussed and agreed upon by the researchers to validate a quality framework for OBL in AE. At the level of the success factors, it is useful to underpin the adoption of OBL, to formulate a mission statement. The indicators can help set goals, identify resources and strategies and measure whether the provision aligns with adult students' needs. All success factors and indicators are linked to quality areas and dimensions most existing quality frames are built on. At this level the framework is useful to mainstream the quality of OBL into traditional frameworks.

Keywords: Quality, Success Factors, Blended Learning, E-learning, Online Learning, Quality enhancement.

INTRODUCTION

Online and blended learning (OBL) is highly valued in education but at the same time challenges educational institutions. It is valued e.g. to enhance accessibility and flexibility in education (Graham & Robison, 2007; Shea, 2007), to reduce the costs of instruction (Shea, 2007) and even to transform traditional approaches to instruction and teaching(Garrison & Kanuka, 2004; Graham & Robison, 2007). OBL is appealing for institutions in order to tailor the educational provision to the needs of (adult) students in terms of pedagogy and to support them to balance education with other responsibilities. OBL is equally highly challenging for institutions because quality assurance and improvement (QA&I) requires a systemic approach and the involvement of many, including students (Deepwell, 2007; Jara & Mellar, 2009). Yet it is not easy in education to consult students, and even more difficult in the case of OBL as a result of the limited presence of students (Bloxham, 2010; Jara & Mellar, 2009).

Knowledge of what defines quality of OBL from the student perspective is therefore beneficial but was lacking until recently. This knowledge can support institutions to underpin the adoption of OBL and set goals, identify resources and strategies and measure whether the provision aligns with (adult) students' needs.

We firstly present commonalities in existing quality frameworks for OBL from the providers' perspective reported in literature. Then we will discuss aconceptual framework for quality of OBL to meet students' needs. Finally,we will address both empirical studies and studies on existing quality models that define quality of OBL for (adult) students in the context of HE in relation to the conceptual framework and the commonalities in existing quality frameworks.

LITERATURE REVIEW ON QUALITY FRAMEWORKS FOR OBL

With the rise of OBL in HE, the issue of quality assurance and improvement (QA&I) was raised(Jara & Mellar, 2009). Institutions, governments and QA agencies needed to know how to assess the quality of OBL (Jara & Mellar, 2009). In order to meet this need, several quality frameworks were developed for OBL-education in higher education (HE) worldwide (Ossiannilsson, Williams, Camilleri & Brown, 2015). These frameworks differ by scope, structure, type of institution they are aimed at and intended way of use (Inglis, 2005). Nonetheless the differences between quality frames, scholars noted that they have similar '*constituents'*(Frydenberg, 2002; Jung, 2011; Phipps & Merisotis, 2000). According to Ossiannilsson and Landgren (2012) these can be clustered in three quality areas (management, services and products) and six quality dimensions: management, student support, support to teachers and staff, curriculum design, course design and delivery.

Quality of OBL from the providers' perspective in Higher Education

The concept of quality dimensions originates from the total quality movement (TQM) in industry during the previous century (Srikanthan & Dalrymple, 2002). Srikanthan and Dalrymple (2002) advocate for holistic quality models that address service and pedagogical aspects.Quality frameworks are traditionally presented from an institutional perspective by the quality areas and quality dimensions (Frydenberg, 2002; Jung, 2011; Phipps & Merisotis, 2000). This is important because the deployment and QA&I process (of OBL) demands a holistic, often also called systemic or process approach. The consensus in the scientific community for this statement (Hansson, 2008; Ossiannilsson et al., 2015) is clearly expressed by Hansson*(2008a)*: *"When implementing e-learning, it is important to adopt a holistic approach. … aspects … are part of a puzzle in which all the pieces have to fit together. When one part of the puzzle changes, e.g. technology, student behaviour, knowledge needs, society, finances or staff requirements, all other parts needs to be re-aligned accordingly" (Hansson, 2008a, p. 56).*

TQM frameworks cover management processes, but miss the focus on the student learning experience (Srikanthan & Dalrymple, 2002). Dumont and Sangra (2006) came to the same conclusion when assessing different quality frameworks in European HE. Scholars report that quality frameworks in HE are often conceived from the perspective of the provider (i.e. institutions, government) (Frydenberg, 2002; Jung, 2011). Ehlers and Pawloski (2006) state that the student perspective of quality does not necessarily coincide with other stakeholders' views.In view of recent literature which emphasises that educational quality is the result of a negotiation process between all participating parties in education (Ehlers, 2009a, 2009b) the student perspective is important. Moskal et al. (Moskal, Dziuban, & Hartman, 2013) refer to alignment as 'institutional alignment', which implies that institutional (meso level), faculty (micro level) and student goals are aligned. Institutional alignment requires a culture focused on quality in which key stakeholders actively participate in dialog (Ehlers, 2009a, 2009b; Moskal et al., 2013). However, the limited opportunities to interact with students in OBL puts pressure on their involvement (Jara & Mellar, 2009). It is thus important that quality frameworks comply with the needs of students. However, the question to what contributes to quality of OBL from a student's point of view remained unanswered until recently.

Quality of OBL from the students perspective in Higher Education

Conceptual framework of Ossianilsson & Landgren (2012)
The work of Ossiannilsson and Landgren (2012) focuses on the quality frameworks for OBL in HE. These authors compared the output of international benchmarking projects, the e-learning quality model (ELQ) outlined by the Swedish National Agency for Higher Education (NAHE) (Hansson, 2008) and analysed literature from that comparison. A conceptual framework with a range of critical success factors: accessibility, flexibility, interactivity, transparency, participation, personalisation and productivity for quality in e-learning to meet students' needs emerged (Ossiannilsson & Landgren, 2012). The latter three success factors are related to pedagogy (McLoughlin & Lee, 2008). Success is described by Ossiannilson and Landgren (2012) as: *'to be successful in e-learning from an academic and educational point of view but also with regard to their personal and social life'*(Ossiannilsson & Landgren, 2012, p. 49). The authors (Ossiannilsson & Landgren, 2012) suggest that the success factors should be embedded in all quality areas and quality dimensions: managerial levels (strategic planning and development), services (staff support and student support) and products (curriculum and course design, course delivery).

This conceptual framework presents a view to what '*constituents'* add to quality of OBL when looked at from the students' perspective. While the authors describe the success factors, definitions of the concepts are not given. How the quality dimensions are connected to the success factors is neither made explicit. The self-assessment tool e-xcellence (Kear et al., 2016; Ubachs et al., 2007; Williams, Kear & Rosewell, 2012), developed by the European Association of Distance Teaching Universities (EADTU), is built upon this conceptual framework and contains benchmarks. Yet, the assessment tool is presented from the traditional institutional perspective i.e. quality areas and quality dimensions instead of the students' perspective.

Empirical studies on quality dimensions from the (adult) student perspective in Higher Education
The scarce studies in search for quality dimensions of OBL from the (adult) students' perspective indicate that the framework of Ossiannilsson and Landgren these (2012) can be fine-tuned for application in the context of adult education. While several of the quality dimensions reported in these studies coincide with the success factors reported by Ossiannilsson and Landgren (2012) also differences appear.

In an empirical study Ehlers (2004) interviewed experienced students in OBL in the European context of HE. From these interviews Ehlers (2004) constructed a questionnaire answers of students were analysed by principal component analysis and cluster analysis, seven quality fields (key factors): tutor support, cooperation, technology, costs-expectations-value, information transparency, course structure and didactics, and thirty quality dimensions for OBL were identified. Several of these quality fields, with their underlying quality dimensions seem to coincide with the success factors reported by Ossiannilsson and Landgren (2012) (see tTable 1). Ehlers (Ehlers, 2004) identified different student preference profiles for the quality of OBL. Although the perception of quality can differ between students it can be defined by a limited number of quality fields or '*constituents*'.

Table 1: Comparison of success factors reported by Ossiannilsson and Landgren (2012) with reported quality fields and quality dimensions by Ehlers (2004) and quality dimensions by Jung (2011).

Ossiannilsson and Landgren (2012)	**Ehlers (2004)**	**Jung (2011)**
Reported success factors	*Reported quality fields or quality dimensions*	*Reported quality dimensions*
-	-	Institutional credibility
A. Flexibility	-	-
B. Transparency	Information transparency (QF 5)	Information and publicity
C. Accessibility	-	-
D. Personalisation	Student vs. Content centeredness (D3)	-
E. Interactivity	Collaboration (QF 2) Interaction centeredness (D1)	Interaction
F. Productivity	-	-
G. Participation	-	-
Quality areas/*Quality dimensions*	*Reported quality fields*	
management		
• Strategic planning and development	-	Institutional QA mechanism
Services		
• Student support	Tutor support (QF 1)	Student support
• Support to teachers and staff		Staff support
Products	-	-
• Programme design	-	-
• Course design	Course structure (QF 6) Didactics (QF 7)	-
-	-	Learning tasks
• Delivery	Technology (QF 3)	-
-	Costs – expectations – value (QF 4) Moderation of learning processes (D2)	-

Based on literature Jung (2011) developed a questionnaire with seven quality dimensions: institutional support, course development, course structure, teaching and learning, student support, faculty support, and evaluation and assessment. Responses of students familiar with OBL were analysed by exploratory and confirmatory factor analysis to determine the number of common factors and to examine the structure of those factors and intercorrelations among them. Jung (2011) empirically identified the following quality dimensions important to Korean adult students in HE: information and publicity, student support, staff support, institutional quality assurance mechanisms, institutional credibility, learning tasks and interaction. Several of these quality dimensions also coincide with the success factors reported by Ossiannilsson and Landgren (2012) (seeTable 1).

Next to the similarities presented above, differences also emerged. No reference towards attributes for**accessibility** is found in Jungs' study (2011) and Ehlers (2004) indicates that students acknowledge the importance of technology for quality of OBL only when it is lacking. **Productivity** and **participation** were also not mentioned by Jung (2011) and Ehlers (2004).

One might expect that **flexibility** is a prerequisite for the quality of OBL, crucial for adult students to keep professional obligations balanced with educational engagement. However, indicators related to flexibility e.g. 'flexibility of the learning pace' were excluded from the final indicator list in Jungs' study (2011). Little

reference towards attributes for flexibility is found in Ehlers (2004) study. Inglis (2008) indicates that the validation processes of quality frameworks take place against (geographical) contexts which have an impact on the result(ing) current practices, e.g. the way OBL is conceived in a region, can have an impact on what is reported as important. This might be the reason why the indicator 'flexibility of the learning pace' was excluded in Jungs' study (2011) and not reported by Ehlers (2004) as both studies were conducted in the context of HE. A context in which the flexibility of the learning pace for students is likely limited. Contextualization of the findings to the context of adult education seems thus necessary.

Another difference reported by Jung (2011) relates to the quality dimension 'course design'. It appeared that content and structure of courses was not important for adult students per se. Jung (2011) concluded that the design of learning tasks might be crucial for adult students instead. It should be noted that attributes of learning tasks (Jung, 2011) are similar to the concept of personalization: Problem-based learning tasks, individualized learning tasks and collaborative learning tasks.Neither assessment and evaluation nor technological support appeared to be critical for adult students (Jung, 2011).

Jung (2011) reports that 'institutional quality assurance (QA) mechanism' and 'institutional credibility' were important for adult students. These were not reported by Ehlers (2004).Respondents valued that the institution was accredited at the national level and had installed a QA policy with clear policies and guidelines (Jung, 2011). It is not clear how 'institutional credibility' is to be seen. It can be either interpreted as a quality dimension i.e. 'management' in Ossiannilsson and Landgren's (2012) conceptual model or a new success factor i.e. 'credibility'. Credibility, according to Jung (Jung, 2011), stands for external accreditation, international recognition and strong leadership.

Studies on existing quality models, their quality aspects and quality indicators that define quality of OBL for adult students in the context of HE.

Findings in Ehlers (2004) and Jungs' (2011)study support the claim of Ossiannilsson and Landgren (2012) that several success factors for quality of OBL in HE exist. Studies in HE about existing quality models/systems or quality aspects/indicators that define quality of OBL for AE provide additional support (Table 2).

Table 2: Overview of articles (author and title) and comparison with success factors reported by Ossiannilsson and Landgren (2012) and Jung (2011)*.

nr.	Author	Title	Success factors							
			C*	F	T	A	I	Pe	Pr	Pa
1.	Korres, Karalis, Leftheriotou, & Barriocanal (2009)	Integrating Adults' Characteristics and the Requirements for Their Effective Learning in an e-Learning Environment	X				X	X	X	
2.	Dzakiria (2012)	Illuminating the importance of learning interaction to open distance learning (ODL) success: a qualitative perspectives of adult learners in Perlis, Malaysia					X			
3.	Zhang & Cheng (2012)	Quality assurance in e-learning PDPP evaluation model and its application	X							
4.	Volungeviciene, Tereseviciene, & Tait, (2014)	Framework of quality assurance of TEL integration into an educational organization	X			X			X	
5.	Stodel, Thompson, & MacDonald (2006)	Learners' perspectives on what is missing from online learning: interpretations through the community of inquiry framework	X			X	X	X		
6.	MacDonald & Thompson (2005)	Structure, content, delivery, service and outcomes: Quality e-learning in higher education				X	X	X		
7.	Harroff, P.A. (2002)	Dimensions of quality for web-based adult education	X		X	X				

Credibility, Volungevience et al. (2014)provide an argument to see 'credibility' as a new success factor related to the quality dimension 'management' because they plead for a clear vision on the reason for implementating OBL. This is in line with Zhang and Cheng (2012) who advocate for clear OBL implementation processes and

guidelines. Strong leadership is apparent when teachers who experiment and implement OBL are credited (Harroff, 2002). Besides strong leadership, installation of adequate resources is considered necessary by several authors, ranging from staff support through clear roles (Korres, Karalis, Leftheriotou, & Barriocanal, 2009; Volungeviciene et al., 2014), adequate technical training (Harroff, 2002) and training in applying new pedagogy (Korres et al., 2009; Stodel, Thompson, & MacDonald, 2006). Finally, credibility refers to an internal QA system with a focus on written QA guidelines for OBL (Jung, 2011), specific quality measures (Jung, 2011; Volungeviciene et al., 2014; Zhang & Cheng, 2012) and consultation with different stakeholders such as students (Harroff, 2002) and staff (Jung, 2011). All these quality attributes are important to install a sustainable OBL programme, and can be considered management responsibilities, no different from a standard education programme, but with a specific focus for OBL. It is clear that this success factor is important from a provider's perspective and is indirectly relevant for students. However Jung's (2011) study indicates that adult students also consider these attributes important.

Transparency is important for adult students because it gives them a clear idea of what to expect and to consider if the programme can be combined with their professional and personal occupations. It is crucial to provide correct information, before and during the programme, about: admission requirements (Harroff, 2002), costs (Harroff, 2002; Jung, 2011), programme length, expectations of technical knowledge and information on course requirements (Harroff, 2002).

Accessibility can be looked at from different perspectives. Products such as courses should be easily accessible and easy to use (MacDonald & Thompson, 2005; Volungeviciene et al., 2014). This is equally true for services such as learning support (Harroff, 2002; MacDonald & Thompson, 2005) that are provided. Stodel et al. (2006) focus on accessibility of the design on a deeper, pedagogical, level. The use of technologymust be in line with the chosen pedagogy by using appropriate tools e.g. tools for synchronous and asynchronous communication.

Personalisation seems also present in the literature on OBL in AE. It ranges from content (Korres et al., 2009) or design (Stodel et al., 2006) that meets expectations and interests of the students, over providing authentic and personally meaningful problems (Jung, 2011), to even rapid redesign to adapt to the students' needs (MacDonald & Thompson, 2005). Not only does the design refer to personalisation, also the students' support is personalised or need based (Jung, 2011).

The instructional design needs to provoke activation or **interactivity** of the students with the materials by providing authentic materials (MacDonald & Thompson, 2005) or to initiate interaction between students by collaborative tasks (Korres et al., 2009) and meaningful dialogue (MacDonald & Thompson, 2005). The student-student interaction is also intended as technical support (Stodel et al., 2006) or emotional support (MacDonald & Thompson, 2005). Finally literature refers to student-teacher interaction with a focus on the quality of the feedback from the tutors (MacDonald & Thompson, 2005).

Productivity is mentioned in relation to an indicator i.e. problem based learning (Jung, 2011) or higher-order thinking (analysis, synthesis, evaluation) (Korres et al., 2009) and complex tasks integrated with assessments (Volungeviciene et al., 2014).

The way McLoughlin and Lee (McLoughlin & Lee, 2008) describe **participation** (communication, collaboration, connectivity and community) is similar to the way interactivity is described by Ossiannilsson and Landgren (Ossiannilsson & Landgren, 2012) (interactivity with content, peers and teachers). It appears thus that 'participation' and 'interactivity' are closely related. However, both success factors do not seem interchangeable. It can be argued that participation is key to turning all factors into success factors for OBL given that the right decisions are made, either by enabling participation (flexibility, accessibility, transparency) in education or by inviting students to participate actively in the learning process (interactivity, personalisation, productivity). This is in line with the concepts of enabling blend and transforming blend reported by Graham (Bonk & Graham, 2012; Graham, 2005; Graham & Robison, 2007).

In summary, it appears that frameworks for quality of OBL are often conceived and presented from the perspective of the provider (i.e. institutions, government, QA agencies), lacking the student perspective (Frydenberg, 2002; Jung, 2011). Yet in education the concept of quality is a client-oriented i.e. a student oriented concept defined by dialogue between students and providers (Ehlers, 2007). Because it is not easy ineducation to consult students in the quality dialogue, and even more difficult in the case of OBL as a result of the limited presence of students (Bloxham, 2010; Jara & Mellar, 2009) this is an issue.

Despite all differences between quality frameworks for OBL (Inglis, 2005) it appears they have similar '*constituents'* (Frydenberg, 2002; Jung, 2011; Phipps & Merisotis, 2000), which can be clustered in three quality areas and six quality dimensions (Ossiannilsson & Landgren, 2012). Scientific knowledge about the '*constituents*' of quality of OBL from the students perspective and how these are related to quality areas and quality dimensions present in most current quality frameworks is lacking. This knowledge is beneficial because it can allow institutions to underpin the adoption of OBL, set goals, identify resources and strategies and ultimately measure whether their provision is tailored to the needs of (adult) students.

Until recently it was not clear how quality of OBL from the students' perspective could be defined. The conceptual framework by Ossiannilsson and Landgren (2012) provides an answer to this question. Although literature supports it, the framework remains conceptual. It appears that until now HE institutions have been the central focus in research regarding the use of quality frameworks in education (Contreras, Torres, Palominos & Lippi, 2015). It is not clear if the findings from studies (with adult) students in HE are transferable to students in other educational contexts.

This study is designed to provide scientific knowledge about the '*constituents*' by which students measure quality of OBL in adult education and how these are related to quality dimensions present in most quality frames. The work of Ossiannilsson and Landgren (Ossiannilsson & Landgren, 2012) is chosen as a theoretical framework.

The research questions in this study are:
1. Which success factors are essential for the success of OBL in adult education as perceived by adult education stakeholders (RQ1)?
2. Which quality areas and dimensions are essential for the success of OBL in adult education as perceived by adult education stakeholders (RQ2)?
3. Which quality framework can be validated for OBL in AE and which indicators for quality can be identified (RQ3)?

METHODOLOGY

According to Inglis (2008), quality frameworks can be validated by either reference to appropriate research literature or against the knowledge of experts in the field or through a combination of both. While it is appropriate to draw on literature it may not be sufficient especially in new contexts (Inglis, 2008). Stakeholders can be assembled to elicit their expert knowledge, which is tacit as well as explicit (Inglis, 2008). Therefore, qualitative data were drawn from group interviews (n=12 groups) in five institutions in addition to literature to validate the framework. Professionals were interviewed at the policy level (n=17) and programme level (n=20).

The principles of thematic analysis is chosen as a method. This method allows to combine deductive matrix analysis with the principles of grounded theory (Corbin & Strauss, 1990). Grounded theory is a method which is based on inductive analysis from the data focused on creating conceptual frameworks (Charmaz, 2006).

Research context

This study was conducted in Flanders (the Dutch speaking part of Belgium). The Flemish government, operating at the macro level, promotes OBL in AE to satisfy the demand for flexible education for adults (Decree 15/06/2007). The Flemish Inspectorate is responsible for the external evaluation of institutions in this context. The Context, Input, Processes, and output model (CIPO-model) (Scheerens, 1990, 2006) is a generic quality model that is used by the Flemish Inspectorate to perform quality audits in different educational contexts amongst which are adult education institutions. Currently the quality of OBL in AE institutions is assessed separately by the Inspectorate based on a minimal set of criteria by decree (Decree 15/06/2007). Another governmental body, 'verification', exerts control on attendance of adult students to the educational provision on which institutional funding is based.

While external quality control of OBL is not part of the regular procedure used by the Inspectorate their reports reveal information about the centers with respect to their internal QA&I. Inspection reports (N=4) not older than five years of the centers involved in this study were scanned. Analysis of these indicates that: '*... Digital learning in specific courses. .... currently internal quality is implemented at institutional level, the institution is still looking ... for indicators to measure the educational process. Align the (internal) quality assurance with monitoring the quality of the core process'*.

Institutions, operating at the meso level, can apply for a financial incentive if they choose to adopt OBL in their educational provision. Beyond adoption of OBL, institutions of AE are challenged to incorporate quality of OBL

into the institutional quality procedure. They have been compelled to examine and systematically monitor the quality of their provision since 2009(Decree08/05/2009). Institutions offer programmes for a diverse audience, from participants in basic education (primary and middle school education for adults), (vocational) second chance education, to courses at Level 5 of the European Qualification Framework and teacher training.For QA&I of OBL institutions either turn to what is available in HE or adopt an ad hoc approach. They need to know how to mainstream the quality of OBL into their implemented QA&I approach.

Procedure

To explore the current approaches and experiences with QA&I, qualitative data were drawn from semi-structured interviews in five institutions for AE. In each institution an interview was conducted with policy makers and QA coordinators (n=17) followed by an interview with professionals at the programme level (n=20). Respondents were interviewed about current approaches and experiences with QA&I in general and OBL specifically. Although the interviews focused on QA&I, the topic of the quality of OBL was omnipresent, interviewees talked about the quality of OBL in adult education.

The interview guideline was structured by the PDCA-cycle (Plan, Do, Check, Act) (Deming, 1950) and addressed topics regarding QA&I of OBL in the institution: institutional policy, implemented framework (including quality domains and indicators), implementation of QA&I in the institution and involvement of different stakeholders, effect and impact of quality assurance and plans for improvement.

Participants

Principles of theoretical sampling (Corbin & Strauss, 1990) were used to select centers and respondents. To be selected, centers had to: (a) currently provide (or have provided in the past) part of their provision through OBL; (b) have experience with OBL exceeding more than one year. Sample characteristics are displayed in Table 3. Centers were contacted and informed about the purpose of the study and about criteria for the inclusion of respondents. The researchers aimed for programmes at secondary education level and at Level 5 of the European Qualification Framework.

Table 3: sample characteristics of centers.

<table>
<tr><th></th><th>Case a</th><th>Case b</th><th>Case c</th><th>Case d</th><th>Case e</th><th>Total</th></tr>
<tr><td colspan="7">Number of respondents at policy level</td></tr>
<tr><td></td><td>N=3</td><td>N=3</td><td>N=3</td><td>N=5</td><td>N=3</td><td>N=17</td></tr>
<tr><td colspan="7">Number of respondents at programme level</td></tr>
<tr><td rowspan="3">Interviews</td><td rowspan="3">N=3*</td><td rowspan="3">N=1**</td><td rowspan="3">N=7**</td><td>N=2**</td><td rowspan="3">N=3**</td><td rowspan="3">N=20</td></tr>
<tr><td>N=2**</td></tr>
<tr><td>N=2**</td></tr>
<tr><td colspan="7">* Level 5 of the European Qualification Framework, ** Secondary education</td></tr>
</table>

Criteria for inclusion of respondents at the programme level were: (a) to have at least one year of experience with OBL; (b) all teachers participating in an interview had to teach in the same programme. For details of their experience in education and with OBL see Table 4. The selection of programmes and respondents was trusted to the institutions. One institution pointed out that in total three programmes were experienced with OBL. All were included to increase data saturation.

The interviews (N=12) were conducted over a period of three months. During each interview two researchers were present. One acted as the moderator and one as the observer, which allowed the interviewer to focus on the discussion. The observer took notes and assured all topics were covered. The first author was present at all the interviews. Interviews were transcribed in full and are the focus of this analysis.

Table 4: Experience of respondents in years.

Experience:	<5y	6y - 10y	11y – 20y	21y – 30y	>30y
Institutional level					
In Education	1	1	8	4	3
In Current position	4	5	7	-	-
With OBL	8	8	1	-	-
Programme level					
In Education	3	2	8	3	4
In Current position	3	1	14	1	1
With OBL	13	5	2	-	-

Data analysis

Interviews were coded and analysed by the first researcher, according to the coding scheme as proposed by Corbin and Strauss (1990): open, axial and selective coding.

First all parts in the interviews in which respondents expressed anything that from their perspective was important for either OBL or QA&I were free coded (open coding). Only explicitly mentioned success factors were coded according to pre-defined codes, but not limited to: flexibility, accessibility, transparency, interactivity, personalisation, productivity, participation (Ossiannilsson & Landgren, 2012).

During a second phase, firstly, open codes were thematically clustered based on the quality areas and quality dimensions, but not limited to, the work of Ossiannilsson and Landgren (Ossiannilsson & Landgren, 2012): management (strategic planning and development), products (design – (curriculum/programme, course, learning activities and assessment) and delivery) and services (teacher and staff support, student support). Distribution (over cases and interviews) and frequency of coded statements were used as the criteria to identify themes.For inclusion, it was decided that themes were to be coded in at least four cases or seven interviews because of scientific consensus in literature about their existence. Then, axial and selective coding were performed to establish relationships between them and quality areas and dimensions. Thematically clustered codes were re-coded in terms of the success factors. Descriptions of these concepts that are mentioned in the e-xcellence manual (Kear et al., 2016; Ubachs et al., 2007; Williams, Kear, & Rosewell, 2012)which is built upon the conceptual framework for quality in e-learning developed by Ossiannilsson and Landgren (Ossiannilsson & Landgren, 2012) and the three P's of pedagogy (McLoughlin & Lee, 2008) were used to guide the analysis.

During a final coding round of the interviews, remaining codes were re-examined and coded in terms of success factors, after which seventy-four codes remained distributed over all cases and interviews.

The results from the interviews and literature e.g. 'Credibility', 'external QA' and 'internal QA' (Jung, 2011)were combined to validate the conceptual framework with success factors and determine indicators for OBL in AE. To enhance credibility results from the interviews were challenged and discussed with another researcher who was not involved in the analysis of the interviews. The processes from the CIPO-model were used to structure this iterative process. Concordance between researchers was reached by agreement about success factors, indicators and their links to quality areas and dimensions. The integration resulted in an adapted framework.

RESULTS

Findings from the interviews are presented in relation to each of the research questions.

RQ 1 – Which success factors are essential for the success of OBL in adult education as perceived by adult education stakeholders?

Except 'productivity' and 'credibility' all success factors were explicitly mentioned and coded during the first coding phase, but not all success factors were distributed (mentioned) equally over cases or interviews (see Table 5). While 'flexibility' and 'personalisation' were explicitly mentioned in all cases (resp. in ten and eight interviews), 'interactivity' and 'participation' were mentioned respectively in three cases (four interviews) and in three cases. 'accessibility' and 'transparency' were mentioned only once.

Table 5: coding by success factors by coding round.

Success factors	1st coding round		2nd coding round		Final coding round	
	Distribution over cases, interviews	Frequency	Distribution over cases, interviews	Frequency	Distribution over cases, interviews	Frequency
Flexibility	5,10	74	5,11	110	5,11	121
Accessibility	1,1	1	3,7	27	3,7	29
Transparency	1,1	1	5,11	90	5,11	96
Interactivity	3,4	14	5,8	33	5,8	33
Participation	3,3	5	4,4	9	4,4	13
Productivity	0,0	0	4,4	6	4,4	6
Personalisation	5,8	22	5,9	29	5,9	29
Integration	-	-	4,6	37	4,6	37
Credibility	-	-	-	-	-	-

During the second coding phase, remaining free codes were thematically clustered based on, but not limited to, the quality areas and quality dimensions reported by Ossiannilsson and Landgren (2012) and Jung (2011): Management (strategic planning and development), products (design – curriculum/course/learning activities and assessment; delivery) and services (teacher and staff support, student support), 'external QA' and 'internal QA'. The thematically clustered free codes were then recoded in terms of the success factors. After this, distribution and frequency increased for all success factors except credibility. All were mentioned in at least three cases and at least four interviews.

After this coding phase, remaining free codes and thematically clustered based were re-examined and coded in terms of success factors to establish relationships between the themes and the success factors. After this, third and final coding round, distribution and frequency increased for all success factors exept 'credibility'. After this coding round seventy-four codes remained.

RQ 2 – Which quality areas and dimensions are essential for the success of OBL in adult education as perceived by adult education stakeholders?

Several themes emerged that could be categorised within Ossiannilsson and Landgrens' (Ossiannilsson & Landgren, 2012)and Jungs' (2011)quality areas and quality dimensions; see Table 6. Two themes did not fit with the pre-defined quality areas and quality dimensions (n=4). These were labelled: 'integration' and 'evolution'.

Table 6: thematical clustering of elementary codes from interviews.

	External QA	Management*	Teacher and staff support**	Student support**	Design ***	Delivery ***	Evolution	Internal QA
Distribution over articles	4,4	5,12	5,11	5,12	5,11	4,7	4,7	5,12
Frequency	18	103	132	198	163	44	9	68

Ossiannilsson and Landgren (2012): Management* (strategic planning and development), products** (design – curriculum/course and assessment; delivery) and services *** (teacher and staff support, student support).

By recoding the remaining free codes that were thematically clustered in terms of success factors, relationships between themes and success factors were established (Table 7). The 'design' of the provision (course, programme, learning activities and assessment) could be linked to 'flexibility', in total thirty-six statements, distributed over all cases and ten interviews. Both 'student support' (2,3-6) and '(online) delivery' (3,6 -20) could be linked to 'accessibility'. 'Interactivity' (nineteen statements distributed over all cases and seven interviews) appeared to be a success factor for the 'design' of the provision (course, programme, learning activities and assessment). 'Design' could also be linked with 'personalisation', (2,3-7) while only six statements

from the 'design' of the provision (course, programme, learning activities and assessment) could be linked to 'productivity' (4,4). Both 'student support' (1,1-2) and 'design' (1,1-5) could be linked to 'participation'. All quality dimensions, with the exception of 'support for teachers and staff', are linked to 'transparency' ('management' 3, 3 – 7; 'student support' 5,10 – 49; 'design' 5,6 – 14 and 'delivery' 2,3 – 19). Within 'design' (course, programme, learning activities and assessment) thirty-seven statements (4,6) which were labeled as 'integration' emerged which appeared to be important, but could not be linked to a success factor reported by Ossiannilsson and Landgren (2012). Management and the themes: 'external QA, 'evolution', 'integration' and 'internal QA' could not be linked to any of the success factors.

Table 7: connections between success factors and emerging themes.

Success factors	**Management**	**Teacher and staff support**	**Student support**	**Design**	**Delivery**
	(5,12 – 103)	(5,11 – 132)	(5,12 – 198)	(5,11 – 163)	(4,7 – 44)
Distribution over cases, interviews – frequency					
Flexibility (5,11 – 110)	-	-	-	5,10 – 36	-
Accessibility (3,7 – 27)	-	-	2,3 – 6	-	3,6 – 20
Transparency (5,11 – 90)	3,3 – 7	-	5,10 – 49	5,6 – 14	2,3 – 19
Interactivity (5,8 – 33)	-	-	-	5,7 – 19	-
Participation (4,4 – 9)	-	-	1,1 – 2	1,1 – 5	-
Productivity (4,4 – 6)	-	-	-	4,4 – 6	-
Personalization (5,9 – 29)	-	-		2,3 – 7	-
Credibility	-	-	-	-	-
Integration (4,6 – 37)	-	-	-	4,6 – 37	-

RQ3 – Which quality framework can be validated for OBL in AE and which indicators for quality can be identified?

Flexibility and transparency are mentioned in all cases and interviews. The use of technology helps students to combine education with professional and private obligations. The way OBL is designed i.e. flexible deadlines for learning activities: *'…if they give me a reason, it's good I'll mention: "has a reason." or "will catch up later'*, and the programme: '*… there are not enough days in a week to actually do it all (ed.* the programme*) in one year. Plus also the people who work, … full time…', 'we think if we are targeting students for distance learning in programme X, we'll start with a percentage of OBL in the range from 25% to 35%'. … 'students ask for distance learning occasionally to not come some evenings' …'yes' … 'but they surely still want to come to class'*. Transparency is seen as important to empower students, from enrolment throughout the programme. This success factor could be linked to all quality areas and domains: Management: *'…you should, indeed, have a vision on OBL. … but you must also make a lot more advertising for it. … 'yes' … 'we make informational films which we put on our website', Services: '… there are students who enroll in a programme and realise that it will not work (for them), in which case the counselor has a conversation with the student to redirect him/her to a different programme'* and products: *'…I wrote: "create more uniformity." Not that I like … would like all to be the same will but ... that students can still find their way in that course…'*.

Accessibility, linked to delivery and student support, is mentioned in not more than half of the interviews and three cases. Online delivery has to be accessible at all times via mainstream technology which students are able to use: '*I choose the tools that are not so difficult for them. I would like to use smartphones, but if I notice that there are only one or two who have one, I will choose not to use it*'. Accessibility was mentioned in not more than half of the interviews and three cases.

It seems that **flexibility**:'*Flexibility related to time. When do you study, when do you learn? But also flexibility in terms of pace (going slower or faster through the programme)…'* and **accessibility**: *'...because one needs performant internet connection to be able to play al those movies...'*, are crucial to enhance access to education

and make participation in education convenient for students, while **transparency**: '*…we try to advise students, we have extensive information sessions at the start of the school year. …'*, is important to inform students of what is expected or possible.

Success factors related to pedagogy (**productivity, personalization, interactivity** and **participation)** are less prominent in the interviews. The quality dimension 'design' is related to the success factors productivity: '*… for validity of assessment … language training implies for example, that there are assignments that require individual processing by students. A set of grammatical or lexical exercises which is not an example of a good assignment.'*, and personalisation: '*... assessment is no longer a purpose in itself. … now you are working with the student for the added value. For their independence and for (ed. to achieve) those competencies*'.

Statements coded for online interactivity between peers is under-reported or even absent in favor of interactivity with content: *'…you, give a bit of info (ed. online) ... And they must apply that. And then click on the button submit and they see 'what you've done now is right or wrong.'* and teachers: '*…when I give feedback I keep in mind that … not in the style of "this is not good" or "this was a bit too weak." But that really is about what is wrong and what they can do to remedy it…*'.
The codes for the success factor 'participation' were scarce. What is mentioned is similar but not equal to codes related to 'interactivity'. It seems that participation can be seen as a central success factor. It can be argued that decisions taken at the level of the other success factors have consequences on the way students participate in the educational provision: '*... the way of looking 100%, because ultimately you look at some: is there participation, is there material available and is it being worked with, is there feedback to the students?'*.

The theme '**evolution'** could not be linked to a success factor. In this theme respondents state that the way OBL is designed and the amount of OBL in the provision evolved over time: '*Indeed, I think that our distance education and the way we use it to work has evolved tremendously*', '*And that really is also a choice that we made as an institution. And we really want to go for it. In the past it was blended learning. But now is what we call open CVO, in which almost the entire course is given in distance education'*. Although mentioned in only half of the interviews, codes for the theme 'evolution' were present in four cases.

None of the themes 'management', 'internal QA' and 'external QA' could be linked to the success factors. What is mentioned focuses on the management principle of integration of the vision into the organization: '*… Yes, distance learning and contact education should be structurally aligned to each other. That's in terms of documents etc… So, that the rules, are uniform, ECTS sheets are uniform…'* Researcher: '*And you mean are "aligned with each other", it is about the provision. Not the course but,...'*, respondent: *'Yes, both with respect to the courses as anything outside of the courses. Where do I have to go for a document when I need one, when do I have to do this or that? if I have to. Oh, boy sometimes at times this is very difficult ...'*. Management is also about providing clear roles for educators, staff support and internal QA processes. In that respect respondents mention: *'We therefore work with projects or project groups, … to actually learn from collaboration…','… there is so much expertise yet everyone is still … working on an island, I think. I think there could be much more cooperation','…collaboration divides the work and strengthens it … I think is a creative way of using resources. But yeah, that's easy for meto say, because we were forced at some time because we had to survive. But I am a believer of supporting micro design teams rather than individual teachers'*.

The theme of 'external QA' is related to the topics of external quality assurance, verification and funding. Respondents report that how funding and external quality assurance are conducted impinges on how they organise OBL. Respondents complain about external QA and verification: '*… now we are funded based on attendance. For distance education this is based on participation which is operationalised as how long someone is logged into the system, what they (students) have actually done is not taken into consideration, this tells nothing'*.

The theme 'integration' is related to 'design'. Respondents refered to different thingsabout this theme:program - '*distance education and face to face education should be structurally aligned*', course/learning activities and assessment - '*The goals or better skills, which are important, how they relate to the course material. And how it relates to your assessment. That should actually be all in one, all in the same line, which is not so evident.'*, '*I've added here: fraud resistance. Sooner or later we're going to be caught on. How can you prove that an assignment is really made by student X? Oh yes, by the end through an oral exam, a jury or whatever….'*, '*(they) can have their tasks made by someone else*'. It seems thus that the emerging theme 'integration' cannot be seen as a success factor in its own right because it appears related to different things i.e. design and assessment. Researchers agreed that this is not specific for OBL. Integration also refers to how face-to-face and online education is structurally aligned to one another and to 'assessment' i.e. validity. The researchers agreed that

these concepts were covered by other success factors, respectively 'productivity' and 'flexibility'.From the analysis an adapted framework is proposed, an overview of the success factors, their connections to quality dimensions and the number of indicators can be found in table 8.

Table 8: list of seven success factors with tentative definitions, citations from interviews, connections to quality areas/dimensions and number of indicators (Appendix 1). (Kear et al., 2016; McLoughlin & Lee, 2008; Ubachs et al., 2007; Williams et al., 2012).

Success Factors and Tentative Definition	Connections to quality areas/dimensions
Credibility– Credibility implies the translaties of a clean view on OBL into measurable targets. It implies efficient use of potential means and personnel. Finally, it entails the integration of these targets into the quality assurance system, monitoring the development of OBL and adjusting it if necessary.	• Management (N=13) • Support for teachers and staff (N=10)
Flexibility – The degree in which students have the possibility to fine tune educational needs to professional or private needs and obligations. *"Flexibility related to time. When do you study, when do you learn? But also flexibility in terms of pace (going slower or faster through the programme). Intensity, time, intensity, learning style…". – A_B_1*	• Programme (N=4) • Learning activity (N=1)
Transparency – All initiatives taken to inform potential students about the programme from enrolment until graduation. *"… also we try to advise students, we have extensive information sessions at the start of the school year. …" – E_L_3*	• Management (N=1), • Programme (N=4) • Course (N=4) • Student support (N=7)
Accessibilty - Is determined by the online accessibilty of students and by what is available for them on the campus. *"that student has no internet connection … our open learning center is also accessible to students. … We … train students in ICT skills. … the basics like an on/off button of a computer." – C_B_1*	• Delivery (N=5) • Student support (N=2)
Interactivity – Refers to the online interaction that is supportive for the learning process between students and the material and students and teachers. Interactivity is related to design and student support. *"…I think that if you design the learning path differently it is possible to do it online. But the learning path is like, well like mine that I now have developed for instance that you don't need to do that. Where you just, you're giving a piece of info and ok now let's apply that. And they (students) must do that. And they click on a button 'Submit' and they see: 'What you've done now is correct or is incorrect ' – C_L_?*	• Learning activity (N=6) • Student support (N=4)
Personalisation – The extent to which students have, and (can) make use of the possibility to personalise (customise/maximise) their learning experience to personal needs by their own choice. Personalisation ranges from personal learning (a lot of freedom of choice for students) to personal instruction (absence of choice). *"One part (online) is rehearsal of exercises and implementation of what we worked on in class. And the second part it entails new subjects. So if for example, they have understood well what we dealt with during class, for all I care they can skip the first part that or spend less time on it. They do what they want with it. They are free to decide for themselves. – D_L2_2*	• Learning activity (N=8) • Student support (N=2)
Productivity – The extent to which learning activities (content and assessment) are designed to challenge/invite students in the process of knowledge creation rather than mere reproduction. Productivity is linked to design. *"Yes, yes because we then surely knew: 'look, let those people (students) tell what they have learned and then you can dig much deeper, and really see if those competencies are acquired." E_B_1*	• Learning activity (N=3)
Participation – Participation is understood as the students' active involvement in their learning processes. Participation is linked to Student support and Design. *"... the way of looking 100%, because ultimately you look at some: is there participation, is there material available and is that being worked with, is there feedback to the students?" – E_B_3*	–

DISCUSSION

This study has identified a framework with success factors and indicators for quality of OBL based on interviews in the field of AE. The results indicate that all success factors for quality in OBL are present in AE. The success factors and indicators are connected to quality dimensions present in existing quality frames. While some success factors and indicators enable participation others have an impact on the learning process of students. We will discuss these findings in relation to literature on quality from the adult student perspective in HE.

The discussion is structured in a similar manner as the findings were presented. Firstly, we will success factors that enable participation to education. Then we will discuss the pedagogical success factors and how they are related to the enabling success factors. Finally, we will address the emerging success factor, credibility.

While flexibility and accessibility are important to increase the accessibility of adult education and facilitate participation, transparency is important to inform students about the posssibilitiets of the modalities of OBL. These findings are in line with literature. Although not much specific reference to attributes of flexibility are reported in AE literature, with respect to transparency emphasis is given to the importance of transparent communication about flexibility (Harroff, 2002; Jung, 2011). Accessibility relates to the technical requirements of delivery and technical support to students in order to be able to participate (Harroff, 2002; Jung, 2011; Korres et al., 2009; MacDonald & Thompson, 2005; Volungeviciene et al., 2014). This is in line with Grahams' concept of enabling blend (Bonk & Graham, 2012; Graham, 2005; Graham & Robison, 2007) which aim to increase access and convenience to students.The finding that accessibility was not mentiond a lot could be explained by the fact that it is such a logical condition that it is easily overlooked (Ehlers, 2004).

Success factors related to pedagogy (participation, personalisation and productivity) were less prominent in the interviews. While 'personalisation' (Dzakiria, 2012; Harroff, 2002; Jung, 2011; MacDonald & Thompson, 2005; Stodel et al., 2006; Zhang & Cheng, 2012) is emphasized in literature, 'productivity' is to a lesser extent (Jung, 2011; Stodel et al., 2006; Volungeviciene et al., 2014). In contrast with our findings 'interactivity' of students is mentioned in relation to content, peers and faculty in literature (Dzakiria, 2012; Harroff, 2002; Jung, 2011; MacDonald & Thompson, 2005; Stodel et al., 2006; Volungeviciene et al., 2014; Zhang & Cheng, 2012). Although 'participation' and 'interactivity' are seen as distinct success factors (McLoughlin & Lee, 2008; Ossiannilsson & Landgren, 2012), analysis of interviews indicates that they are similar.

The theme 'evolution' indicates that the centers initially focused more on success factors that relate to lowering the threshold to education at the expense of pedagogical success factors, but, with time came to realise the importance of pedagogical success factors. It suggests that pedagogical success factors: personalization, interactivity and productivity became more important over time for a design of OBL which invites students to take ownership i.e. actively participate in the learning process.This provides evidence for of Ossiannilsson and Landgrens' (2012) statement that OBL is evolving towards paradigms of collaboration and networking could be true in AE. Findings suggest that an evolution occurred from a cognitive-behaviourist learning design towards a social constructivist design i.c. knowledge production and interaction (with material and teachers). It also suggests that institutions are challenged to take pedagogical success factors into consideration when they attempt to move from awareness or exploration of OBL and away from adoption and early implementation towards more mature implementation and growth or improvement (Graham, Woodfield & Harrison, 2013). Caution should be used over whether evolution in design should be interpreted as one learning theory being better than another, adding more to quality. It is important in this respect to take note that several generations of distance education pedagogy emerged over time: cognitive-behaviourist, social constructivist and connectivist pedagogy and that all add to quality (Anderson & Dron, 2011).

What respondents mention in the themes 'management', 'internal QA' and 'external QA' corresponds with what Jung(2011) reports as 'credibility'. What is mentioned is in line with what is reported in literature (Harroff, 2002; Korres et al., 2009; MacDonald & Thompson, 2005; Stodel et al., 2006; Volungeviciene et al., 2014; Zhang & Cheng, 2012). It focuses on the management principles of integration of the vision of OBL into the organization and also about providing clear roles for educators, staff support and internal QA processes. Not different from a standard education programme, but with a specific focus for OBL.

It appears that institutions that want to become successful adopters of OBL need to decide how to use their resources in such a way that the participation of the students is maximized. The predominant question for institutional QA&I process is therefore indeed if institutional, faculty and student goals are balanced (Moskal et al., 2013).

Findings indicate that institutional alignment (Moskal et al., 2013) might not be sufficient. The macro and meso level should be aligned too. Institutional alignment (Moskal et al., 2013) can be hampered by how legislation regulates external quality assurance, verification and funding of educational institutions. Findings indicate that decisions taken at the macro level influence both the meso- and the micro level in institutions. The legislative framework provided by the government, the way external accreditation bodies assess quality, and operationalise attendance negatively affects funding and in this way interferes with institutional practices related to the design and implementation of OBL. This is in line with Ossianilsson et al. (Ossiannilsson et al., 2015) who point out that *"…Other systems (national approaches to quality)"* that *"have not considered the impact of e-learning onto their criteria,"* should integrate quality of OBL into their external quality frameworks to avoid *"creating sometimes perverse results, such as limitations on the size of classrooms, or requirements for physical facilities which are not required for e-learning."*(Ossiannilsson et al., 2015). Findings also stress the importance to move from a time-based, towards a mastery-based measurement of student performance in OBL (Graham et al., 2013) for this context.

Limitations and prospects for future research

An evidence-based validation processes for quality frameworks is important (Inglis, 2008). The focus of this study lies in the development of a conceptual framework in the context of AE and relevant literature by determining success factors for the quality of OBL in AE and linking these to quality aspects and searching for indicators.

Although all success factors for quality in OBL are present, they are distributed unevenly over the interviews and the frequency of mentions between success factors differs. This could be attributed to the design of the study. For the interviews a semi-structured interview guideline was used to give respondents the opportunity to speak freely with, as a possible result, the low frequency of some success factors. A rival explanation is that the number of interviews was not sufficient for the data to reach saturation. Yet, it can be argued that the total number of respondents and the number of respondents per group at policy level and programme level, should be sufficient to reach a point of data saturation. Other than the design of the study, it is possible that not all success factors are mentioned equally because an evolution is occurring in the field. Therefore, further validation by consultation with experts in the field is necessary.

CONCLUSION

A modified conceptual framework for OBL in AE has emerged from this study. Success factors with supporting indicators that contribute to lowering threshold to education (flexibility, accessibility, transparency, credibility) as well as success factors with indicators that have a direct impact on the quality of the learning process (interactivity, personalisation, productivity) determine participation (access) of students in education or the active participation of students in the educational process. The success factors and indicators are linked to quality dimensions and areas, present in most quality frameworks.

This framework will enable institutions to reflect about how technologyreduce the barriersfor participation and how it can support active participation of studentsin theeducation process. The link of the success factors with the concepts of enabling and transforming blend(Bonk & Graham, 2012; Graham, 2005; Graham & Robison, 2007)supports institutions to strategically integrate OBL in into its mission and assess the maturity of their OBL provision. The framework allows for growth from an enabling blend towards a transforming blend and can be used to determine if the provision of OBL is aligned with the needs of the students.

Until now quality frameworks for OBL are used in addition to general quality frames in education. Yet recently it has been argued that OBL quality should be mainstreamed into traditional quality frameworks used by either educational institutions or accreditation bodies and not assessed separately (Grifoll et al., 2010; Hansson, 2008; Ossiannilsson et al., 2015). The framework that resulted from this study can be used to mainstream quality of OBL in traditional QA&I frameworks. This is possible because success factors and indicators are linked to quality dimensions and areas, present in most quality frameworks.

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Appendix 1 – List of indicators

Success factor	**Link to quality dimensions and CIPO**		
Indicator	**Description of indicator**	**AE Literature Reference***	**AE Interview Reference****
1. Flexibility			
F_PR	**Quality Dimension: Design – Programme** **CIPO: Education-Curriculum-Organisation of the education**		
F_1	Duration of the programme matches the needs of the students		E_L_3;A_L_1; E_B_1
F_2	The ratio contact education vs. Online education of the programme matches the needs of the students		D_B_5;D_B_2; E_B_1;B_B_1; C_B_1;C_B_2; C_B_3
F_3	Students are given pacing opportunities in the curriculum	Lit_Vol; Lit_Kor	
F_4	Students are able to follow a flexible path throughout the curriculum	Lit_Sto; Lit_Vol	
F_LA	**Quality Dimension: Design – Learning activity** **CIPO: Education-Curriculum-Content of the education**		
F_5	Students are given flexibility in deadlines for assignments		E_B_2; D_L2_2
2. Accessibility			
A_DEL	**Quality Dimension: Delivery** **CIPO: Absent**		
A_1	The technical infrastructure meets current connectivity requirements	Lit_Vol; Lit_Kor	
A_2	Students can access the learning environment with mainstream hardware and software	Lit_Mac	D_L2_2 C_B_2
A_3	The online learning environment supports the intended interaction between all participants.	Lit_Vol; Lit_Kor	
A_4	The usability of the learning environment takes the students' technical skills into account.	Lit_Kor	D_L2_2
A_5	The learning environment accommodates students with special needs	Lit_Kor	
A_LS	**Quality Dimension: Learner Support** **CIPO: Absent (A_6) - Pupils' guidance-career guidance (A_7)**		
A_6	Students have access to technical assistance	Lit_Mac; Lit_Kor; Lit_Har	B_B_1; C_B_1
A_7	Students have access to resources e.g. library, open learning center, career guidance,…	Lit_Jun	C_B_1
3. Transparency			
	(Prior to enrolment in the programme)		
T_M_V	**Quality Dimension: Management-Vision** **CIPO: General-Development of vision**		
T_1	The institutional mission and vision on OBL is made available to prospective/potential students		D_L2_2; D_L2_1
T_ LS	**Quality Dimension: Learner support – Administrative support** **CIPO: Pupils' guidance-career guidance**		
T_2	Prospective students are informed of conditions of admission	Lit_Har; Lit_Jun	
T_3	Prospective students are informed about costs related to the OBL programme	Lit_Har; Lit_Jun	
T_4	Prospective students are informed about financial aids related to the OBL	Lit_Har;	

	programme		
T_5	Prospective students are informed about software and hardware requirements	Lit_Har;	C_B_1
T_6	Prospective students are informed about required technical skills	Lit_Har;	C_B_1
T_7	Prospective students are informed about the duration of the programme	Lit_Har;	
T_8	Prospective students are informed about possibilities of personalized pathways through the programme		B_B_2
	After enrolment in the programme		
T_ PR	**Quality Dimension: Design - Programme** **CIPO: Education-Curriculum-Organisation of the education**		
T_9	Students experience a uniform online design throughout the programme/curriculum		D_L2_2
T_10	The importance of online interaction (materials, peers, tutors) as part of the learning process is made explicitly clear to the students.	Lit_Dza; Lit_Sto	E_B_2; E_B_3; D_L2_2; D_L2_1
T_11	The intended learning outcomes are transparently translated in learning activities and assessments	Lit_Har;	D_L1_2
T_12	Students are informed about tutors' response time on assignments, questions,…	Lit_Har; Lit_Dza	B_B_1
T_ LA	**Quality Dimension: Design – course** **CIPO: Education-Curriculum-Organisation of the education**		
T_13	Students are fully informed about the course requirements.	Lit_Har;	
T_14	Students are provided with clear information about course assignments	Lit_Har;	D_L2_2; A_L_3
T_15	Students are provided with a clear online course lay-out		D_L2_1; D_L2_2
T_16	The lay-out of the online course is mad explicit to the students		C_B_2
4. Credibility			
C_ M_CR	**Quality Dimension: Management - Compliance and recognition** **CIPO: Context-Legislative framework-specific legislation (C_1) – Absent (C_2)**		
C_1	The educational provision meets the quality requirements assessed by external assessors (inspectorate, accreditation bodies,…)	Lit_Jun	
C_2	The educational provision meets the requirements of international copyright legislation		A_B_2
C_ M_L	**Quality Dimension: Management - Leadership** **CIPO: General-Leadership**		
C_3	The institutions' management develops institutional standards for the design of OBL	Lit_Zha	D_L2_1; D_L2_2
C_4	The institutions' management develops and deploys the OBL provision project based		C_B_1; D_B_5
C_5	The institutions' management monitors the implementation of the institutional mission and vision of OBL		D_L2_1; D_L2_2
C_6	The institutions' management gives credit to teachers and staff who develop OBL	Lit_Har	B_B_3
C_7	The institutions' management integrates OBL in all aspects of the organisation (teachers, support staff, administration,…)	Lit_Mac	A_L_2
	Management - Adequate use of resources		

C_ M_R_L	**Quality Dimension: Logistics – finance and equipment** **CIPO: Logistics-Material management-financial means & equipment**		
C_8	The institutions' management provides sufficient personnel and other resources (infrastructure) to develop OBL adequately.	Lit_Har; Lit_Mac	C_B_2; D_B_2
C_9	The institutions' management provides adequate resources (people and infrastructure) for the coaching and guidance of students in the OBL provision	Lit_Har;	A_B_2
C_10	The institutions' management is able to maintain continuity in the use of its applications/ ICT-tools		C_L_4; C_L_1
C_ M_STS_PO	**Quality Dimension: Support for Teachers and Staff** **CIPO: Staff-HRM-staff organization**		
	Personnel organization		
C_11	Job descriptions for teachers and staff describe their role(s) related to the development and optimisation of OBL	Lit_Vol	
C_12	Job descriptions for teachers and staff include pedagogical role(s) concerning the OBL-coaching of their students	Lit_Sto	
	Teams		
C_13	The design of OBL is the result of a multidisciplinary team		D_B_4; E_B_1
C_14	The institutions' management fosters OBL learning communities for teachers and staff	Lit_Sto; Lit_Vol	D_L2_1; D_B_1; D_B_2
	Technology		
C_15	Teachers and staff have access to technical support on demand	Lit_Har	D_B_2; D_L1_2
	Pedagogy		
C_16	Teachers and staff are able to get expert support in OBL-pedagogy	Lit_Jun	D_B_2
C_ M_STS_PR	**Quality Dimension: Professionalization** **CIPO: Staff-HRM-competence development**		
C_17	Teachers and staff are trained in online design and didactics of online learning activities	Lit_Har	B_B_1
C_18	Teachers and staff are trained in online communication skills	Lit_Har	
C_19	Teachers and staff are trained in international copyright legislation	Lit_Har	A_B_2
C_20	Teachers and staff have access to supply-and-demand driven professionalization.	Lit_Jun	
C_M_CQI	**Quality Dimension: Management - CQI** **CIPO: General- Quality Assurance**		
C_21	The institutions' management has installed a quality assessment process that fosters a culture for quality improvement (e.g. internal and external audits)	Lit_Jun	A_B_2; B_B_1; B_B_2
C_22	The institutions' management has installed a quality survey process that monitors critical quality indicators for OBL (output measures e.g. drop-out, learning effectiveness, …)	Lit_Jun; Lit_Mac; Lit_Zha	A_B_1; B_B_1; B_B_2
C_23	The institutions' management has installed a quality assessment process (surveys, focus groups, …) in which different stakeholders (students, teachers, alumni, work field,…) are consulted	Lit_Vol; Lit_Kor	
5. Interactivity			

I_D_LA	**Quality Dimension: Design-Learning activity-with material** **CIPO: absent**		
I_1	Online Learning activities contain a variety of learning resources	Lit_Vol	C_B_2
I_2	Assignments coerce students to engage actively with the online materials	Lit_Vol; Lit_Zha	C_L_X
I_3	Assignments challenge students to approach learning content from different perspectives	Lit_Vol	
I_D_LA	**Quality Dimension: Design-Learning activity-with peers** **CIPO: absent**		
I_4	Intended online interaction amongst peers fosters critical thinking	Lit_Har; Lit_Dza	
I_5	Intended online interaction amongst peers supports knowledge building	Lit_Mac; Lit_Jun	
I_6	Intended online interaction amongst peers fosters community building	Lit_Sto; Lit_Dza; Lit_Mac: Lit_Zha	
I_D_LS	**Quality Dimension: Learner Support – with materials** **CIPO: Education-Evaluation-evaluation practice (I_7)**		
I_7	Learning activities contain a variety of self-assessment opportunities		C_L_X
I_D_LS	**Quality Dimension: Learner Support – with teachers** **CIPO: Education-Evaluation-evaluation practice (I_9) – Absent (I_8,I_10)**		
I_8	Students are supported in their ability to communicate online	Lit_Sto	
I_9	Students are supported in their learning process with quality feedback by teachers	Lit_Mac; Lit_Dza	A_L_2
I_10	Online interaction between students and teachers fosters community building	Lit_Zha	
6. Personalization			
Pe_D_LA	**Quality Dimension: DESIGN – Learning activities** **CIPO: absent (Pe_1,Pe_2,Pe_3,Pe_4), Education-Pupils' guidance-guidance of the learning capabilities (Pe_5,Pe_6), Education-Curriculum-Content of the education (Pe_7), Education-Evaluation-Evaluation practice (Pe_8)**		
Pe_1	Authenticity of learning activities matches the needs of the target group	Lit_Jun	
Pe_2	Learning activities are meaningful for the target group	Lit_Jun; Lit_Zha	
Pe_3	Learning activities accommodate differences within the target group (e.g. cultural differences, gender,…)	Lit_Har	
Pe_4	Students are given the opportunity to customize the learning activities	Lit_Sto; Lit_Mac; Lit_Jun; Lit_Har	
Pe_5	Design of learning activities allows random order usage		D_L2_2
Pe_6	The design of learning activities contains remedial and deeper-level learning material to match students' needs		A_B_1; A_B_2
Pe_7	the design of learning activities accommodates the students' different learning styles .		A_B_2; A_L_2
Pe_8	Assessment modalities allow for active involvement of students		E_B_2
Pe_D_LS	**Quality Dimension: DESIGN – Learner support** **CIPO: Education-Pupils' guidance-guidance of learning capabilities (Pe_9), Education-pupils' guidance-social and emotional guidance (Pe_10)**		
Pe_9	Students have access to need based learning support (through online tools, open learning centre, extra curriculum courses, …)	Lit_Jun; Lit_Har; Lit_Dza	
Pe_10	Students have access to psychological and	Lit_Jun	

	social support		
7. Productivity			
Pr_D_LA	**Quality Dimension: Design – learning activity** **CIPO: absent (Pr-1, Pr_2), Education-Evaluation-evaluation practice (Pr_3)**		
Pr_1	Learning activities are problem-based	Lit_Jun; Lit_Vol	E_B_3
Pr_2	Learners are encouraged to take an active role in co-constructing knowledge	Lit_Sto; Lit_Vol	C_L_X
Pr_3	Students are assessed in ways that exceed the mere level of knowledge reproduction.	Lit_Vol	B_B_1