

# FRAMEWORK FOR QUALITY ASSURANCE AND IMPROVEMENT IN ADULT EDUCATION FOR ONLINE AND BLENDED LEARNING: A QUALITATIVE STUDY – PRELIMINARY RESULTS

Yves Blicck<sup>1</sup>, Ilse Ooghe<sup>2</sup>, Chang Zhu<sup>1</sup>, Koen De Pryck<sup>1</sup>, Hilde Van Laer<sup>1</sup>

<sup>1</sup> *Vrije Universiteit Brussel (BELGIUM)*

<sup>2</sup> *CVO De Oranjerie (BELGIUM)*

## Abstract

Online and blended learning (OBL) is emerging in adult education (AE) in Flanders (Belgium). As the demand increases, providers need general, balanced, scientifically-grounded guidelines, measures and instruments to monitor all important quality aspects. However for this context a common quality framework for OBL is lacking. In literature it is argued that methodologies need to be developed that permit the contextualization of existing quality frameworks. To achieve this the conceptual model of Ossiannilsson and Landgren [1] with success factors for quality in OBL to meet students' expectations, demands, and rights in HE is promising: accessibility, flexibility, interactivity, personalization, transparency, productivity and participation. The present study was designed to identify success factors for quality in OBL that is designed for adult learners in centers for AE (Flanders, Belgium). It is a first step towards the construction of a framework that institutions, or accreditation bodies, can use to contextualize quality frameworks.

To explore current approaches and experiences with QA&I of OBL in AE qualitative data were drawn from focus group interviews (n=12 groups) with respondents from 5 centers for AE in Flanders. In each center one interview was conducted with respondents working at institutional level (n=17); and at least one interview with professionals at program level (n=20). Preliminary results of qualitative analysis suggest that similar success factors for OBL are present in AE. Success factors could be linked to several quality aspects: management, design (course design, curriculum design and assessment), (technological) delivery and support (learner support and teacher and staff support). The findings are discussed and prospects for future research are presented.

Keywords: e-learning, quality, online learning, quality enhancement.

## 1 INTRODUCTION

The traditional context of learning experienced a radical change in higher education. Worldwide different types of technology supported learning emerged e.g. web based learning, hybrid learning, technology enhanced learning, e-learning blended learning. Although several studies attempted to define these (e.g. [2], [3]) no consensus for an unambiguous definition exists, it still means different things to different people [4], [5]. Therefore we will use the concept online and blended learning (OBL) to refer to these different modes of technology-supported learning. Despite the lack of an unambiguous defined concept, teaching and learning are no longer restricted to traditional classrooms. Use of instructional technology in education has been seen as beneficial for different reasons e.g. enhance accessibility and flexibility in education (e.g. [6], [7]), reduce costs of instruction (e.g. [7]) and even transform traditional approaches of instruction and teaching (e.g. [6], [9]).

With the emergence of OBL the issue of Quality Assurance and Improvement (QA&I) was raised. Shea [7] e.g. stresses that if the quality of education after implementation of OBL is not equivalent, or better, than the quality before implementation all efforts have been in vain. As the demand for online and blended learning is increasing in adult education in Adult Education (AE) Flanders (Belgium), providers need general, balanced, scientifically-grounded guidelines, measures and instruments to monitor all important quality aspects, to improve the quality of learning and teaching in OBL and to support sustainable online and blended education programs for adult learners at an institutional level. However literature falls short for quality frameworks with criteria for OBL in AE. As a result of this scientific void, AE centers are compelled to turn to what is available in Higher Education (HE) with regard to QA&I of their online and blended courses and programs.

## 1.1 Literature review

Within the context of HE different frameworks for QA&I of OBL emerged worldwide [10]. These differ by scope, structure of the framework, type of institution to which they are intended, and the way in which they are to be applied [11]. Regardless of their scientific merit, available quality reference frameworks for OBL are either very generic or highly specific and based on experiences in higher education. It is not clear if practices from HE can be transferred to the AE. Centers operate in a different context compared to HE and cater to a wide range of audiences.

Moreover frameworks within HE are often conceptualized from the providers' perspective (e.g. institutions, assessors, government), learners perspective is lacking [12]. Which is surprising for a concept that is multi-faceted in that different stakeholders view and define it in a different way (e.g. [13], [14], [15], [16]). According to Ehlers [14] what is important to learners for quality in OBL might differ from what is considered by the government or other stakeholders (e.g. teachers, developers). A study that Ehlers [17] conducted in the context of HE supports this statement. Ehlers [17] interviewed experienced learners in OBL in European higher education and empirically identified seven key dimensions for quality in OBL: tutor support, cooperation, technology, costs-expectations-value, information transparency, course structure, and didactics. As observed by Jung [12] considerations from an institutional level such as vision and planning were absent in the dimensions found by Ehlers [17]. Furthermore Ehlers [16] observed that learners regarded technology not as a key factor that contributed to the quality of OBL. They found technology only to be important when it was lacking. These findings support the proposition that caution is advised when transferring practices from higher education to AE.

A study conducted by Jung [12] also supports the statement for caution. Jung [12] aimed to identify and confirm quality dimensions from a learners' perspective in adult learners in higher education. Seven quality dimensions of OBL from a learners' perspective were empirically identified: information and publicity, learner support, staff support, institutional quality assurance mechanisms, institutional credibility, learning tasks and interaction. The author holds a plea to integrate these dimensions in existing QA&I frameworks for OBL. While similarities with Ehlers [17] emerged e.g. interaction was found to be important in both studies. Also differences were found. Institutional Quality Assurance (QA) Mechanism and Institutional Credibility appeared to be important from the learner's perspective. It was important for learners that institutions were nationally accredited and had implemented a QA policy based on clear policies and guidelines. While course content and structure were not found to be important. This study supports the statement of Ehlers [17] that learners views about quality of OBL might considerably differ from what is considered by the government or other stakeholders. But equally that caution is advised when transferring practices from the context of higher education to other contexts.

To bridge this scientific void it does not seem appropriate to develop a new framework for OBL in AE. In the context of HE it is argued that methodologies should be developed that permit the contextualization of existing QA&I frameworks used by either accreditation bodies or educational institutions [18], [19]. The work of Ossiannilsson and Landgren [1] focused on the quality frameworks for OBL in higher education. These authors compared the output of international benchmarking projects, the e-learning quality model outlined by the Swedish NAHE [18] and analyzed literature from that comparison. A conceptual framework for quality in e-learning to meet students' expectations, demands, and rights emerged. It contains a range of critical success factors: accessibility, flexibility, interactivity and transparency. And from a Pedagogical perspective [20]: participation personalization and productivity. These should be embedded in all quality domains: managerial levels (strategic planning and development), services (staff support and student support) and products (curriculum and course design, course delivery) within the field of e-learning. A recent study which compared several quality frameworks for quality in OBL confirmed that most include these three main quality dimensions and six areas [10]. Ossiannilsson and Landgren [1] claim that the model can be useful to evaluate and internalize e-learning. While several success factors in this conceptual framework are amongst the dimensions found by Ehlers [17] and Jung [12] e.g. transparency and interactivity it should be noted that these are situated on a different level than other reported quality dimensions Ehlers [17] and Jung [12] e.g. learner support of staff support. This suggests that success factors determine if decisions taken at the level of a dimension leads to quality or not. Therefore, the work of Ossiannilsson and Landgren [1] is opted as a main theoretical framework for this study.

The present research aims to identify a quality framework for online and blended learning in adult education. More specifically, the study aims to identify a quality framework addressing how to

mainstream quality of OBL into traditional institutional quality assurance, and how to support the contextualization of quality systems for OBL.

## **2 OBJECTIVES AND RESEARCH QUESTIONS**

The objective of this study is to determine what success factors and what quality aspects are essential for the success of OBL in adult education.

### **Research questions:**

1. Which success factors can we identify as critical factors for quality of OBL in AE?
2. Which quality aspects are essential for the success of OBL in adult education as perceived by adult education stakeholders?
3. How can these success factors be described?

## **3 METHODOLOGY**

### **3.1 Context, sample and data collection**

The study was conducted in adult education in Flanders (Belgium). Centers for AE cater to a wide range of audiences, from participants in basic education (primary and middle school education for adults), (vocational) second chance to learn, to courses at level 5 of the European Qualification Framework and teacher training. OBL is emerging in Adult Education (AE) in Flanders (Belgium). Educational institutions in Flanders (Belgium) are since 2009 compelled to examine and systematically monitor quality of their provision [21]. However it is not clear, if effective, how AE institutions address the issue of QA&I of OBL.

To explore current approaches for QA&I of OBL in AE Qualitative data were drawn from exploratory focus group interviews (n=12 groups) with respondents from 5 centers of the 111 centers for Adult Education in Flanders (22). Institutions of basic education were not included in this study. Sample characteristics are displayed in table 1. To be eligible for selection centers had to: (a) currently provide or have provided in the past part of their provision by OBL; (b) have experience with OBL exceeding more than one year. Criteria for respondents at the program level were: (a) have at least one year of experience with online and blended learning; (b) all respondents had to teach in the same program.

Prospective centers were contacted informally and informed about the purpose of the study and criteria for inclusion of the respondents. For the programs included in the study the researchers aimed for programs at secondary level and at level 5 of the European Qualification Framework. Selection of programs and respondents was trusted to the adult education centers. The contact person within each center knew best what programs and respondents were eligible for selection, and what moment was best suited for an interview. Also willingness for participation would likely be higher when prospective respondents were approached and informed by a colleague rather than approached in a more formal manner by a researcher they did not know.

When centers were willing to participate interviews were scheduled. Respondents were informed an interview would take one to two hours. The full set of 12 interviews was conducted over a period of three months. During each interview two researchers were present. One acted as moderator and one as observer. The first author was present at all interviews. Interviews were transcribed in full and are the focus of the analysis. Only interview data were used in our analysis, as they were most appropriate toward the aim of the study. Nvivo was used to assist with coding and analysis.

Participants were interviewed about current approaches and experiences with QA&I. In each of these cases one interview was conducted with policy makers and quality assurance coordinators (n=17). At the institutional level the majority of the respondents (15 out of 17) had at least 5 years of experience in education. Experience of respondents at institutional level ranged from less than 5 years (n= 2), 6 years to 10 years (n=3), 11 years to 20 years (n=6), 21 years to 30 years (n=2) and more than 30 years (n=4). Out of all respondents four had less than 5 years of experience in their current position. Others between 6 years to 10 years (n=7), 11 years to 20 years (n=5). Half of the respondents (8 out of 17) had less than 5 years of experience with OBL. Others 6 years to 10 years (n=8), 11 years to 20 years (n=1). Subsequently professionals working at the program level were interviewed (n=20), in one case 3 interviews at the program level and in the remaining cases one. At the program level the majority of the respondents (16 out of 20) had at least 11 years of experience in education.

Experience ranged from less than 5 years (n= 2), 6 years to 10 years (n=2), 11 years to 20 years (n=11), 21 years to 30 years (n=1) and more than 30 years (n=4). Out of all respondents 4 had less than 5 years of experience in their current position. Others between 6 years to 10 years (n=2), 11 years to 20 years (n=10), 21 years to 30 years (n=1) and more than 30 years (n=3). More than half of the respondents (13 out of 20) had less than 5 years of experience with OBL. Others 6 years to 10 years (n=4), 11 years to 20 years (n=3).

Table 1: sample characteristics: number of respondents per level per case and level of the program.

	Case a	Case b	Case c	Case d	Case e	Total
<b>Number of respondents at policy level</b>						
	N=3	N=3	N=3	N=5	N=3	<b>N=17</b>
<b>Number of respondents at program level</b>						
Interview(s):	a: N=3	a: N=1*	a: N=7*	a: N=2** b. N=2* c: N=2*	a: N=3*	<b>N=20</b>
* level 5 of the European Qualification Framework, ** Secondary education						

### 3.2 Instrument and Analysis

Data were collected through semi-structured (focus group) interviews. The questionnaire was structured by the PDCA-cycle (Plan, Do, Check, Act) by Deming [23] and addressed several topics regarding QA&I of OBL in the institution: institutional policy, implemented model (including 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. Although the interviews focused on QA&I the topic of OBL was omnipresent during the interviews.

A modified version of Strauss and Corbin's [24] three step approach to coding and analysis was used (open coding, axial coding, and selective coding). During open coding all transcripts were analysed by the first author. Parts of interviews in which respondents expressed what from their perspective was important for either OBL or QA&I were free coded. Only when respondents explicitly mentioned a succesfactor it was coded according to pre-defined codes based on the framework of Ossiannilsson and Landgren [1] (table 2).

During a second coding phase open codes were thematically clustered. Distribution (over cases and interviews) and frequency of coded statements was used as criterium to identify these themes. For inclusion themes were to be coded in at least 4 cases or 7 interviews. After this second coding phase remaining codes were re-examined and coded in terms of success factors (table 2).

In a third, and final, phase axial and selective coding was performed to define success factors and to establish relationships between them. This was done by interpretation of codes within each success factor. What was coded in the themes was also taken into account. While no definitions of success factors are mentioned in Ossiannilsson and Landgrens' [1] article several are described in literature cited in the publication [20], [25]. During axial and selective coding these were contrasted with findings from the interviews and refined. After this coding phase remaining codes were re-examined and coded in terms of success factors (table 2) after which 74 codes remained distributed over all cases and interviews.

## 4 RESULTS

### 4.1 Which success factors can we identify as critical factors for OBL in AE?

With exception of 'Productivity', all success factors were explicitly mentioned and coded during the first coding phase (table 2). However not all success factors were distributed (mentioned) equally over cases or interviews. While 'Flexibility' and 'Personalization' were explicitly mentioned in all cases (resp. in 10 and 8 interviews) 'Interactivity' and 'Participation' were mentioned resp. in 3 cases (4 interviews) and 3 cases. 'Accessibility' and 'Transparency' were mentioned not more than once.

Table 2: 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
<b>Flexibility</b>	5, 10	74	5,11	110	5,11	121
<b>Accessibility</b>	1, 1	1	3,7	27	3,7	29
<b>Transparency</b>	1, 1	1	5,11	90	5,11	96
<b>Interactivity</b>	3, 4	14	5,8	33	5,8	33
<b>Participation</b>	3, 5	5	4,4	9	4,4	13
<b>Productivity</b>	0, 0	0	4,4	6	4,4	6
<b>Personalization</b>	8, 8	22	5,9	29	5,9	29
<b>Integration</b>	-	-	4,6	37	4,6	37

During the second coding phase free codes were thematically clustered (table 3). Several quality aspects emerged that could be categorized within Ossiannilsson and Landgrens' [1] generic quality areas (management, products and services) and quality dimensions: management, products (delivery and design – curriculum/course and assessment) and services (teacher and staff support and Learner support). After this round distribution and frequency increased for all success factors (table 2). All were mentioned in at least 3 cases and at least 4 interviews. At the end of the second phase a new category with recoded statements emerged which could not be labeled as one of Ossiannilssons and Landrens success factors. This was labeled 'Integration'. Other emerging themes were: 'external QA', 'Evolution' and 'Internal QA'. Although not mentioned in only half of the interviews codes for the theme 'Evolution' were present in four cases. Analysis shows that the way OBL is designed (and learners are assessed) evolved over time.

Table 3: thematical clustering of elementary codes.

	External QA	Management*	Teacher and staff support**	Learner support**	Design***	Delivery***	Evolution	Internal QA
<b>Distribution over cases, interviews</b>	4,4	5,12	5,11	5,12	5,11	4,7	4,7	5,12
<b>Frequency</b>	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).

## 4.2 Which quality aspects are essential for the success of OBL in adult education as perceived by adult education stakeholders?

By recoding thematically clustered free codes in terms of success factors relationships between themes and success factors were established (table 4). The design of provision (course, program and assessment) could be linked to 'Flexibility', in total 36 statements, distributed over all cases and 10 interviews. Both learner support (6 statements distributed over 2 cases and 3 interviews) and (online) delivery (20 statements distributed over 3 cases and 6 interviews) could be linked to 'Accessibility'. 'Interactivity' (19 statements distributed over all cases and 7 interviews) appears to be a success factor for the design of the provision (course, program and assessment). Design could also be linked with 'Personalization', seven statements distributed over 2 cases and 3 interviews. While only six statements from the design of the provision (course, program and assessment) could be linked to 'Productivity', distributed over 4 cases (and 4 interviews). Both learner support (two statements in one interview) and design (five statements in one interview) could be linked to 'Participation'. All dimensions with the exception of support for teachers and staff are linked to 'Transparency' (management 3 cases, 3 interview – 7 statements; learner support 5,10 – 49; Design 5,6 – 14 and

Delivery 2,3 – 19). Within design (course, program and assessment) 37 statements (distributed over 4 cases and 6 interviews) emerged which appeared to be important, but could not be linked to a success factor reported by Ossiannilsson and Landgren [1]. This was labeled 'Integration'. Several new themes emerged: 'External Quality Assurance', 'Evolution' and 'Internal Quality Assurance' (table 2). Linking these to success factors was not done because this falls beyond the of the present study.

Table 4: connections between success factors and emerging themes.

Success factors	Management	Teacher and staff support	learner support	Design	Delivery
	(5,12 – 103)	(5,11 – 132)	(5,12 – 198)	(5,11 – 193)	(4,7 – 44)
<b>Distribution over cases, interviews – frequency</b>					
<b>Flexibility (5,11 – 110)</b>		-		5,10 – 36	
<b>Accessibility (3,7 – 27)</b>		-	2,3 – 6		3,6 – 20
<b>Transparency (5,11 – 90)</b>	3,3 – 7	-	5,10 – 49	5,6 – 14	2,3 – 19
<b>Interactivity (5,8 – 33)</b>		-		5,7 – 19	
<b>Participation (4,4 – 9)</b>		-	1,1 – 2	1,1 – 5	
<b>Productivity (4,4 – 6)</b>		-		4,4 – 6	
<b>Personalization (5,9 – 29)</b>		-		2,3 – 7	
<b>Integration (4,6 – 37)</b>		-		4,6 – 37	

### 4.3 How can these success factors be described?

While no definitions of success factors are mentioned in Ossiannilsson and Landgrens' [1] article some are described in literature that is cited in their publication. During axial and selective coding these were contrasted with findings from the interviews and refined.

**Flexibility:** refers to the goodness of fit between the design of OBL (the curriculum and/or learning activities) and needs of the learners. Flexibility is determined by different factors e.g. modality (length, mix face-to-face vs. online) of the learning activity/program, opportunity to choose when to learn (time and place), the extent to which the design supports the needs of the target group e.g. learning style. Flexibility is linked to Design.

**Accessibility:** refers mainly to the technical domain. It means that what is delivered (made available) to students online (e.g. course materials, assignments, learner support) or offline should at all times be accessible. Given proper tools are (made) available that learners can use. Accessibility is enhanced when used tools are compatible. Accessibility is linked to learner support and delivery.

**Transparency:** All the initiatives taken from an institutional perspective to inform (potential) learners about expectations and possibilities to empower them. Transparency is important to support the learners in the choices they make from the decision to enroll in an OBL program and during the program to customize their learning experience to their learning needs. Transparency is linked to Management, Learner support, Design and Delivery.

**Online Interactivity:** refers to interaction that is supportive for the learning process between learners and the material and learners and teachers. Interactivity is related to Design.

**Productivity:** The extent to which learning activities (content and assessment) are designed to challenge/invite learners in the process of knowledge creation rather than mere reproduction. Productivity is linked to Design.

**Personalization:** The degree to which learners have, and (can) make use of, the possibility to personalize (customize/maximize) their learning experience to personal needs by their own choice. Personalization ranges from personal learning (a lot of freedom of choice for learners) to personal instruction (absence of choice). Personalization is linked to Design

**Integration:** Refers to two different things. To what extent learning outcomes, teaching and assessment are aligned with one another. It also refers to how (fully) face-to-face and (fully) online education is structurally aligned to one another. Integration is linked to Design.

**Participation:** Participation is understood as the learners' active involvement in their learning processes. Participation is linked to Learner support and Design.

#### 4.4 Summary and proposed adapted framework

Flexibility and transparency are mentioned in all cases and interviews. Respondents see these as important conditions for quality in OBL. The use of technology helps students to combine education with professional –and private obligations. The way OBL is designed (curriculum, course and assessment) is related to this success factor. Transparency is seen as important to empower students, from enrolment throughout the program. This factor could be linked to all quality domains (management, services (learner support), design and delivery) and seems crucial for quality of OBL. It is obvious that accessibility, mainly linked to delivery, determines quality in OBL. After all online delivery has to be accessible at all times. Flexibility and accessibility are crucial to enhance access to education and make participation to education convenient for students. While transparency is important to inform students of what is expected or possible. Success factors related to pedagogy (participation, personalization and productivity) were mentioned less. Analysis of statements coded for online interactivity shows that interactivity between peers is underreported or even absent in favor of interactivity with content and teachers. Although participation and interactivity are seen as success factors in their own right [1], [20] analysis indicates that they are not. The way McLoughlin and Lee [20] describe participation (e.g. communication, collaboration, connectivity and community) is similar to interactivity described by Ossiannilsson and Landgren [1] (interactivity with content, peers and teachers). However both success factors seem not interchangeable either. Analysis suggests that participation is what can turn all factors into success factors for OBL. Given the right decisions are made. Either, by enabling participation to education (flexibility, accessibility, transparency) or by inviting learners to actively participate in the learning process (productivity, personalization and interactivity). For that reason we suggest that participation can be useful as indicator for all success factors, given operationalized in a proper way. Based on these preliminary findings an adapted conceptual framework for quality in OBL is proposed (fig. 1).

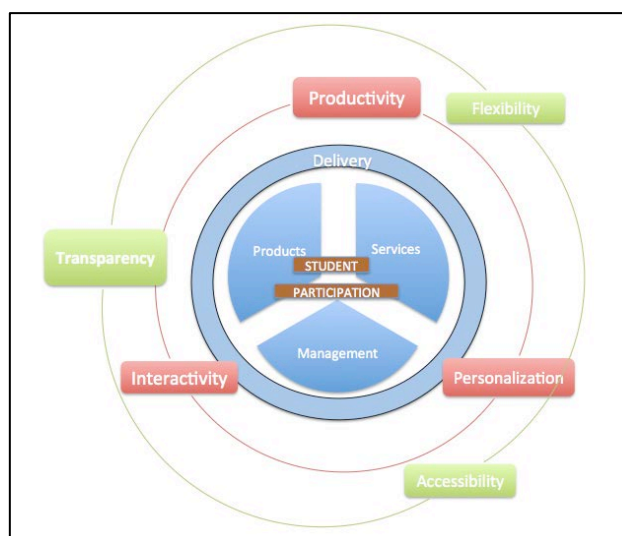


Fig. 1: proposed adapted conceptual framework based on findings.

## 5 DISCUSSION AND CONCLUSION

Results suggest that all success factors for quality in OBL are present in AE. With exception of accessibility, all were mentioned in at least 4 cases. However not all success factors are distributed over all interviews and the frequency of mentions between success factors differs. This can be attributed to the design of the study. For the interviews a semi structured interview guideline was used to give space to respondents to speak freely. With as a possible result low frequency of some success factors. Another explanation is that the number of interviews was insufficient to reach data saturation. However it can be argued that with more cases saturation would be reached. One argument for this statement is that OBL is emergent in Flanders (Belgium). The number of institutions that qualify for inclusion in this study is not likely to be high. Also it can be argued that the total number of

respondents (N=37) and number of respondents per group, policy level (N=17) and program level (N=20), can be sufficient to reach a point of data saturation.

Other than design of the study it is possible that not all success factors are mentioned equally because an evolution is occurring in the field. Although the theme 'evolution' contains not more than nine codes, they are mentioned in four cases and half of the interviews. Respondents indicate that the way they design OBL (and assess learners) evolved over time. It is possible that institutions initially put more emphasis on success factors that relate to lowering the threshold to education and to enhance the convenience for students. And focus on these at the expense of pedagogical success factors. But with time come to realize that for quality in OBL success factors related to pedagogy need to be taken into account as well. This suggests that Ossiannilsson and Landgrens' [1] statement that OBL will evolve towards paradigms of collaboration and networking HE is also valid in AE. Data support this conclusion. It is striking that flexibility and transparency are mentioned in all cases and interviews and that the frequency of the statements is also high. It seems that respondents see these as important conditions for quality in OBL. Flexibility is seen as important because the use of technology helps students to combine education with professional –and private obligations. Flexibility was often mentioned as an important reason to implement OBL. The way OBL is designed (curriculum, course and assessment) is related to this success factor. Transparency is seen as important to empower students in making the right decisions, from enrolment and throughout the program. This factor could be linked to all quality domains (management, services (learner support), design and delivery) and seems thus crucial for quality of OBL. It is obvious that accessibility, mainly linked to delivery, is a determining factor for quality in OBL. After all online delivery has to be accessible at all times for students. Nevertheless it was mentioned in not more than half of the interviews and three cases. Though it is likely that accessibility is an important contributing success factor. Accessibility was mostly mentioned in relation to situations when it was lacking or was an inhibitor for successful OBL. This suggests that, like learners [17], respondents see technology as important when it is lacking or inhibits successful OBL. Flexibility, transparency and accessibility are crucial to enhance access to education and make participation to education more convenient for students. This is in line with Graham and Robisons' [6] conceptualization of enabling blend.

Unlike flexibility, accessibility and transparency success factors related to pedagogy were mentioned less. Several authors [1], [20] link participation, personalization and productivity to connectivist learning theory [26]. Participation and productivity are mentioned in less than half of the interviews. While personalization was mentioned in all cases and nine interviews overall frequency remained low. It is thus possible that this 'stage' of OBL has not been reached in the institutions/programs that were included. It should be noted that this study did not address the question on what learning theory the provision of OBL was built, nor the effectiveness of the design. However respondents mentioned that the way OBL is designed evolved over time towards a model of knowledge creation. This is similar to what Graham and Robison [6] conceptualized as transforming blend. Analysis of statements coded for online interactivity shows that interactivity between peers is underreported or even absent in the interviews in favor of interactivity with content and teachers. Although interactivity, unlike participation, is not linked to connectivism [1], [20] interactivity between peers can. An increasing focus on knowledge production and interaction (with material and teachers) over time suggests evolution from a more cognitive-behaviorist learning design towards a social constructivist design. It equally suggests absence of connectivist pedagogy. Caution is however advised whether evolution in design should be interpreted in a sense that one underpinning learning theory is better, adding more to quality, than another. Although Anderson [27] argues that several generations of distance education pedagogy have emerged over time: cognitive-behaviorist, social constructivist, and connectivist pedagogy. He also claims that high-quality distance education exploits all three generations.

Although participation and interactivity are seen as success factors in their own right [1], [20] analysis indicates that they are not. The way McLoughlin and Lee [20] describe participation (communication, collaboration, connectivity and community) is similar to the way interactivity is described by Ossiannilsson and Landgren [1] (interactivity with content, peers and teachers). However both success factors seem not interchangeable. It can be argued that participation is what can turn all factors into success factors for OBL. Given the right decisions are made. Either, by enabling participation to education (flexibility, accessibility, transparency) or by inviting learners to actively participate in the learning process (productivity, personalization and interactivity). For that reason we suggest that participation can be useful as indicator for all success factors. Given operationalized in a proper way.



Quality indicators for success factors that contribute to lowering threshold to education as well as indicators that have a direct impact on the quality of the learning process have to be taken into account. Or quality indicators for success factors that impact participation (access) of learners in education and indicators that have an impact on active participation of learners in the educational process.

## 5.1 Limitations and prospects for future research

Despite all success factors are found and could be linked to the three quality areas and six dimensions mentioned by Ossiannilsson and Landgren [1] and Ossiannilsson e.a. [10] further analysis and research is needed. Because the focus of the study lie in determining success factors for quality of OBL in AE and link these to quality aspects no attempt was made to explore and define these. Furthermore, while respondents mentioned that support for teachers and staff is important for quality of OBL, it could not be linked to success factors. However this quality aspect has been reported in literature as important for quality in OBL (e.g. [12], [17], [18], [28], [29]). Furthermore, it is not clear how to account for the finding that delivery was not mentioned in all cases and interviews. This could be due to coding. It is obvious that delivery can difficultly be seen in isolation from other quality areas e.g. design and student support. The new theme integration deserves further attention as well. It is not clear if it is to be seen as success factor in it's own right or as part of a quality area. Integration appears to be related to design, codes suggest that it is imperative to design content according to Biggs' concept of constructive alignment [30], [31]. But it can be argued this is not specific for online and blended learning. Integration also refers to how face-to-face and online education are structurally aligned to one another. Further analysis is thus needed.

Methodological shortcomings should be addressed too. Findings cannot be generalized due to the exploratory nature of the study and sample size. Furthermore it could be argued that the design of the study did not exclude research bias. Although in all interviews, except one, several researchers were present; the first author conducted the analysis. To address these challenges literature will be reviewed in search for quality frameworks for OBL in adult education and quality frameworks from an adult learners perspective. Literature will be analyzed following a similar method used in this study. Results will be used to challenge findings in this study.

Both studies will then be combined to construct an instrument with indicators for success factors linked to quality areas and dimensions. The instrument will be validated by consultation of several experts (e.g. policy makers, teachers, learners, inspectorate) in a Delphi study.

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