



## Quality in Blended Learning

Work package 01 of the project  
Blended Learning Quality-Concepts Optimized for Adult Education

### Multilateral Grundtvig Project

539717-LLP-1-2013-1-IT-GRUNDTVIG-GMP



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# Abstract

There exist a lot of descriptions of best practice examples of Blended Learning, but almost all published books or articles lack the description of any quality issues.

Miscellaneous projects are described – most of them are barely evaluated.

The companies and their intention to decrease costs for the staff training is often mentioned. The needs of learners, the benefit for the learner and the necessary validation of the learning success cannot be found.

An interesting fact is that most of the books are older than 5 years. It seems that in the first decade after 2000 a high pedagogical effort was undertaken to deal with Blended Learning.

The best summary of quality management can be found in the research work of Werner Moritz. He focuses on the process and the teaching results without any context to the learner.

The research work covered approximately the study of 100 documents. The most important documents (and abstracts of several books) were collected and are available for the consortium members.

## References

- [1] **Comperative Blended Learning Practices and Environments**, Eugenia M. W. Ng; Information Science Reference, Hershey; 2010
- [2] **Blended Learning in Higher Education**, Randy D. Garrison, Norman D. Vaughan; Jossey-Brass, San Francisco; 2008
- [3] **Blended-Learning, Werner Moritz**; Books on Demand; 2008
- [4] **Bildungsmanagement von Blended Learning**, Ulrich Iberer; Tectum Verlag Marburg; 2010

# Quality in Blended Learning

In this report (the result of the work package 01 of the project), we provide an overview of the status of known and described quality issues for Blended Learning.

## 1. Introduction

The idea – and practice – of providing instruction through a screen rather than through face-to-face interactions with a teacher is not unknown. During World War II, films were used to train the American military, and in the 1950s and the 1960s, this medium was used in public schools as part of the curriculum, especially in the social and physical sciences. The low levels of provided interactivity typical for this mode of instruction, however, preclude its rise as a possible replacement for teachers as well as books<sup>1</sup>.

There exist a lot of definitions of Blended Learning.

Jeffrey K. Smith<sup>2</sup> defines Blended learning as “A method of educating at a distance that uses technology (high-tech, such as television and the Internet or low-tech, such as voice mail or conference calls) combined with traditional (or, stand-up) education or training.”

J. Pankin, J. Roberts and M. Savio define “blended learning as structured opportunities to learn, which use more than one learning or training method, inside or outside the classroom.”<sup>3</sup>

## 2. Research frame

Researches on blended and e-learning cover a very wide range of fields, from psychology to technology. As such, it is highly complex to summarize. On the other hand, there are also large gaps in the field of research. For instance, much of the literature relates to the technological rather than the learning aspects.

The issue of quality in teaching and learning environment is a subjective and multifarious concept, dependent on a range of factors: the students, the curriculum, the faculty, technology in general and the learning design<sup>4</sup>.

There is a big gap in the field of quality and quality management.

## 3. Quality issues mentioned in literature

J. Pankin, J. Roberts and M. Savio give a list of issues such as “different learning or instructional methods (lecture, discussion, guided practice, reading, games, case study, simulation),

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<sup>1</sup> Mackay, Stephen and Gary J. Stockport. “Blended Learning, Classroom and E-Learning.” Business Review, Cambridge, 5:1, September 2006

<sup>2</sup> Smith, J., 2004, Blended Learning: An old friend gets a new name. Cited by Brian Kerr (Chair, Undergraduate Degree Programmes at Marine Institute, Memorial University of Newfoundland), in [http://www.uwex.edu/disted/conference/Resource\\_library/proceedings/07\\_5220.pdf](http://www.uwex.edu/disted/conference/Resource_library/proceedings/07_5220.pdf) (2014/01/07)

<sup>3</sup> Pankin, J, Roberts, J, Savio, M: Blended Learning at MIT (MIT,2012)  
[http://web.mit.edu/training/trainers/resources/blended\\_learning\\_at\\_mit.pdf](http://web.mit.edu/training/trainers/resources/blended_learning_at_mit.pdf) (2014/01/07)

<sup>4</sup> Meyer, K. A. (2002). Quality in distance education: Focus on on-line learning.<http://www.westga.edu/~distance/ojdla/spring141/shelton141.html> (2014/01/07)

different delivery methods (live classroom or computer mediated), different scheduling (synchronous or asynchronous) and different levels of guidance (individual, instructor or expert led, or group/social learning)”<sup>5</sup>. This list can be used basically to develop a quality system with evaluation means – but these issues don’t cover all quality levels.

Kaye Shelton Ph.D. (Dallas Baptist University) runs a review of paradigms for evaluating the quality of online education programs. She compares different quality models and gives an overview of the current research work within her current paper.<sup>6</sup>

In the conclusion there is a highly interesting statement:

*“This review of the existing paradigms suggests a strong need for a common method for assessing the quality of online education programs. Specific indicators for quality online programs vary from institution to institution; however, this review sought to find the most common themes and domains identified today by program administrators that will assist them with evaluating and improving the overall quality of their online education programs. While some of the themes were strongly considered to be significant quality indicators, others, such as faculty support, were not. A more consistent approach is needed.”*<sup>7</sup>

Kelvin Thompson<sup>8</sup> describes in his blended learning toolkit (chapter 5) “Blended Course Quality” that on one hand “A definitive statement of what constitutes the best combination of online and face-to-face learning experiences is impossible”<sup>9</sup> on the other hand that there exist a huge list of best practice examples without any evaluation of quality issues.

## 4. Basics of Quality in Blended Learning

In several articles, published on the web platform of the GPI - Gesellschaft für Pädagogik und Information, Thomas Bauer (University Vienna) mentions “Four main phases”<sup>10</sup>

- Competence requests
- Quality of classroom teaching
- Quality of eLearning / distance learning
- Organization and communication

Bernd Mikuszeit (Berlin) proposes four different evaluation sectors with a closer definition of the details in his article about „Qualitätskriterien für Blended-Learning-Programme (BLEP) für sozial-kulturelle Bildung in der beruflichen Aus- und Weiterbildung“<sup>11</sup>:

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5 Pankin J, Roberts J, Savio M: Blended Learning at MIT, MIT 2012,

[http://web.mit.edu/training/trainers/resources/blended\\_learning\\_at\\_mit.pdf](http://web.mit.edu/training/trainers/resources/blended_learning_at_mit.pdf) (2014/01/07)

6 Shelton, K. A Review of Paradigms for Evaluating the Quality of Online Education Programs, <http://www.westga.edu/~distance/ojdla/spring141/shelton141.html> (2014/01/07)

7 Ibidem

8 Thompson K.: BlendKit Course: BlendKit Reader: Chapter 5, University of Central Florida (UCF) <http://blended.online.ucf.edu/blendkit-course/blendkit-reader-chapter-5> (2014/01/07)

9 Ibidem

10 see: o. Univ.-Prof. Dr. Thomas A. Bauer, Universität Wien, Institut für Publizistik und Kommunikationswissenschaft (Webseite Gesellschaft für Pädagogik und Information <http://www.gpi-online.de> 26.1.2014)

11 See: [http://www.edumedia-online.eu/bbmedia/pdf/Qualitätskriterien%20BLEP%20\(1\)%2007-01-13.pdf](http://www.edumedia-online.eu/bbmedia/pdf/Qualitätskriterien%20BLEP%20(1)%2007-01-13.pdf), 2013

1. Kompetenzanforderungen (competence requests)  
Learning target, learning content, valuation, target group
2. Anforderungen an Präsenzphasen (requirements for the presence phase/classroom teaching)  
Didactic Blended Learning phases (and issues), knowledge transfer and teaching methods, didactic rules and logical teaching methods, didactic emphases during the classroom teaching
3. Anforderungen an E-Learning-Phasen (requirements for the eLearning phase)  
Didactic Blended Learning phases (and issues), didactic content aspects of the eLearning phase, didactic rules and logical teaching methods, didactic emphases during the distance learning
4. Organisatorische und mediale Anforderungen (requirement concerning organizational issues and media)  
Learning/Teaching conditions, fitting the content and the target group, including the use of media products, multimedia elements, interactivity, adaptivity and finally a well prepared information of the Blended Learning Course.

This article also contains a questionnaire to evaluate existing blended learning courses using the quality criteria mentioned above. Each item is commented with explications using a five-point scale to provide a numeric evaluation.

## 5. Course Structure

B.G. Davis describes quality issues dealing with the course structure in “Tools for Teaching”<sup>12</sup>. According to the article about course design (Carnegie Mellon University<sup>13</sup>), he lists the crucial items concerning evaluation of Blended Learning courses:

- **Course aim**  
A brief introduction of the course: scope, purpose and relevance of the material.
- **Course content**  
Required (and/or optional) books (with authors and editions), reserve readings, course readers, software, and supplies with information about where they can be obtained.
- **Target Group**  
Consider who our students are, taking into account their prior knowledge, intellectual development, cultural background, generational experiences and expectations.
- **Learning target**  
Are defined by objectives, assessments and instructional strategies.
- **Learning Outcomes**  
Learning outcomes are measurable statements that articulate what students should know, be able to do, or value because of taking a course or completing a program.

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<sup>12</sup> Davis, B.G. (2009). Tools for teaching (2nd ed.). San Francisco: Jossey-Bass

<sup>13</sup> See: <https://www.cmu.edu/teaching/index.html> (20.01.2014)

Learning outcomes are also defined in the book “Assessment clear and simple”<sup>14</sup> by B. E. Walvoord

## 6. Trainers

Michael Strong (Columbia University) gives an overview of the necessary quality issues for teachers<sup>15</sup> (or trainers) without focusing on special teaching environments. Quality descriptions for teachers are completely missing for Blended Learning.

## 7. Curriculum

This part is connected with the course structure. Sir John Daniel discussed at the 4<sup>th</sup> Annual Australian Higher Education Congress (March 2011, Sidney, Australia) the need to split higher education<sup>16</sup>, but found the reason in the demand of the different ministries of education but not based on pedagogical decisions.

### 7.1. How to split the course

Jeff Pankin, John Roberts and Mike Savio recommend moving basic skill development to eLearning and using the classroom for more advanced topics<sup>17</sup>. Concrete methods or criteria to split the content in classroom teaching and distance learning are not discussed in the checked research papers.

### 7.2. The seven “R”s

Ron Ritchhart defines seven terms (all starting with a “r”) for the curriculum development: Rigorous, real, rich in thinking, revealing, rewarding and reflective.

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14 Walvoord, B. E, Assessment clear and simple: A practical guide for institutions, departments and general education. San Francisco: Jossey-Bass; 2010

15 Strong, M, “The Highly Qualified Teacher: What Is Teacher Quality and How Do We Measure It?”, Teachers College, Columbia University; 2011

16 See: <http://www.col.org/resources/speeches/2011presentation/Pages/2011-03-08.aspx> (18.01.2014)

17 See: Pankin, J; Roberts, J; Savio, M, Blended Learning at MIT; 2012  
[http://web.mit.edu/training/trainers/resources/blended\\_learning\\_at\\_mit.pdf](http://web.mit.edu/training/trainers/resources/blended_learning_at_mit.pdf) and  
<http://web.mit.edu/training/trainers/guide/> (8.1.2014)

## 8. Quality Indicators

Beth Chaney (and others) published a paper dealing with quality indicators of distance education in 2007<sup>18</sup>.

- **Theme**
- **Teaching and Learning Effectiveness**
  - Student <-> Teacher interaction
  - prompt feedback
  - respective diverse ways of learning
- **Student Support**
  - Student support service
  - Clear analysis of audience
- **Technology**
  - technology plan to ensure quality is documented
  - appropriate tools and media
  - reliability of technology
- **Course Development / Instructional Design**
  - Course structure guidelines
  - active learning techniques
  - implementation of guidelines for courses
  - development/review of instructional materials
- **Faculty support (services)**
- **Evaluation & Assessment**  
Program evaluation and assessment
- **Organizational/Institutional Impact**
  - institutional support and institutional resources
  - strong rationale for distance education/correlates to institutional mission

## 9. Institution

Blended Learning Courses are strongly connected with the providing institution<sup>19</sup>.

### 9.1. Institution level

The institutional level includes projects such as policy design, and the support of organizations and internal quality assurance systems.

### 9.2. Program level

Comprising actions to measure and enhance the design, content and delivery of the programs within a department or a school.

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18 Chaney, B, James M, Dorman S, Glessner L, Green L, Lara-Alecio, R: A Primer on Quality Indicators of Distance Education, University of North Carolina Greensboro; 2007, <http://www.uncg.edu/oao/PDF/Chaney%20A%20Primer%20HPP.pdf>

19 See: Hénard, Fabrice; Roseveare, Deborah: IMHE Guide for Higher Education Institutions, OECD; 2012



### 9.3. Individual level

This includes initiatives that help teachers achieve their mission, encouraging them to innovate and to support improvements in student learning and adopt a learner-oriented focus.

## 10. Students

A special focus was set on the learners and the description of the role of learners in quality issues during Blended Learning courses. Here the quality issues concerning with the learners' needs and satisfaction were checked in miscellaneous documents, articles and books.

Robert A. Ellis and Rafael A. Calvo mention in their article about indicators for quality in distance learning courses: "The implications of this for ensuring the quality of the student learning experience are serious and complex."<sup>20</sup> They define necessary, but insufficient indicators like Leadership and ongoing funding, Policy, Evaluation services, Support for teaching and learning with ICTs, support for planning, design, and development with ICTs and other issues.

## 11. Support of Learners

Jeff Pankin, John Roberts, Mike Savio<sup>21</sup>, describe three main factors that are crucial in learners' support: time, technology and guidance

## 12. Barriers of Blended learning

Harriman (2004) cites the following challenges to those who want to develop blended learning<sup>22</sup>:

- How to manage instructional complexity
- How to design it
- How to manage roles and responsibilities
- How to create a seamless learning experience
- How to meet expectations
- How to control costs

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20 Ellis, R. A. & Calvo, R. A. (2007). Minimum Indicators to Assure Quality of LMS-supported Blended Learning. *Educational Technology & Society*, 10 (2), 60-70.

21 See: Pankin, J, Roberts J, Savio, M: Blended Learning at MIT, July 2012

22 [http://www.grayharriman.com/blended\\_learning.htm#5](http://www.grayharriman.com/blended_learning.htm#5)

### 13. Summary

The research work gives an overview about the current status of quality management in Blended Learning. The literature available gives a lot of studies focusing on implementation of Blended Learning. Others care about evaluation tools and methods. In most cases, quality issues are not mentioned. Besides, it is often not entirely clear, why the examples are mentioned as successful as presented because of missing quality criteria.

Typical are a lot of case studies of Blended Learning courses run in business companies. These reports are often not based on scientific research and test methods.

The most fitting book to the project's topic is the Blended-Learning Book (Werner Moritz). It describes a research project in Graz, where the classroom teaching of the Pedagogical University was changed to a Blended Learning system.

## 14. Available documents at the document repository

**Hint:** Authors are cited with full name to provide easy search in the document.


### 14.1. Selection

The consortium selected documents with either direct context to research work or common documents (often listed in the reference or as a citing source in books).

The documents are used by the consortium members as a source and knowledge base.

### 14.2. List of documents

 \_List of References BLQ.pdf

 A Blended Learning Approach.pdf

**A Blended Learning Approach to Course Design and Implementation**

Natasa Hoic-Bozic, Member, IEEE, Vedran Mornar, Member, IEEE, and Ivica Boticki, Student Member, IEEE

 A design framework for online learning environments.pdf

**A design framework for online environments**

Sanjaya Mishra

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Tracey L. Leacock and John C. Nesbit

 A Framework for the Quality Assurance.pdf


**A Framework for the Quality Assurance**

Iraklis Varlamis, Ioanni Apostolakis

 A learning design toolkit to create pedagogically effective learning activities.pdf

**A learning design toolkit to create pedagogically effective learning activities**

Gráinne Conole and Karen Fill

 A Taxonomy of Factors to Promote Quality Web-Supported Learning.pdf

**A Taxonomy of Factors to Promote Quality Web-Supported Learning**

Jill W. Fresen (PhD), University of Pretoria, South Africa











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**A White Paper: Achieving Success with Blended Learning**

By Harvi Singh and Chris Reed, Centra Software

 Alexander2007.pdf









**Journal of Educational Technology & Society (April 2007)**












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Ξανθή ΧΟΥΛΙΑΠΑ
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Radosław Wolniak, Witold Biały  
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Alfred P. Rovai and Hope M. Jordan
-  BLENDED LEARNING AS A NEW APPROACH TO SOCIAL WORK EDUCATION.pdf  
**BLENDED LEARNING AS A NEW APPROACH TO SOCIAL WORK EDUCATION**  
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-  BLENDED LEARNING ENVIRONMENTS.pdf  
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Charles R. Graham, Brigham Young University, Provo, Utah  
Charles Dziuban, University of Central Florida, Orlando, Florida

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By Bersin & Associates
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-  Blended\_Learning\_Handbook\_6713\_Final.pdf  
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Aspire Public Schools
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**BLENDED LEARNING SYSTEMS: DEFINITION, CURRENT TRENDS, AND FUTURE DIRECTIONS**  
Charles R. Graham, Brigham Young University, USA
-  BLIG-2.0-Final-Paper.pdf  
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Edited by Anthony G. Picciano and Charles D. Dziuban
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**Developing a community of inquiry instrument: Testing a measure of the Community of Inquiry framework using a multi-institutional sample**  
J.B. Arbaugh, Jennifer C. Richardson, Martha Cleveland-Innes, Karen P. Swang,  
Sebastian R. Diaz, D. Randy Garrison, Philip Ice
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**Comparing the learning motives of traditional and distance learning students in higher education**  
Παπαδόπουλος Κ. Δημήτριος Επίκουρος καθηγητής, ΤΕΙ Καβάλας  
Δημητριάδης Σπυρίδων
-  CoP in Social Networks.pdf  
**A theoretical framework for building online communities of practice with social networking**

## tools












Charlotte N. Gunawardena, Damien Sanchez, Carol Richmond, Mary Beth Hermans, Maribeth Bohley & Rebekah Tuttle

- W** Critical Review of the Blended Learning Models.doc  
**Critical Review of the Blended Learning Models based on Maslow's and Vygotsky's Educational Theory**  
Esyin Chew, Norah Jones, David Turner
-  Design principles for mobile learning.pdf  
**Design principles for mobile learning**  
Anthony Herrington, Jan Herrington and Jessica Mantei
-  Design criteria for work-based learning.pdf  
**Design criteria for work-based learning: Merrill's First Principles of Instruction expanded**  
Betty Collis and Anoush Margaryan
-  Developing peer review of teaching in blended learning.pdf  
**Developing peer review of teaching in blended learning environments: Frameworks and challenges**  
Jo McKenzie, Institute for Interactive Media and Learning, University of Technology, Sydney; Lina Pelliccione, School of Education, Curtin University; Nicola Parker, Institute for Interactive Media and Learning, University of Technology, Sydney
-  Developing quality in e-learning.pdf  
**Developing quality in e-learning: a framework in three parts**  
Jennifer Ireland, Helen Mary Correia, Tim Mark Griffin
-  ED530060.pdf  
**Sizing the Opportunity**  
The Quality and Extent of Online Education in the United States, 2002 and 2003  
I. Elaine Allen, Ph.D., Kevern R. Joyce
-  Effectiveness of using blended learning strategies.pdf  
**Effectiveness of using blended learning strategies for teaching and learning human anatomy**  
Jose' A Pereira, Eulogio Pleguezuelos, Alex Meri', Antoni Molina-Ros, M Carmen Molina-Toma's & Carlos Masdeu
-  eLearningatWork.pdf  
**E-learning at work: theoretical underpinnings and pedagogical challenges**  
Paivi Tynjala and Paivi Hakkinen
-  Elements of Quality Online Education.pdf  
**Elements of Quality Online Education Into the Mainstream**  
Edited by John Bourne and Janet C. Moore

-  EQIBELT\_Rijeka\_HoicBozic.pdf  
**A Blended Learning Approach to Course Design and Implementation**  
Natasa Hoic-Bozic
-  Escaping the Comparison Trap.pdf  
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by John Sener
-  Establishing a Quality Review for Online Courses.pdf  
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By Tracy Chao, Tami Saj, and Felicity Tessier
-  Evaluating the quality of e-learning at the degree level.pdf  
**Evaluating the quality of e-learning at the degree level in the student experience of blended learning**  
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**Getting started with blended learning**  
Debra Bath and John Bourke
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Charles R. Graham
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Vassilia Hatzinikita, Athanasios Katsis, Konstantinos Petrogiannis
-  IEEE\_Transactions\_on\_Education\_Antonis\_et\_al\_2011\_published.pdf  
**Evaluation of the Effectiveness of a Web-Based Learning Design for Adult Computer**

## Science Courses










Konstantinos Antonis, Thanasis Daradoumis, Spyros Papadakis, and Christos Simos






-  Knowledge sharing in Immersive CoP.pdf  
**Emerald Article: Knowledge sharing in immersive virtual communities of practice**  
Grzegorz Majewski, Abel Usoro, Imran Khan
  
-  Learning Design Implementation for Distance e Learning.docx  
**Learning Design Implementation for Distance e-Learning: Blending Rapid e-Learning Techniques with Activity-based Pedagogies to Design and Implement a Socio-constructivist Environment**  
Mohammad Issack Santally, Yousra Rajabalee, Dorothy Cooshna-Naik, Virtual Centre for Innovative Learning Technologies, University of Mauritius, Mauritius
  
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**Learning From Focus Groups: An Examination of Blended Learning**  
Curtis J. Bonk, Tatana M. Olson, Robert A. Wisher, and Kara L. Orvis
  
-  Learning in virtual worlds.pdf  
**Learning in virtual worlds: Using communities of practice to explain how people learn from play**  
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**Minimum Indicators to Assure Quality of LMS-supported Blended Learning**  
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-  Multi-dimensional students' evaluation of e-learning systems.pdf  
**Multi-dimensional students' evaluation of e-learning systems in the higher education context: An empirical investigation**  
Sevgi Ozkan, Refika Koseler
  
-  Online Collaboration Principles.pdf  
**ONLINE COLLABORATION PRINCIPLES**  
D. R. Garrison
  
-  Open Education Vol 6 Greek Language.pdf  
**Assessment and Evaluation of educational organisms and institutions, the systemic theory**











and the Greek Open University (Greek Language)

Ξανθή Χουλιάρρα

-  Pedagogical and Design Aspects of Blended Learning.pdf  
**Pedagogical and Design Aspects of a Blended Learning Course**  
Karen PreceI, Yoram Eshet-Alkalai and Yael Alberton
-  Quality assurance and e-learning.pdf  
**Quality assurance and e-learning: blue skies and pragmatism**  
Ron Oliver
-  Quality in blended learning.pdf  
**Quality in blended learning: Exploring the relationships betweenon -line and face-to-face teaching and learning**  
Paul Ginns, Robert Ellis
-  QUALITY OF BLENDED LEARNING WITHIN THE SCOPE OF THE BOLOGNA.pdf  
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## Appendix

### Keywords and search strategies

The Google web search was the basic search engine used for this research. Here is the list of used keywords:

- Blended Learning
- Blended Learning Quality
- Students' needs
- Distance Learning
- eLearning
- Quality issues in teaching
- Quality criteria in teaching
- Quality strategies
- Assessments

### Book search

The research used also the digitized library available in Google Books in Google Books. Furthermore, the German and English offers of fitting books were checked (for example amazon.com, Buch.de and Libro Co).

### Other search strategies

The references of available books were checked for authors and other fitting literature.



