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The Key Elements for design of Online Learning Resources
in the field of European Integration Studies: a case of European NAvigator

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ABSTRACT

The aim of this study was to describe current usage patterns of Online Learning Resources in the field of the European Integration Studies. The ultimate goal is to develop the theoretical framework of pedagogical elements which are specific for this scientific field and needed for the successful design of Online Learning Resources.

There was one main sample group. Those were the university level teachers, who are teaching courses related to History, Economics, Law or Political science, but within the European Integration Studies. All participants completed the same survey, which consisted of multiple choice questions, rating scales evaluating importance of some OLRs aspects, and open-ended questions about preferences when using applications. In addition to this survey, four interviews were conducted with four university professors teaching four different subjects related to the European Integration.

Findings indicate that teachers' pedagogical beliefs and educational theory which they follow play important role in the way they chose and use Online learning resources. Some differences are apparent also within the four mentioned subjects. Finally, a key set of pedagogical elements needed for design of Online learning resources was provided.

Keywords: Online learning resources, European Integration studies, teachers' beliefs, educational theory, constructivism, pedagogical usability

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CHAPTER I: INTRODUCTION

This introductory chapter outlines the rationale for this research project. First, the context around this research is given by providing background information and stating the motivations for doing this kind of study which leads to the statement of the problem. The aim, objectives and research questions as well as justifications for this study and methodology employed are then discussed, followed by definitions and limitations of the research project. Finally, an outline of the broad structure of the thesis is given.

1.1. Background to the research

The use of Information-communication technologies, especially internet, have brought changes to every aspect of human life. The use of Web as an educational tool has provided teachers with a wide range of new and exciting teaching experiences that are not possible in the traditional classroom (Nam & Smith-Jackson, 2007), such as accessing information at any time and place, online presentation of information, interactive task-based activities, effective dissemination of information, and long distance education. Besides their instructional value, online learning resources (OLRs) are potentially powerful tools for enhancing learning experiences and improving learning outcomes (Gülbahar, 2007; Mann, 2008; Cutrim, 2008;Carle, Jaffee and Miller, 2009; Kim and Hanafin, 2011).

Centre Virtuel de la Connaissance sur l'Europe (*CVCE*)(Virtual Resource Center for Knowledge about Europe), a research center based in Luxembourg, has developed an online library called European Navigator (ENA) which contains carefully selected online resources documenting European history from 1945 to the present, i.e. the history of European integration. This is a first-stop online resource for the students of European history, Political Science, Economy and Law in the search for prime-source materials. Team working on ENA development wants to improve ENA's potential as an online learning resource, which is in line with one of three main CVCE's goals: "the exchange of information, experiences and resources for the benefit of European citizens and the world of education" (CVCE, 2011). Staring from summer 2011, ENA will have a new front-end system which will give a multiple of opportunities for new and enhanced technical features, suited to users' needs. The new digital environment has been designed on a modular basis, meaning that new tools and services (such as users' contribution to collaborative workspaces set up for specific communities or projects) can gradually be implemented to meet the changing needs of users (www.cvce.lu).

1.2. Statement of the problem

OLRs as educational tools offer learners access to well-structured and easily-updatable

study materials, task-based activities, online resources, and various tools suitable for learning activities. In spite of these benefits, however, literature suggests that OLRs are not used in the classroom successfully (Zhao & Frank, 2003; Hermans et al, 2008) or if they are, the learners may be left frustrated or disappointed, because OLRs do not sufficiently address their needs or expectations (Jonassen,2000; Nokelainen, 2006; Hadjerrouit, 2010, 2011). OLRs have been developed mainly by software designers and developers with high level of technical expertise, but without knowledge about learners' needs (Nam & Smith-Jackson, 2007) and (or) teacher beliefs related to the integration of OLRs might been negatively correlated with the teachers' pedagogical beliefs (Palak & Walls, 2009; Park & Ertmer, 2005, 2007; Hermans et al., 2008). Therefore, the concept of pedagogical usability is introduced as relevant when talking about OLRs (Silius &Tervakari, 2002).

Clearly, existing OLRs still lack a number of important issues that need to be considered during their design and classroom integration. Therefore the team working on ENA's development is highly interested in dealing with all these questions in order to discover and meet educational expectations of university level students as well as teachers so "that research and teaching in European studies remains at the forefront of the latest developments in digital technologies" (www.cvce.lu).

1.3. Aim, Objective and Research Questions

The research aim is to explore how European NAvigator can be enhanced to fit students' needs by developing a framework of elements required for the design of online learning resources in the field of European Integration Studies.

The research questions are:

1. What are the current usage patterns of Online Learning Resources by instructors in European Integration Studies?
2. Which are the pedagogical elements for design of Online Learning Resources in the field of European Integration Studies?

1.4. Justification for the research

As mentioned before, European Navigator will have a new interface starting from summer 2011. Therefore it is very important for CVCE team of developers and content providers to become more familiar with the needs of ENA's users, especially the targeted group of university level students and researchers. The results of this study will be useful in order to enhance ENA's mission for the contribution to the "world of education" but also to tailor user (learner)-

orientated OLRs.

Besides this practical reason, this study will be the first one concentrated with the European Integration Studies related online learning resources. Therefore it will be of importance to all institutions gathering, disseminating and teaching based on material related to European Integration. The results of this study could be also beneficial for those parties involved into digitization of digital materials and developing digital libraries, because it will provide a basic framework of pedagogical and practical needs of EIS teachers and therefore contribute to money and time savings. Also, this framework could be used as a starting point for the development of evaluation process of EIS digital libraries.

1.5. Methodology

The methodological approach of this study is quantitative and qualitative, mainly because it is a study of user educational experiences based on the data gathered through questionnaire and interviews.

In order to develop a theoretical framework of the elements required for designing online learning resources a literature review on the international tendencies and experiences in OLRs design has to be conducted. In this case, literature review will not serve solely for the researcher to find out what is already known on the topic, or to place a study in the context of existing work, but also as a foundation, a source upon which the framework will be built. Therefore the literature review has to be conducted in detail.

After developing the theoretical framework which is built upon literature review and curriculum analysis, the framework has to be tested in a "real-life" situation. An online questionnaire was sent to the teachers in the EIS field worldwide and also an interview was conducted with the four teachers, covering four major disciplines: Economics, Law, Political Science and History. The data gathered was found to be sufficient for the analysis of findings and comparison with the theoretical framework.

1.6. Definitions

This thesis will not add to ongoing discussion to which field does this topic belongs to, although it is heavily discussed in areas such as Information Systems field, Computer-human interaction, distance education etc.

Online Learning Resources (OLRs) - all the educational resources with the following features: (a) It uses Web technologies and is delivered through the Web; (b) It teaches content that meets specific learning objectives aligned with the curriculum; (c) It is designed on the basis of a learning strategy and pedagogical procedure; (d) It contains reusable elements

(Hadjerrouit, 2011).

European Integration Studies (EIS) – as a working definition for this thesis, EIS is defined as a university level studies where complex processes of political, legal and economical (in some cases social and cultural) integration of states in Europe is studied. Therefore, four main areas of studies are of particular importance and relevance (History, Political Science, Law and Economics) and they correspond to the four disciplines which are presented in ENA.

Learning Environment - changes in the way teachers organize learning activities in classrooms around digital resources. This indicates a change from learning environments, where the teacher and the textbook control the learning process (teacher-centered), toward technologically supported constructivist learning environment, which is student-centered, knowledge-centered and assessment-centered (Lowyck & Pöysä, 2001).

Constructivism - Constructivism is a broad-based theory, grounded in the fields of philosophy, psychology and sociology. It is based on the premise that knowledge is constructed by the individual through his or her interactions with the environment (Rovai, 2004).

Teachers – In this study, term teacher is used together with other terms, such as professors and lecturers. All of these terms refer to the educators working at the tertiary education institutions, with various academic ranks, but teaching subjects related to the European Integration processes.

Pedagogical usability - In this paper the term "pedagogical usability" is used to denote whether the tools, content, interface and tasks of the online learning environments support various learners to learn in various learning contexts according to selected pedagogical objectives (Silius, Tervakari & Pohjolainen, 2003).

1.7. Limitations and Scope

The concept of OLRs is new and is not very established, i.e. it appears under different names and is linked to different concepts. But at the same time it is also a very broad concept, comprising several aspects. This study is particularly interested in pedagogical trends and experiences when talking about OLRs for several reasons. The most obvious one is that most of the literature has been concentrated on technical problems of design and use of OLRs, but with user (learner)-centered approach in mind, the concept of pedagogical usability becomes extremely important.

It is likely expected that random errors may occur due to limitations caused by time

constraints or language barriers (since English is not the mother tongue of the researcher and most of the participants). In terms of chosen methodology, the choice to include university professors as the only group for data gathering might be considered as a limitation because it provides the research with the vantage point of only one user group, although, in researcher's opinion, the most critical one for the successful integration of OLRs into the classroom.

1.8. Outline of the Thesis

This thesis consists of five chapters.

The first chapter provided the background and motivation for this research, followed by the statement of the problem, research aim, objective, research questions, justification of the research and methodology. The definition of the core terms, limitation and scope of the study, thesis outline and conclusion were presented.

The second chapter of this thesis provides an literature review both as a background for this study and as a foundation for developing a framework of critical elements needed to be included in design of online educational resources.

The third chapter describes in a detail manner the way the data collection, analysis and discussion were conducted and the methodological approach chosen to develop this research. The ethical considerations are exposed as well as the limitations of the study and trustworthiness of enquiry.

The fourth chapter focusses on the data analysis and the discussions that arise out of this analysis. In this chapter data interpretation will try to answer two research questions of the study.

The fifth chapter is the conclusion of this thesis, it directs directly the research questions, by stating the usage patterns of OLRs and more specifically, the key set of elements for design of OLRs in the field of European Integration Studies. Finally, some concluding remarks and suggestions are presented on possible ways how ENA can be enhanced as an OLR and meet the educational needs of university students related to the field of European Integration Studies.

The last parts of this study include the cited references, presented in alphabetical order and also various appendices.

1.9. Conclusion

This chapter provided an overview and background information of this research and also presented the rationale and motivation for the study. The research problem and justifications on the conduct of the study were also provided. The methodology has been briefly described and limitations as they apply to this study have been addressed. The chapter ended with an outline on how the study is structured.

CHAPTER 2: LITERATURE REVIEW

The following chapter is structured in five parts. The first part gives an overview and introduction of the concept of Online Learning Resources. Main characteristics are explained, a working definition proposed and existing classifications enumerated.

In the second chapter, a much broader term of Learning Environment is explored. It is important to understand characteristics of a a 'space' wherein the learner acts, and the degree of technology integration into instruction. Teacher beliefs are critical indicators of technology use in the classroom and are correlated with the student-centered learning environment. Constructivist learning theory is zoomed in this chapter and found particularly important, because it supports user-centered design and use of OLRs. Basic principles of constructivist paradigm are explained and several influential models presented.

Third chapter discusses the factor of usability. Technical usability is a self-evident prerequisite for the use of OLRs and it has not been paid much attention to it. Pedagogical usability, on the other hand, is a more relevant concept for this study, because it is a framework which contains elements intrinsically connected to the learning environment and OLRs design.

The field of European Integration Studies is analyzed in the fourth chapter. After the introduction of the scope of EIS, the curriculum has been discussed. The importance of the existence of core curriculum or not is brought to light as well as an overview of longitudinal trends in the evolution of the main features of the field during the last two decades.

Finally, a short theoretical framework of key pedagogical elements within constructivist learning environment is proposed. It is based on the reviewed literature and will be tested by the experts in the EIS field and more discussed in later chapters.

The literature review was initiated by conducting a literature search in the Education Resource Information Center (ERIC) database in February and March 2011. The ERIC database includes well-known journals related to the field of online learning published by organizations, such as Elsevier and Routledge, and is usually considered as the most important database when identifying educational literature (Hertzberg & Rudner, 1999). The considerable problem was the multidisciplinary area in which the topic of Thesis lies and non-uniformity of the terms used. However, intersections between education, technology and political sciences are the primary field within which articles were searched. The queries were made to retrieve full text articles, ranging from 2000 to 2011 because author wanted to get an overview of the most recent developments in theory and practice of these fields. Keywords used were "learning environment", "online learning resources", "constructivism in education", "technology integration and teachers' beliefs" (together with the synonym terms for 'online' such as web-based, electronic ("e"), or virtual), "European Integration Studies", "EU curriculum". In total, 238 papers were identified. In the second phase of the literature review, literature searches were conducted by using ISI and EBSCOHost database as well as Google scholar search engine, to

ensure that the key works identified in the bibliographies from the previously retrieved articles, had not been overseen. For example, although the searches for the term "constructivism" were limited within the period from 2000 to 2011, all the articles relate to the this term, cite fundamental writings from 1990s, and older because constructivism as a learning theory laid its foundations from 1960s. It may be argued that the articles on closely related concepts such as computer-mediated communication, online community and collaboration should have been included in the review, but it was decided that the key terms from the Thesis title should be scrutinized. Otherwise, it would be impossible to complete such a review if it was not limited to specific search criteria. The downside of the chosen approach is that some useful articles probably were not identified.

2.1. The Concept of Online Learning Resources

Within the literature on distance education and technology integration in the classroom, "Online Learning Resources" is a term often used but seldom defined. As a result, research in this area runs the risk of listing and discussing OLRs without defining what is understood by the term. Used to describe many electronic resources, various definitions of "OLRs" are offered, resulting in confusion. There is no clear and unique definition of the concept of OLRs.

2.1.1. Definition

A closer look at the concept of OLRs shows that a number of features found in the research literature can be adopted. The term "Digital learning material" encompasses wider and more general definition of OLRs as all material that is designed for educational purposes, published in a digital form and intended to be accessed by computer (Nokelainen, 2006).

The concept is also similar to "Web-based learning tools", also referred as learning objects[1], which is defined as "interactive Web-based tools that support learning by enhancing, amplifying, and guiding the cognitive processes of learners" (Kay et al., 2009). In addition, OLRs include the main features of the term "Web-based learning application," which is defined by Liu and LaMont Johnson (2005) as instructional content or activity delivered through the Web that teaches a focused concept, meets specific learning objectives, provides a learner-centered context, and is an individual and reusable piece.

Jeong and Hmelo-Silver (2010) embrace both aspects of previous definitions, and define OLRs as "information or tool that can be used to assist learners in the process of locating, recording, and further processing of the learning materials" (p.84).

Accordingly, Hadjerrouit (2010) has defined Web-based Learning Resources as a learning

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[1] However, more accepted definition of Learning object (LO) which is also used in this study is defined as the smallest reasonable unit of OLRs. Examples of this are a pronunciation sample from English language-teaching program or an animation clip that describes how a dangerous procedure is completed safely (Nokelainen, 2006).

object (technology) or Web-based learning tool with four major features:

     a) It uses Web technologies and is delivered through the Web

     b) It teaches content that meets specific learning objectives aligned with the curriculum

     c) It is designed on the basis of a learning strategy and pedagogical procedure

     d) It contains reusable elements

This wide definition is taken as an operational definition of OLRs in this study.

In accordance with the above described features, OLRs can be viewed from 3 perspectives: technological, pedagogical and from the perspective of content (Figure 1).

Figure 1: Online learning resources: Main characteristics (Hadjerrouit, 2010, p.117)

From a technological point of view, OLRs use Web technologies and Internet services as delivery mode, that is to say HTML, URL, browsers, e-mail, and file transfer facilities. OLRs can include Web 2.0 tools, such as Wikis and Blogs, which allow collaborative and communication activities on the Web (Norton & Hathaway, 2008). In addition to scripting languages, such as Hypertext Preprocessor and JavaScript, WBLRs incorporate multimedia applications and animations, video and audio clips, images, graphics, and those developed with multimedia authoring software, such as Authorware, Micromedia Flash, ToolBook.

From a pedagogical point of view, the design of OLRs follows the curriculum of the specific subject and is embedded within a pedagogical procedure or learning theory, such as instructionism, behaviorism, cognitivism, constructivism, and collaborative learning or a combination of them (Martindale et al., 2005). Hence, OLRs are associated with pedagogical values that potentially affect teaching and learning processes. According to prior studies, students' use of OLRs: a) has positive effects on student performance (Lim & Morris, 2009); b) enables the promotion of a flexible learning environment that reinforces the student's autonomy, reflection and powers of research (Tam, 2000); c)facilitates the review and control of learning (Osguthorpe & Graham, 2003).

From the subject matter point of view, OLRs are computer-based implementations of a specific topic that is normally aligned with a given curriculum in university education, its

objectives and competence aims. OLRs include study material and lessons, task-based activities and exercises, examples, and eventually assessment procedures. OLRs can also be created to support different topics of a given subject, as well as instructional material in a number of subject areas at all levels in university education (Hadjerrouit, 2010)

Finally, OLRs need to be reusable in order to suit the students' needs (Johnson & Hall, 2007). Giving the interdisciplinarity of many EIS topics, some elements (learning objects) can be reused and incorporated within other task or activity (Strijker & Collis, 2007). It also assumes that a given lesson or course will find OLRs or elements of them from many Web-based resources or throughout a database repository.

2.1.2. Classification

As there is no uniform definition of OLRs, there is also no formal and widely accepted taxonomy of OLRs. Addressing this issue, Rollins (2002) has made a wide classification for Web-based learning material:

a) Synchronous on-line distance learning courses

b) Asynchronous on-line distance courses

c) Self-paced, Web-based learning or training modules

d) On-line resources that support or augment a traditional classroom-based course

e) And on-line research databases, information services, or data-mines

According to what has been said in the previous chapter, when discussing characteristics of OLRs, many of these categories couldn't be classified under the term "learning", but simply "resources", because they don't take into consideration pedagogical elements and curriculum goals and objectives when designing them. This study is particularly interested in the third group of proposed OLRs taxonomy : on-line resources that support or augment a traditional classroom-based course and literature search was carried out according to it. But very often, in order to understand student preferences in online learning environment, it is useful and necessary to consult studies dealing with both synchronous and asynchronous online learning.

While the emphasis of Rollins classification is rather on the use of OLRs, Martindale et al. (2005) have made a classification of OLRs according to the type of material they contain. They have carried out two researches, first in 2000-2001, second in 2004 where they have constructed classification system for OLRs (in this study mentioned under the term Web-based Educational Resources), based on educational resources classified as "exemplary" (i.e. good examples) by four US national educational organizations. In 2001 study, 13 categories of OLRs were identified which was modified in 2004 when the set of 11 categories was developed (Table 1), raising the question of how the passage of time may affect the representativeness of classification system. It is also a good example to show how broad the term Online Learning Resources is.

Research 2000	Research 2004
Category	*Category*
Content Collection	Content Collection
Instructional	Instructional
Teacher Resource	Teacher and Parent Resource (TPR)
Reference/Archive/News/Database (RAND)	Reference/Archive/News/Database (RAND)
Learning Activities	Learning Activities
List of Links	List of Links
Informal Education	Informal Education
Vicarious Participation	Shared Experiences
Virtual Exhibit	
Research or Not-for-Profit Organization (RNO)	Research and Service Organizations Projects
Curriculum or Research Project (CRP)	
Commercial	Commercial
Personal Expression and Interpersonal Interaction (PEII)	Personal Expression and Interpersonal Interaction (PEII)
Totals 199	Totals 40

Table 1. Categories of Educational Web Sites identified in 2000 and 2004 researches

2.2. The Concept of Learning Environment

In just the past few years, the World Wide Web and the Internet have grown to have major presence in school, university and business educational settings and have been praised by educators Whether the Web is used as an educational tool to enhance a traditional classroom, or as the primary delivery medium for Web-based synchronous distance learning, it can be used in many ways in courses, ranging from the simple to the complex (Cyrs, 1997; Driscoll, 1998). A widespread pattern has developed over the past decade where instructors begun to use the Web to supplement their courses in a basic ways, gradually exploring more complex uses of Web technology. The simplicity and flexibility of the Web make it possible for many teachers and trainers to accomplish a great deal, regardless of their prior level of technical skill (King, 1998). Such incorporation of web-based technology into traditional teaching has lead to different learning environments.(LE).

For some authors this change is of such a significant magnitude that it can be characterized as an educational transformation or paradigm shift (Barr and Tagg, 1995; DeZure, 2000; Buckley, 2002). However, it should be noted that "technologies themselves do not directly cause learning to occur but can afford certain tasks that themselves may result in learning" (Delgarno & Lee, 2010).

Wilson identifies the main components of a learning environment:
"Thinking of instruction as an environment gives emphasis to the 'place' or 'space' where learning occurs. At a minimum, a learning environment contains:

3. the learner;
4. a 'setting' or 'space' wherein the learner acts, using tools and devices, collecting and interpreting information, interacting perhaps with others, etc" (Wilson, 1995, p.28).

This new learning environment has changed the learning "space" and transformed the roles of instructors, students and course materials by creating new relationship between these three actors of learning. The instructor has become a learning facilitator with less control over how students behave in the "classroom". Learning performance is dependent on the students willingness to use course materials and engage in learning in an active manner (Martens, Gulikers & Bastiaens, 2004; Moreno & Mayer, 2000).

The learning environment or the 'space' wherein the learner acts, ranges from traditional (face-to-face) to fully online environment and combination of traditional and online environment (blended learning environment). The Figure 3 defines a major segment of a continuum between fully online, at-a-distance course, and fully face-to-face courses that use few or no OLRs.

FULLY ONLINE

Fully online curriculum with all learning done online and at a distance and no face-to-face component
Fully online curriculum with options for face-to-face instructions, but not required
Mostly or fully online curriculum with select days required in classroom or computer lab
Mostly or fully online curriculum in computer lab or classroom where students meet every day.
Classroom instruction with significant, required online components that extend learning beyond the classroom and beyond the school day
Classroom instruction integrating online resources, but limited or no requirements for students to be online
Traditional face-to-face setting with few or no online resources or communication
TRADITIONAL FACE-TO-FACE

Figure 2: Blended Learning Continuum (Watson, 2009)

For this study, traditional (or face-to-face) and blended learning environments are of particular importance, because the previous studies suggest that the teaching methods currently used by the teachers in EIS are still traditional (Wessels, Linsenman & Hägele, 2001; Horga & Farneti, 2011), and some studies (Boyle et al, 2003; Garrison & Kanuta, 2004; Olapiriyakul & Scher, 2006; Littlejohn, 2007) suggest that OLRs best potential lies when combined with blended instruction. Blended learning environment makes it possible to enjoy the advantages of both teaching methods, either face-to-face or distance learning (Graham, 2006) and some studies (Donnelly, 2010) give evidence that blended learning may be capable even of improving, expanding and even transforming face-to-face learning. Martyn (2003) described a successful blended model used at a small liberal arts college as consisting of an initial face-to-face meeting, weekly online assessments and synchronous chat, asynchronous threaded discussions, e-mail, and a final face-to-face meeting with a proctored final exam. On the other hand, the study performed by Bernard et al. (2004) did not find any significant positive impact of blended learning on students' performance. Stricker et al. (2011) have observed how different approaches used to investigate the effects of online and blended learning may result in different findings. However, according to Center for Educational Research and Innovation (CERI, 2005), blended learning courses are becoming increasingly significant, with ICTs being developed to complement, not replace, traditional forms of learning (López-Pérez, Pérez-López, Rodríguez-Ariza, 2011).

There is still an ongoing discussion on the precise meaning of the term blended learning or hybrid learning, however, the most common position is that blended learning environments combine face-to-face instruction with technology-mediated instruction (Colis & Moonen, 2001; Graham, 2006; Graham & Dziuban, s.a.). These two terms (hybrid and blended learning) are used alternatively, but refer to the same concept. However, Hinterberger, Fässler, and Bauer-Messer use these two terms separately. They define hybrid learning as the method of educating at a distance that uses technology, combined with the traditional education, while blended learning was described as a mix of old and new best practice in pedagogy, such as using online tutorials or other technology in pedagogy (Olapiriyakul & Scher, 2006). The concept of hybrid learning or blended learning used in this research refers to the mixed mode of instruction which formally combines face-to-face learning and distance learning by incorporating technology to facilitate the learning process.

However, in this study, the researcher is not particularly interested in the mode of delivery of instruction as a guiding principle for distinguishing learning environments, but the more pedagogically orientated outlook on learning environment which looks at the changes in the way teachers organize learning activities in classrooms around digital resources. This

indicates a change from learning environments, where the teacher and the textbook control the learning process (teacher-centered), toward technologically supported constructivist learning environment, which is student-centered, knowledge-centered and assessment-centered (Lowyck & Pöysä, 2001).

2.2.1. Technology Integration and Pedagogical Beliefs

Many studies investigated the role of technology as a way of enhancing learning (Carle, Jaffee, & Miller, 2009; Mann, 2008; Cutrim, 2008). Even more, many studies have found technology integration in educational setting to be beneficial for students (Gülbahar, 2007; Kim & Hanafin, 2011) because they promote student-centered learning (Moersch, 2002). Student-centered learning emphasizes authentic experiences, encourages active learning, and results in creation of new products and increases academic performance (Hannafin & Foshay, 2008).

Despite this evidence, the use of technology by teachers is not prevalent in schools (Zhao & Frank, 2003). In a review of educational technology use and policy in the United States (U.S.), Culp, Honey, and Mandinach (2005) found that although the research community clearly preferred the use of student-centered technology that "support inquiry, collaboration, or re-configured relationships among students and teachers" (p. 302), only a small number of teachers actually used technology in this manner (Culp et al., 2005). Instead, most teachers only use technology to design instructional materials (Hermans, Tondeur, vann Braak, & Valcke, 2008) or improve their existing practices (Culp et al., 2005), but do not effectively integrate technology into teaching and learning (Zhao & Frank, 2003). That is, only a few teachers have utilized technology as a learning device (van Braak, Tondeur, & Valcke, 2004) or required students to use technology (Center for the Advancement of Research and Development in Educational Technology, 2009).

Some studies have identified possible reasons for insufficient technology integration, such as lack of resources (e.g. equipment), unsuccessful experiences, and negative attitudes and beliefs (Park & Son, 2009). However, even when teachers have sufficient experiences with technology, teachers do not necessarily integrate technology into instruction (C.-H. Chen, 2008; Palak & Walls, 2009) or are unwilling to integrate technology into teaching activities (Hermans et al, 2008). Ertmer (1999) categorized barriers hindering technology integration as external and internal barriers. External barriers, such as a lack of equipment, training and support, can be overcome by adequate funding and training and via governmental policies. Internal barriers related to teacher's personal characteristics, more commonly referred to as teacher beliefs, are the core variables in this problem (Palak & Walls, 2009; Park & Ertmer, 2007). Many researchers demonstrated that teacher beliefs play critical roles in successful technology integration (Ertmer, 1999, 2005; Hermans et al., 2008) or influence technology use indirectly (Chen, 2008)

2.2.1.1. Teacher-centered Vs Learner-centered belief

Each teacher holds a set of beliefs that determine priorities for pedagogical knowledge and how students acquire knowledge. Teacher beliefs are defined broadly as "tacit, often unconsciously held assumptions about students, classrooms, and the academic material to be taught" (Kagan, 1992). Ertmer (2005), who investigated teacher beliefs about teaching and learning, called these beliefs pedagogical. A commonly used distinction in studies is associated with two prototypical ideologies: *teacher-centered* or teaching-oriented belief and *learner-centered* or learning-oriented belief (Meirink, Meijer, Verloop, & Bergan, 2009; Schuh, 2004).

The teacher-centered belief is based on the assumption of knowledge delivery that resembles traditional teaching methods, and underscores the importance of knowledge reproduction. Teacher with these beliefs would use direct instruction most of the time, direct students to focus on the textbook, act as a sole provider of knowledge, and discourage students' participation in the teaching process. Learner-centered belief emphasizes student responsibility for learning and is focused on knowledge construction and how students are induced to work and learn together (Liu, 2011). Accordingly, in the U.S., the learner-centered instruction is believed to be the most powerful kind of instruction (Partnership for 21st Century Learning, 2007). In terms of acquiring knowledge, teacher beliefs about teaching and learning can be broadly classified in the knowledge transmission category (so called "transmissionists") or knowledge construction ("constructivists") category (Chan & Elliot, 2004; Timothy et al., 2008). Teacher-centered belief is usually associated with the practice where teachers use computers to present instructional material, or "attain the same traditional goals under the same conditions" (Tubin, 2006), while the learner-centered belief is an active situation in which students are encouraged to participate in learning tasks, including collecting, analyzing, and presenting information (Niederhauser & Stoddart, 2001).

Therefore, teachers need to design learner-centered activities with the use of technology that expands classroom boundaries, connect students to real-world events, engage them while processing knowledge and foster the ability to think critically about information leading them towards becoming independent learners. Traditional lecture-based teaching does not always help students internalize complex information, but it has been found that constructivist beliefs are positively correlated with the use of technology in the classroom (Hermans et al., 2008). The integration of technology can be defined in various ways. For instance, van Braak et al. (2004), classified activities using computers during teaching into the following eight types: encouraging collaborative learning; using computers for different activities; encouraging students to improve their skills; requiring students to complete assignments on a computer; using a computer as a demonstration tool; using a computer as an instruction tool; encouraging students to search for information on the Internet; and teaching students about the possibilities of computer use.

Accordingly, teachers are now expected to retain their learner-centered beliefs and implement constructivist-based teaching activities to meet student needs when learning complex information (Liu, 2011).

2.2.1.2. Teacher beliefs and practices

Ertmer (2005) stated that most teachers, regardless of whether they are veterans or novices, have limited understanding and experience about how technology should be integrated into various educational aspects to facilitate teaching and learning. Lim and Chai (2008), who explored how the pedagogical beliefs of Singaporean teachers impacted implementation of computer-mediated instruction, argued that pedagogical beliefs consisted of constructivist-oriented pedagogical belief and traditional-oriented pedagogical belief, further indicating that teachers who held constructivist-oriented pedagogical beliefs asked students to complete small research projects using assigned websites, and conducted group discussions using laptop. Lim and Chai demonstrated that students worked well together and made meaning of information or data using technology that was seen by students as an information resource, data collection tool, simulation tool, and scaffolding tool. Conversely, teachers who held traditional-oriented pedagogical belief interacted little with students.

This and other similar studies (Chai, Hong, & Teo, 2009; Niederhauser & Stoddart, 2001) suggest that teachers who hold constructivist-oriented pedagogical beliefs can help students think, interact, and reflect using technology in learning environments. These teachers can also overcome barriers to integrating technology into instruction for effective teaching.

However, some studies demonstrated that pedagogical beliefs and teaching activities were inconsistent (Zhao & Cziko, 2001; Chen, C.-H., 2008). For example, based on observations of 32 teachers who self reported student-centered beliefs, Judson (2006) concluded "there was no significant correlation between teachers' reported beliefs about instruction and their actual practice of integrating technology " (p.590). Sandholtz and Reilly (2004) indicated that teachers who hold constructivist-oriented belief may not necessarily teach effectively because these teachers may be incompetent when using technology or lack sufficient class time. The contextual factors related to teaching, such as incompetence and time constraints, may account for the inconsistencies between teacher beliefs and instructional practice (Ertmer, 2005).

Teo et al. (2008) demonstrated that constructivist-oriented pedagogical belief is correlated strongly with both constructivist and traditional uses of technology among Singaporean teachers, and traditional-oriented pedagogical belief was negatively correlated with constructivist teaching activities. Thus, Singaporean teachers who held constructivist-oriented pedagogical beliefs utilized both constructivist-based and traditional teaching activities, while teachers who held traditional-oriented pedagogical belief utilized traditional teaching activities only. This analytical result differs from that acquired from Lim and Chai (2008) for the

relationship between teacher constructivist-oriented pedagogical belief and teaching practices, even though both studies were of Singaporean teachers. Instead, the analytical result obtained by Teo et al. resembles that obtained in an assessment of Taiwanese teachers by Liu (2011). Liu identified a significant correlation between pedagogical beliefs of 192 teachers and their teaching activities associated with technology integration, revealing that constructivist teachers implement project-based constructivist activities and traditional teaching activities. Liu further indicated that constructivist teachers implemented lecture-based teaching activities when using technology, not constructivist-based teaching activities, to save time and complete textbook lessons.

There could be several possible reasons for such inconsistencies in research findings. Perhaps these inconsistencies are due to the difficulty in measuring teacher beliefs. Pajares (Ottenbreit—Leftwich, 2010) stated that it is the "context specific nature of beliefs and their connections to other beliefs that make them especially difficult to infer and measure. It is the same feature that often makes them appear more inconsistent than they perhaps are" (p. 319). Ertmer (2005) suggested that contextual factors might cause inconsistency between expressed technology-related pedagogical beliefs and implemented technology-related practices. Contextual factors that may influence teachers' technology integration include policy, school culture, and availability among others. Another explanation for the apparent contradictions between beliefs and practice may stem from the existence of conflicting beliefs. For example, when a situation produces two conflicting beliefs, the belief with the higher ranked importance will override the other, that is to say, certain factors can be regarded closer to the core beliefs (Ottenbreit—Leftwich, 2010).

2.2.2. Constructivism in Education

Constructivism is the most substantial and influential theoretical paradigm presented in connection with improving the design of Online Learning Resources (Mikropoulos & Natsis, 2011) and the use of technology in the classroom (Ryba & Brown, 2000). Constructivism is a broad-based theory and grounded in the fields of philosophy, psychology and sociology and should be understood as having far-reaching influence in many diverse academic disciplines. Constructivist learning is based on students' active participation in problem-solving and critical thinking regarding a learning activity and is rooted in the seminal writings of Bruner, Piaget, Vygotsky and Dewey. Savery and Duffy (1995) summarize the major principles of constructivist paradigm:

> 1. Knowing and understanding occur during interactions with the environment. Understanding is a function of the content, the context, the activity of the learner, and perhaps most importantly, the goals of the learner.
> 2. A "cognitive conflict or puzzlement" stimulates learning and the organization and

nature of what is learned. The learner's goal is central to what is learned.

3. Knowledge and understanding occur through social negotiations and through the evaluation of the viability of individual understandings.

4. Understanding or knowledge is formulated by testing through interactions with others. Group collaboration, either in person or in electronic discussions, provides a mechanism for determining better understanding.

Figure 3 provides a summary of the differences in emphasis between traditional and constructivist higher education learning environments. The constructivist elements in Figure 3 represent areas to be emphasized and together represent a philosophy of learning. There is a room for traditional pedagogy, such as student independent learning, in a constructivist learning environment, provided these elements do not become dominant.

Traditional	Constructivist
Instructional Emphasis Teaching, knowledge reproduction, independent learning, competition.	Learning, knowledge construction, collaboration, reflection.
Classroom activities Teacher-centered, direct instruction, didactic, individual work.	Learner-centered, Socratic, authentic, individual and group work.
Instructor roles Expert, source of understanding, lecturer.	Collaborator, tutor, facilitator, encourager, community builder.
Student roles Passive, listener, consumer of knowledge, note taker.	Active, collaborator, constructor of knowledge, self-monitoring.
Assessments Fact retention.	Authentic knowledge application, portfolios, projects, performances.

Figure 3: Elements of emphasis in higher education traditional and constructivist learning environments (Tsai, 2004)

Research results have indicated that constructivist learning environment can increase support to students, and help develop their critical thinking skills (Tsai, 2004; Ng'ambi & Johnston, 2006), promote meaning-oriented learning motivation and strategies (Fok & Watkins, 2007), change students' attitudes towards learning (Wolf & Fraser, 2008) and enhance students epistemological awareness (Tsai, 2004). Therefore, the key elements to define a student-centered constructivist learning environment have become a concern for both instructors and OLRs designers.

Jonassen's (1994) *Constructivist Learning Environment model* is by so far the most

influential constructivist model. It presents in-depth discussion of constructivist roles of technology in education stating that modern information technology can and should support advanced knowledge acquisition and that it can best do that by providing environments and thinking tools that engage constructivist conceptions of learning. He believes that this should be accomplished through the use of open learning environments. Open learning systems include the following characteristics:

1. need driven

2. learner-initiated interaction

3. and conceptually and intellectually engaging.

Traditional computer-based learning environments are often driven by directive programs that allow the learner to input information; however, the responses to that input are prescribed and predetermined. In open systems, such as the Web, the goals of the system, its uses, activities and options are determined both by sources internal and external to the system.

Jonassen (2000) continues by stating that technology-based environments should fulfill an information or knowledge construction need of the learner. If the learner is seeking information to solve a problem or built a better understanding, then constructivist environment, such as hypertext retrieval systems, should support that need and engage the learner. He suggested that learners use such technologies as intellectual partners to: (a) articulate what they know; (b) reflect on what they have learned; (c) support the internal negotiation of meaning making; (d) construct personal representations of meaning; and (e) support intentional, mindful thinking.

Reisman's *Heuristic Diagnostic Learning model* presents a practical approach to learner-centered instruction and learning that is firmly grounded in the constructivist paradigm. While not specifically focused on Web-based technology, it is relevant because it supports the assertion of direct connection between preferred learning style and content and delivery of instructional material. Heuristic diagnostic teaching is a process whereby an individual's learning preferences, academic strengths and weaknesses, and prior learning are taken into account to aid in the improvement of one's performance. Heuristic diagnostic teaching and learning are an interactive meld of learner characteristics, content knowledge and pedagogy knowledge that involves the following:

- recognizing generic learner characteristics or influences on learning including learning preferences or styles,
- having in-depth command of the content to be taught,
- assessing where students' learning gaps occur and
- using a repertoire of instructional strategies appropriate to learner's characteristics and the content to be taught (Reisman, 1998).

Based on the constructivist 'guided exploration' concept, Caroll (1998, 2000) has developed a minimalist theory. *Minimalism* is a contemporary framework for the design of instruction especially training materials for computer users which emphasizes a task-orientated, learner-centered, self-directed approach based on the belief that students learn more effectively when given "real world" tasks. Caroll (1998) criticize other instructional theories and models because they are often too passive and fail to exploit the prior knowledge of the learner or use errors as learning opportunities. The critical idea of minimalist theory is to minimize the extent to which instructional materials obstruct learning and focus the design on activities that support learner-directed activity and accomplishment. Essential to the understanding of minimalist training theory and to the connection with this study is Caroll's criticism of the systematic instructional materials. In this, he presents persuasive evidence that user's learning styles, learning strategies and mental models of computer-based tasks are typically not considered or supported by the design of computer training material resulting in frustrated users and ineffective learning. Minimalist theory was developed from studies of individuals attempting to learn a diverse range of computer applications including word processing, databases, and programming and has been extensively applied to the design of computer interfaces and documentation. Minimalism includes the following key points:

- all learning tasks should be meaningful and self-contained activities;
- learners should be given realistic projects as quickly as possible;
- instruction should permit self-directed reasoning and improvising by increasing the number of active learning activities;
- training materials and activities should provide for error recognition and recovery;
- minimize the amount of reading and other passive forms of training by allowing users to fill in the gaps themselves;
- make all learning activities self-contained and independent of sequence;
- there should be a close linkage between the training and actual system.

Minimalism also serves as the most direct connection between educational theory and the value of usability with its user-centered focus on optimizing support for observed user performance in work or learning tasks.

2.3. Usability

Historically known under the term user friendliness, the usability of a system is seen as an important component of research on human uses of technology and an essential factor in educational models such as minimalism. The importance of usability issues in education has been recognized, but these have not been sufficiently researched (Hedjerrouit, 2005; Mayes & Fowler, 1999; Peterson, 2007; Shackel, 2009).

Shackel (2009) defines usability as "the capacity to be used by humans easily and effectively", where *easily* refers to specified level of subjective assessment and *effectively* to a specified level of (human) performance. Good system design depends upon solving the dynamic interactive needs of the four principal components: user, task, tool and environment (Shackel, 2009).

Cooper et al (2007) state that "usability, in e-learning context, can thus be defined as the effectiveness, efficiency and satisfaction with which users can achieve specific learning (or learning related) goals in a particular environment or with a particular tool or learning resource". He finds accessibility as a predisposition for usability, because " the lower the level of accessibility of a resource for an individual, the less usable it will be for them" (p.276). Systems that are developed using usability design and testing methodologies are often labeled *human-centered* or *user-centered* designs.

Melis et al (2003) distinguishes two aspects of usability in the online learning environment: technical usability and pedagogical usability where "technical usability involves methods for ensuring a trouble-free interaction with the system" while "pedagogical usability aims at supporting the learning process" and that "both aspects of usability are intertwined and tap the user's cognitive resources."

2.3.1. Technical usability

A large majority of the current writing and practice of user-centered Web design is based on the work of Nielsen (1994, 1995, 1999) and his model of Usability Engineering where he details usability engineering processes that have became de facto standards and proposes a definition that focuses on technical usability . This measures the extent to which a software system is convenient, practicable, and usable for users. More specifically, Nielsen's criteria of Web usability (Nielsen, 2000) include content, page, and site design. *Page* design is related to cross platform, speed of page access, page appearance and structure. *Content* design depends on writing for scannability and media use. *Site* design is about linking and navigation.

Technical usability is a self-evident requirement, but the impact of Nielsen's definition is limited when it comes to design OLRs that are pedagogically usable, because online learning environment could be usable, but not pedagogically usable and vice versa (Silius & Tervakari, 2007; Rubens et al., 2005). The usability concept must be extended to capture issues that are fundamental to learning (Krauss & Ally, 2005). The added value of OLRs in terms of learning compared to teacher-and textbook-directed instruction lies in supporting the student to acquire knowledge through interactive, flexible, differentiated, and motivating activities. For this reason, OLR development needs to integrate issues pertinent to learning and pedagogical considerations (John & Sutherland, 2009).

2.3.2. Pedagogical usability

In this thesis the term "pedagogical usability" is used to denote whether the tools, content, interface and tasks of the online learning environments support various learners to learn in various learning contexts according to selected pedagogical objectives (Silius, Tervakari & Pohjolainen, 2003).

According to Silius and Tervakari(2002) the pedagogical usability can be divided into three main categories:

1. support for organization of the teaching and studying
2. support for learning and tutoring processes as well as the achievement of learning objectives (tutoring and designed learning processes should be based on appropriate, context sensitive learning and teaching model in which are taken into account motivation, reflection, co-operation, collaboration, knowledge construction, intention, activation, authenticity, contextualization and transfer).
3. Support for the development of learning skills (interaction with other actors, growth of learners' autonomy and self-direction).

The concept of pedagogical usability has been addressed by Nokelainen (2006), who defined a set of ten criteria that can be applied to digital learning material: learner control, learner activity, collaborative learning, goal orientation, applicability, added value, motivation, previous knowledge, flexibility, feedback. These criteria must be adapted to the specificities of OLRs, because these systems cannot be measured in exactly the same terms as digital learning material and the level of use of the web for teaching varies from instructor to instructor. Therefore, Hadjerrouit (2010) has expanded Nokelainen's criteria to include the criteria of understandability, time, multiple representation of information, autonomy, and variation finding interactivity to be similar to the feedback criterion.

Nowadays, most researchers agree that knowledge not only exists in individual minds but also "in the discourse among individuals, the social relationships that bind them, the physical artifacts that they use and produce, and the theories, models and methods they use to produce them" (Jonassen & Land, 2000). Social learning theories stress that learning occurs in interaction with others and therefore OLRs should support *interaction* (Rovai, 2004; Swan, 2004; Yang & Liu, 2007; Paechter & Maier, 2010; Maor & Volet, 2007; Chou et al., 2010; Cuthrell, 2007; Park, 2008) and it is a critical factor in the sucessfull outcomes of, and the quality of, technology-assisted learning (Maor & Volet, 2007). Chou et al. (2010) have proposed a five learner-centered interaction types: learner-interface interaction, learner-self interaction , learner-content interaction, learner-instructor interaction, and learner-learner interaction.

Social learning theories also stress that learning is an aspect of all human activities and

underline that learning and **collaboration** (Hrastinski, 2009; Mikropoulos & Natsis, 2011; Cheng et al., 2011; Dillenbourg et al., 1996) are not separate activities that can be turned on and off. Collaborative learning covers a broad territory of approaches with wide variability in the amount of in-class or out-of-class time built around group work. Collaborative activities can range from classroom discussions interspersed with short lectures, through entire class periods, to study on research teams that last a whole term or year (RIT, s.a.). The basis of collaborative learning is that learning is social rather than individual (Cheng et al., 2011). Littleton and Hakkinen (cited in Hrastinski, 2009, p. 80) argue that "collaboration involves the construction of meaning with others and can be characterized by a joint commitment to a shared goal" and Dillenbourg et al. (1996, p. 5) that it is "a situation in which two or more people learn or attempt to learn something together."

According to Bonk and Reynolds (cited in Ally, 2008, p. 283), to promote higher-order thinking, OLRs must support challenging and **motivating** activities that enable learners to link new information to old, acquire meaningful knowledge, and use their metacognitive abilities. OLR's possession of motivational orientation has significant effects on the students' learning performance (Mikropoulos & Natsis, 2011; Kerr, Rynearson & Kerr, 2006; Hung, M.-L. Et al., 2010; López-Pérez, Pérez-López, Rodríguez-Ariza, 2011). Yang et al. (2006) found evidence that motivation is positively related with how learners perceive each other's presence in online courses and Czubaj (2004) associated motivation with a lower drop-out rate, higher-quality learning, better learning strategies, and greater enjoyment of school.

According to Lakkala et al. (cited in Rubens et al., 2005), an important pedagogical principle of OLRs is the simultaneous provision of structures that would help students to coordinate their collaborative activities and guide them to reach a series of milestones rather than to be left on their own. *Coordination* has been considered as needed by several authors (Rubens et al., 2005; Kitsantas & Chow, 2007) in order to support adequate participation and to guide students to engage in in-depth inquiry.

In a learning environment where the constructivist approaches to teaching expect learners to be self-directed and critical thinkers it is important to provide assessment techniques that will guide and engage students (Rovai, 2000). OLRs should provide student to cultivate their ability of self-assessment, by providing immediate *feedback* which has been recognized as one of the best practices in university education (Rovai, 2000; Rovai, 2004; Gardner, Sheridan & White, 2002; Oncu & Cakir, 2011, Chang et al., 2011). For example, Wang (2008) reports on design of quiz-game-like tool which combines several strategies for the students assessment and feedback, such as: repeat the test, correct answers are not given, timely feedback, query scores, ask questions, all pass and then reward, monitor answering history and Ask-Hint strategy. These

strategies have increased students' motivation and participation. The concept of peer-assessment has become important in the collaborative learning and real-life task performance (Van Weert & Pilot, 2003) for several reasons. Feed back that is exchanged online may result more often in the revision of students' products than face-to-face feedback (Tuzi, 2004); by assessing the work of fellow students, students also learn how to evaluate their own work (Van der Pol et al., 2008); it offers students the potential to develop new knowledge and understanding (Falchikov & Goldfinch, 2000).

Flexibility is an important feature for successful design and integration of OLRs into the instruction (Macedo-Rouet et al., 2009; Chou, Peng & Chang, 2010). OLRs should provide different levels of difficulty and contain diverse assignments and tasks that are tailored to students. For example, in a survey conducted in Taiwanese universities, content management systems were evaluated. Participants have clearly stated the need for content-difficulty detection tools in order to find materials suited for their needs (Chou, Peng & Chang, 2010).

Given the *multidisciplinary* nature of European Integration Studies, it is important for OLRs to support representation of various topics and allows navigation across disciplines in order to provide students with the meaningful experience of the complex field of European integrations (Flood, 1997; Smith, 2003; Horga & Farneti, 2011).

OLRs should help students to see the connection of the topics they learn with the current events and ongoing affairs, i.e. to be able to see the cause-effect links which will make the learning material more *relevant* to them (Wessels, Linsenman & Hägele, 2001).

Although the crucial element in constructivist learning environment is collaboration, it is argued by the some authors that OLRs should be designed in a such way to allow for a certain level of *autonomy* (Wang, 2008; Santally & Raverdy, 2006, Mikropoulos & Natsis, 2011; Kerr, Rynearson & Kerr, 2006; Stricker, Weibel & Wissmath, 2011; Paechter & Maier, 2010). Autonomy means that students are able to work on their own using OLRs, without being completely dependent on the lecturer. Santally and Raverdy (2006) suggested that learners have to be responsible for their own learning effectiveness and be able to develop their own learning strategies in a particular educational setting (Stricker, Weibel & Wissmath, 2011).

In seeking to position students as active learners who are regularly constructing or reconstructing knowledge, the *context* for learning becomes important (Calandra & Lee, 2005). OLRs should support learners to identify the key ideas, to take them for further elaboration, and build upon them (Rubens et al., 2005), especially in European Integration Studies where students have to construct historical understandings which reflect the complexity of the past (Ayers,

1999).

The advent of Web 2.0 technologies, collectively known as social software, presents higher education with the opportunity to develop a student-centered personalized learning environments (Sigala, 2007). The differentiating factor of social software technologies is that users become publishers rather than consumers of information (Cole, 2009), allowing students in that way to express their *creativity*, which has been seen as important feature of OLRs (Mintu-Wimsatt, Sadler & Ingram, 2007; Lapham, 2007). That is, they are bale to combine, annotate and edit existing material in such a way that new content is created and used in partnership with others. In such way, OLRs help educators to create socially engaging tasks that require active student participation and knowledge building instead of memorization (Sigala, 2007).

Learning environment should provide customized, self-paced Online learning materials for the learners in order to to encourage self-paced learning and allow students to learn the subject matter within a short, but acceptable, period of *time* (Yang & Liu, 2007; Lin, 2010). Such OLRs could help to overcome some learning obstacles, such as anxiety, low esteem, dependence, etc. (Yang & Liu, 2007).

When using OLRs learners may have diverse backgrounds, preferences, skills. To aid more efficient learning, designers of OLRs must understand and identify different requirements and provide personalized services that can accommodate learners' needs. Among all individual differences, *learning style* has been recognized as particularly relevant to learners' interaction with the OLRs (Messick, 1994; Chen & Macredie, 2004; Chen, 2010; Olapiriyakul & Scher, 2006; Lu, Yu & Liu, 2003; Zhan, Xu & Ye, 2011). Learning style is the manner in which a learner perceives, interacts with, and responds tot he learning environment. Components of learning styles are the cognitive, affective, and physiological elements, all of which may be strongly influenced by a person's cultural background. A general category to classify learning styles is:

− perceptual modality: define biologically based reactions to our physical environment and the way we adopt data. We can distinguish: visual learners (learning through seeing), auditory learners (learning through listening), and tactile or kinesthetic learners (learning by moving, doing, and touching etc.)

− information processing: distinguishes between the way we sense, think, solve problems, and remember information.

− personality patterns: focus on attention, emotion and values.

Having a set of characteristic elements for the design of specific OLRs is congruent to Norman's (1999) concept of unique usability needs for educational Web sites where he emphasizes the need to put the user at the center of design initiatives in technology-based

learning. His ideas are applied to Web-based learning where he calls for new paradigm for effective design for learning. In contrast to traditional courses that Norman labels teacher-centric or content-centric, his e-learning model is based on understanding how individuals learn. Norman's learner-centric approach to on-line learning involves an iterative cycle of design-check-redesign working toward a pedagogical usability for e-learning design.

Technical and pedagogical usability are related to each other, and even congruent. They cannot be considered as separate, disjointed activities (Tselios, Avouris, & Komis, 2008). Technical usability involves techniques and methods for ensuring a trouble-free interaction with the OLRs while pedagogical usability aims to support the learning process. The goal is to minimize the learners' work resulting from the interaction with the OLR in order to free more resources for the learning process. Technical and pedagogical usability criteria need to be adapted to the characteristics of students (Nielsen, 2002, 2005) because there are important differences between them and adult users. Students like modest, but clear design. They like enjoyable and visual appearance, online quizzes, and sound effects. They don't like to read a lot on the Web. Interactive features work better for young users, because they let them do things rather than read text. Young users also like Web sites that provide feedback.

2.4. European Integration Studies

Integration of Europe is a dynamic though expedient process based on European values and acting in political, legal, economic and societal aspects. The complexity of this process mirrors also the university curriculum of EIS and therefore it is important for the development of the learning resources.

2.4.1. Definition

Many scientists found European integration as a very interesting as well as noteworthy object of scientific research. However, to define this research field is not very easy, giving the fact that various processes, actors and institutions play important and not very clearly defined roles. Therefore it is important to look at different ways of explanation of the integration process from theoretical point of view.

Two most important theories related to the explanation of European integration processes are neofunctionalism and intergovernmentalism. Ernst Haas (cited in Paužaitė & Kriščiūnas), one of the influential integration theorists on neofunctionalism, emphasized the social element of integration which appears as one of the most peculiar aspects of European integration model. He divides social element into social process (the shifting of loyalties) and political process (negotiation and decision-making about the construction of new political institutions above the

participating member states with a direct say in at least a part of the member states' affairs). McCormick (2008) uses the core neofunctionalist term "spillover" to distinguish: functional spillover, technical spillover and political spillover as a three different but interrelated processes which are important for the European integration. A less demanding definition preferred by intergovernmentalists, coming from a different angle within the spectrum of integration theory, focuses instead on political processes, therefore this can be stated as "political integration". Intergovernmentalism argues that while organized interests play an important role in integration, as do government officials and political parties, the pace and nature of integration are ultimately determined by national governments (McCormick, 2008).

In both of the definitions above, integration is first and foremost a *process*: both neofunctionalists and intergovernalists are more concerned with the process of integration than with the political system that integration leads to. However, more lately various authors have focused specifically on the shape of what is called a new *system of governance* emerging in the EU, while they are more concerned with *outcome* than the process of integration (Marks, 1996a, 1996b).

However, Ben Rosamond (2003) treats European integration and the emergence of the EU not only as responses of social and political aspects of integration but also of global transformation involving various factors. The European integration is intimately connected to the types of challenge posed by the intensification of economic and social life associated with the global integration.

Resuming the thoughts above on the interpretation of the the definition of integration can be stated that the dynamism of the process of European Integration influences the interpretation as well as broadness of the definition. With reference to this the understanding of the European integration can be achieved also through the retrospective analysis of European integration from the *historical point of view*. Diez & Wiener (2004) divide the development of integration into three broad phases from the theoretical point of view and provide main features reflecting those days' reality and objectives :

– 1960s onwards – *Explaining integration*. The first phase represents the development of *political and economic* integration of Europe towards the prevention of future war;

– 1980s onwards – *Analysing Governance*. The second phase is characterized byeconomic, political and also integration through *law*;

– 1990s onwards – Constructing the EU. Third phase mostly highlights the implication of *social factors* to integration process.

During the first phase of integration, the "founding fathers" have channeled political and economic factors of integration toward the prevention of war and a long term peace as a new value and aim (Berlin, 2008). Later in the development of integration the second phase has a

feature of political stagnate though legal factor of integration appears under the erection of values of democracy, tolerance and freedom. The third phase of integration brings especially important changes in European integration process and makes a big implication to the European integration model with the social factor which goes with solidarity, equality and diversity.

There is also a confusion around terms "European studies", "EU Studies" and "European Integration Studies", leading some authors to argue that EIS are a subfield of EU studies which are also narrower term than the broader vision of European studies, while others assume that when we study the EU what we are studying is the extent to which integration has occurred, or the likelihood that it will occur in the future (Rumford & Philomena, 2003).

Regarding to thoughts mentioned above it can be said that the European Integration Studies is a sub-discipline of political sciences, involving studies of processes, institutions and human actors which led and are contributing to the long-lasting process of integration of Europe. The key subject areas identified as a special relevant to the field of EIS are economy, politics, history and law making it therefore interdisciplinary and multi-perspective field. This is also in accordance with the Jean Monnet Action, a major source of funding for European Integration Studies, through which academics in Europe and around the world are encouraged to teach courses on integration topics, specifically European Community Law, European Economic Integration, European Political Integration and History of the European Construction Process (http://ec.europa.eu/education/lifelong-learning-programme/doc88_en.htm).

2.4.2. Curriculum

Varying from country to country, the academic realm of European Integration Studies has evolved in different ways and that is evidenced by different curricula. For the Organization for Economic Co-operation and Development, a curriculum is "a field of enquiry and action on all that bears upon schooling, including content, teaching, learning and resources" (OECD, 1998). In other words, the subject of the study is inseparable from the overall aim of the course- and from the means through which these aims are achieved.

Flood' survey in 1997 has suggested that European Studies were delivered as a type of interdisciplinary programme, rather than a predominantly undisciplinary degree containing European elements (Flood, 1997). According to Michael Smith, European Studies are taught: a) within one specific European studies degree program, which is classified as a disciplinary program (Political Science, Economics, History , Law); b) within more than one European studies degree program, which would correspond to a Multidisciplinary Program; c) As a joint combination with other degree programs which is an Interdisciplinary program (Smith, 2003). Most recent study by Horga and Farneti (2011, p.2) suggested that "there is a flexible and differentiated curriculum for European Studies". Moreover, they have noticed a number of interesting characteristics across the EU studies.

To address some of these issues, European Thematic Network in Political Science (EPSNet) has launched a project aimed at developing a core curriculum on European Integration Studies, which was focused on "common or 'core' aims and objectives of a curriculum on EIS and secondly on core topics and different educational methods." The following area of studies were suggested: the history of the European integration process; theoretical approaches to European integration; the evolution of EU system, the European Union as a system of multi-level networks, administration, governance; the legal foundations of the EU; the institutions; procedures; the policy fields; modes of governance; the future development of the integration process; the role of the EU in the world (Wessels, Linsenman & Hägele, 2001). Based on the analysis of answers from questionnaires addressed to 125 professors in political science, number of remarks related to EIS has been drawn which support the findings of Smith (2003), Horga & Farneti (2011). EIS is an interdisciplinary study, rooted in the disciplines of politics, law, history and economics, but when this study was carried out (2001) the cooperation with other disciplines (transdisciplinarity) was not taking place – a significant difference from the findings of Horga & Farneti nine years later. It was noticed that the methods used in the teaching of EIS are primarily lectures and seminar style courses, that English is a predominant language in Political Science and the core set of general textbooks on EIS was proposed.

On the other hand, Rumford and Murray (2003) strongly criticized efforts to develop a core curriculum in EIS, which, in their opinion, contains inherent limitations or constraints on the academic imagination, such as loss of opportunity for lively debate, contestation, and increased multidisciplinary dialogue on the meaning of integration. They point out that many other disciplines do not have core curricula, and that it would result in "an intellectual desert, with young scholars leaving the discipline in droves" and creation of "core" leaders of the discipline with followers who apply and teach their thoughts.

However, criticism on a development of a core curriculum by Rumford and Murray (ibid.) is too general and it can be applied to any scientific discipline. It is still needed to come upon a common agreement of what is understood as essential knowledge in a determined field, because that is what defines and constitutes a discipline by a large degree. In doing so, the students and teachers in EIS will have a common ground for understanding their discipline and setting the goals and aim in teaching EIS.

2.5. Theoretical framework

Based on the reviewed literature several conclusions can be highlighted in relation to the developing online learning resources in the field of European Integration studies.

Firstly, OLRs are not just merely digitized material which can be used for educational purposes, but it is an instructional content designed in relation to the learning outcomes.

Secondly, learning objects are best defined in the subject curriculum. Therefore, curriculum should clearly state the aims and objectives for specific discipline. Thirdly, OLRs should be incorporated in the wider context of online learning environment and analyzed in accordance to it.

The review of the literature concerning the use of online educational resources among university students is mostly based on the case studies and concentrated around instructional design. It is self-evident and concluded by many researchers that the instruction, both in traditional, fully online and blended courses, has shifted from teacher and content-centric approach to learner-centric approach. This approach is based on constructivist learning theory which holds that learning is more effective when a student is actively engaged in the learning process rather than attempting to receive knowledge passively.

I have tried to develop a general theoretical framework of crucial elements that have to be taken into account by the experts which are involved in design of OLRs. Since the predominant educational theoretical approach in the last two decades is constructivism, it is of most importance that design of OLRs also follows characteristics of constructivist framework. The framework is based on the instructional case studies which mention either explicitly or implicitly the link with the constructivist approach, i.e. elements which instructors have found to be leading to better student performance were taken into account for the framework development.

Constructivist pedagogical elements that were found to be relevant are as follows:

Collaboration. Students can work together to reach a common goal, giving them a sense of how problem solving can be carried out in collaboration.

Interaction. OLRs should be designed in order to support interaction in three ways: learner-instructor, learner-content and learner-learner.

Feedback. Constructivist learning environment should provide learners with encouraging and immediate feedback.

Learning styles. OLRs should take into account students' different strengths and preferences in the way they appropriate, process and interact with information (Chen, 2010)

Motivation. The material provided by the OLRs should contain intrinsically motivating tasks and examples which stimulate problem-solving skills.

Coordination – Students activities in online environment should be guided, observed and coordinated.

Flexibility. OLRs should provide different levels of difficulty and contain diverse assignments and tasks that are tailored to students.

Multidisciplinarity. OLRs should cover wide range of topics, primarily from economics, history, law and political science and ensure their interrelatedness.

Relevancy. Connection with current events and ongoing affairs.

Autonomy. Autonomy means that students are able to work on their own using OLRs, without being completely dependent on the lecturer.

Context. Activities should be related to each other and set into wider settings so that the context of the topic or activity is clear.

Creativity. OLRs should enable students to express their creativity in using Learning objects and construction of new knowledge.

Time. OLRs must allow students to learn the subject matter within a short, but acceptable, period of time.

3. RESEARCH DESIGN

This chapter is concerned with the methodological approach taken for this research. Firstly, I will describe the interpretivist paradigm employed as the basic philosophical view of this study. Then the reasons for choosing mixed method in the implementation of this study will be described followed by the explanation of the chosen sample of university instructors. Method of the data utilization will be discussed, i.e. a questionnaire administered via the online tool QuestBack and a semi-structured interview. An exploration of the survey questions that were included and their relation to the major research questions of this study will be included. The process of data analysis for both qualitative, and quantitative data will be addressed. Finally, ethical considerations, limitations of this study and the trustworthiness of the enquiry will be discussed.

3.1. Research Paradigm

The concept of paradigms has been attributed to Thomas Khun (1970), who proposed that paradigm is "the entire constellation of beliefs, values, techniques and so on shared by members of a given (scientific) community" and it consists of 'ontology', the nature of reality; 'epistemology', the philosophy of how we can know that reality; and 'methodology', the practice of how we come to know that reality (Pickard, 2007, pp.5,6). Dash (2005) has identified four key paradigms: positivism, interpretivism, critical theory and poststructuralism, but they can be simplistically grouped into two categories: positivism, where knowledge is observable and measurable; and anti-positivism, where meaning is generated from the process of knowing and interpreting phenomena.

Adopting the major view assumed in information science, empirical interpretivism and specifically constructivism will be the chosen paradigm for the present research. The ontology of interpretivism is relativism. Interpretivists believe that there is no universal and multiple realities, and realities are constructed within the social context (Pickard, 2007). The realities experienced by different people, in this case professors and other tertiary-level instructors in European Integration studies, are "multiple, constructed, and holistic" (Pickard, 2007, p.12). Interpretivist epistemology is described as subjectivist/transactional because process of interpretation by the researcher is a process that inherently implies the introduction of bias on the part of the researcher due to his or her personal characteristics and belief system. Truth and meaning emerge through the exchange of ideas between the researcher and the subject, and the researcher's subsequent interpretation of this dialogue (Robert Wood Johnson Foundation, 2010). In this case, the dialogue is confined to the participants' free-form response to the questionnaire's open-ended questions and participation in the interview followed by the researcher's interpretation of and subsequent assignation of meaning to these answers.

3.2. Methodology

After a careful consideration, I have decided to employ a methodology that is primarily qualitative in nature, but also has some quantitative elements. The choice of this type of mixed model approach to carry out the study appears to be the best way to address the research questions. After conducting content analysis of responses sent by the 19 leaders in the field of mixed methods, who gave their personal definitions of what mixed method is, Johnson et al. (2007, p. 123) concluded that:

> Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration.

That is to say, a mixed model is "a design in which mixing of qualitative and quantitative approaches occurs in all stages of the study (formulation of research questions, data collection procedures and research method, and interpretation of the results to make final inferences) or across stages of the study (e.g., qualitative questions, quantitative data)", as explained by Tashakkori and Teddlie (2003). According to Gorard (2004), combined or mixed-methods research has been identified as a "key element in the improvement of social science [...] which requires a greater level of skill [...], can lead to less waste of potentially useful information" (p.7).

While it does present some complexities when it comes to data analysis, the incorporation of both approaches, qualitative and quantitative, has the best potential to respond to the major research questions for this study. Additionally, the use of a mixed methods design aimed to capitalize on the strengths of both quantitative and qualitative approaches and help explain significant findings (Leech & Onwuegbuzie, 2010). Although the qualitative and quantitative elements were used interchangeably in all four parts of the online survey, it can be stated that the quantitative elements are used predominantly to validate the framework of the pedagogical elements which are important for the development of OLRs and to lesser extent to record issues pertinent to the usage patterns of OLRs by EIS instructors. The full set of questions used in the survey has been included in the Appendix 1.

As noted, a qualitative methodology has been chosen as the primary methodology for the study. Therefore this type of mixed method research could be characterized as a *qualitative dominant* mixed methodology defined as a "type of mixed research in which one relies on a qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit most research projects" (Johnson et al., 2007, p. 124). It can be characterized as such for two reasons. Firstly, open-ended questions have been used where appropriate in several

sections of the questionnaire . Secondly, the guided interview, as a primarily qualitative data collection method (Powell, 1997) has been used in order to garner richer responses and a greater insight into the rationale behind the participants' answers then a purely quantitative design would permit. Accordingly, qualitative research methodology "assumes social construction of reality". These constructions of reality are created both by those participants who are being studied and the researcher him or her self (Gorman & Clayton, pp.24-28). The researcher plays an active role in the data collection process, contributing his or her tacit knowledge to the investigation. This collaborative process "produc[es] meaning from data and us[es] that meaning to develop theory" (Gorman & Clayton, pp. 24-28).

For this study, I have included open-ended questions on the survey in Parts 2, 3 and 4 which, as a researcher, I have had to evaluate qualitatively according to both objective and subjective criteria. It was not intention to create purely qualitative or quantitative groups of questions in 4 survey sections. Rather the researcher has tried to create sections with dominant types of questions in order to help him to create an objective framework for categorizing responses. However, the fact remains that any designation of categories and assignation to these categories is inherently the researcher's own subjective creation. Pickard (2007) argues that open-ended questions on surveys are "descriptive but rarely are they truly qualitative" (p.195). However, many other commentators on the subject of research methodology, in addition to guides on conducting research, do in fact place open-ended survey questions into the qualitative category (Labuschagne, 2003; Patton, 2003; Trochim, 2006). It is my own viewpoint as a researcher that the addition of these types of open-ended, free-form questions in the questionnaire in addition to the interviews makes this study predominantly qualitative.

The part 4 of the questionnaire is mainly based on Lickert scale rating of agreement with the offered statements. But at the end of the part 4, two open-ended questions are offered where participants can express their own, personal views related to the questions in this last section and in overall topic of the survey. These qualitative explanations are important since this type of rating scale has been described as having several potential drawbacks, namely: 1) Individual responses may bias the entire results, 2) The researcher may influence responses by forcing choices, 3) Without a space for the participant to elaborate on his or her choice, there is no indication of what a certain value means to that participant, for example, whether one participant's interpretation of one value is the same as another participant's interpretation of that same value (Florida State University, s.a.). In this regard, Pickard (2007) does note that "The descriptive data that open-ended questions may produce can add detail to the closed questions, and can often bring a totally new perspective to an issue [...]" (p.195). She suggests using open-ended questions when: "you need more extensive or more individual data; you have no way of knowing the range of possible answers; it is not a particularly sensitive subject area" (p.195). This study fits those criteria. My intention in incorporating both types of methodologies, quantitative and qualitative, is to mitigate the drawbacks inherent in either method taken on its

own.

On the other hand, the quantitative portion of the study reflects two major requirements. First is to test the theoretical framework of pedagogical elements for design of OLRs in which participants assign the numerical value of the importance of offered elements and second is to help participants throughout the survey to answer the questions by providing possible answers and help them in that way with the less familiar terms. These numerical ratings also act as a sort of confirmation of the qualitative narrative answers provided by participants, which have had to be interpreted by the researcher. According to a glossary of research terminology compiled by Colorado State University (s.a.), the quantitative research methodology is "empirical research in which the researcher explores relationships using numerical data. Survey is generally considered a form of quantitative research. Results can often be generalized, though this is not always the case." In this case, it is arguable if the results can be generalized, because the respondent rate is relatively small, with participants coming mostly from European countries. The section 3.3. Sampling, provides details on how the sample was obtained for this study. Nevertheless, since I have conceived this study to be primarily qualitative and specifically related to the Europen NAvigator digital library, the ability to generalize is not necessarily what is important; other sections of the survey with the open-ended questions will provide instructive elements that will shed light on the research questions.

The quantitative portion of the methodology for this thesis can be observed in three sections of the questionnaire and in the use of interview. Quantitative methodology is used in Parts 2 and 3, in which participants were required to answer multiple (or single) choice questions regarding their usage patterns of OLRs and related issues, such as characteristics of educational environment they support. After that, quantitative methodology is heavily used in Part 4, the theoretical framework of pedagogical elements in OLRs. The section consists of a Likert-type agreement scale whereby participants were required to rate different pedagogical elements of OLRs. This scale, rather than using numbers, used five point agreement scale, ranging from strongly disagree to strongly agree.

The Likert scale has been defined as "a rating scale designed to measure user attitudes or reactions by quantifying subjective information. Participants indicate where along a continuum their attitude or reaction resides" (Foviance). Further, Pickard (2007) defines the Likert scale as: "a bipolar scaling technique [...] provid[ing] ordinal data [...] [I]t gauges intensity of attitude in relation to other respondents" (p.188). For purposes of analysis these faces were automatically assigned numbers from one to five by QuestBack, the online survey tool used, with one indicating the lowest level of agreement and five indicating the highest level.

3.3. Target group and sampling

To accomplish the aims of this study and to provide the basis for a potentially interesting

comparisons that might emerge from the data, it was determined that it would be advantageous to employ certain special groups of potential users. Since this Thesis is dealing primarily with educational resources, it was natural to chose three categories of interested parties: creators of OLRs and users (university instructors and students). However, only one group was chosen to participate in the survey for the following reasons.

In the problem statement and literature review sections it was observed that OLRs are mostly designed by the IT experts and software engineers and numerous professional literature has therefore been mostly concentrated around technical usability of OLRs . For these reasons and for the fact that I was primarily interested in pedagogical elements for the OLRs design, it was decided to omit creators as a participating group. For the practical reasons (research was carried out during the late May and early June, when most students have finished their academic year, or are attending exams) researcher has decided not to include students as participants in the survey.

Instead, research was focused on university level instructors who are teaching courses related to European Integration. Four subjects were identified as particularly relevant to EIS and to the mission of CVCE and European NAvigator: history, economy, law and political science (http://www.ena.lu/).

3.3.1.   Questionnaire participants

Of great assistance for identification of experts in given fields was the publication "Who is Who in European Integration Studies" (Who's Who, 2007) published in 2007 by European Community Study Association (ECSA). ECSA is an international association and the liaison body of 52 national associations of professors and researchers working in the field of European Integration Studies with more than 9 000 members (more on this available at http://www.uic.es/en/ecsa). This publication has listed 450 experts related to EIS, providing at the same time their e-mail addresses which were used to contact them regarding participation in the survey. The chosen method has several advantages: the participatory group is representative, including leaders in four chosen disciplines worldwide; participants are selected objectively, without any researcher's personal influence, therefore reducing the level of partiality and favoritism to minimum.

3.3.2. Interviewees

Interviewees were four academic members of International Summer Programme on European   Studies (http://shs.univie.ac.at/content/site/shs/sommerhochschule/home/index.html)   in

Austria, each with a different specialization (history, economics, political science and law), but all involved in European Studies. They are working in academic and research institutions in Austria and Germany, but also all of them have at the same time international teaching experience. I took part in this Programme as a student. Therefore, it was convenient and practical to include these experts as interviewees, because at the time when this Thesis was written, most of the teaching staff are on vacation (late June and July) and since I have spent one month with these experts, more friendly and open atmosphere was created, which is one of the prerequisites for the successful interview (Powell, 1997).

Participants have been labeled by number, from I 1 to I 4 so that their identity remains unrevealed.

3.4. Data Collection Techniques

To explore the EIS teachers' opinions and experiences about OLRs, the main data collection method used was survey, consisting of two tools: an online *questionnaire* divided into four main sections and *semi-structured interviews*.

3.4.1. Questionnaire

Questionnaires are the single most popular data collection tools in any research involving human subjects (Picard, 2007, p. 183).

Miller (2002) has identified several advantages of questionnaires compared to other data collection tools: they permit respondents time to consider their responses carefully without interference from, for example, an interviewer; it is possible to provide questionnaires to large numbers of people simultaneously; each respondent receives the identical set of questions. With closed-form questions, responses are standardised, which can assist in interpreting from large numbers of respondents; can address a large number of issues and questions of concern in a relatively efficient way, with the possibility of a high response rate; often, questionnaires are designed so that answers to questions are scored and scores summed to obtain an overall measure of the attitudes and opinions of the respondent; they permit anonymity. It is usually argued that anonymity increases the rate of response and may increase the likelihood that responses reflect genuinely held opinions.

The survey was designed, and responses were collected, using the online survey tool QuestBack. This tool was selected because it offers flexibility in survey design and great functionality in terms of the management of the survey itself and the responses. The data analysis tools that are offered as part of the tool are extensive and permit the export of and many options for the graphic representation of the results. QuestBack is a paid subscription

service, but I am able to have access through a student account managed by Oslo University College (one of my three institutions of higher education for this master program) and a consortium of other Norwegian universities.

3.4.2. Interviews

> Conversation is a basic mode of human interaction. Human beings talk to each other ... Through conversations we get to know other people, get to learn about their experiences, feelings, and hopes and the world they live in (Kvale, 1996, p.23).

Interviews are frequently used data collection techniques in information research (Pickard, 2007). They are applied to "access what was in, and on the interviewee's mind" (Stenhouse, 1984).

As the present research is focused in exploring pedagogical elements for design of OLRs based on literature review and teachers opinions and experiences, interview allows them to express complex and articulated thoughts, bringing new ideas which might have remain hidden in questionnaires (Powell, 2007).

Kvale (1996) lays out seven stages of the interview process, (thematizing, designing, interviewing, transcribing, analysing, verifying, reporting) but Pickard (2007) argues that process is often not as linear as suggested. She hints to use stages as a broad outline of the process, but being "prepared to iteration" (p.173).

Type of interview chosen for this study is guided interview, more commonly known as semi-structured interview. This was done for several reasons: it is recommended to novice researchers (Picard, 2007); stands in between structured and unstructured interview and therefore useful for eliciting information about specific topic; making it possible to keep the conversation between the researcher and the interviewee consistent but open to new directions and topics related to the research questions; as a result of what interviewee says (Lindlof & Taylor, 2002). Therefore, choosing interview as a second data collection tool brings new qualitative data to this study and deepen understanding of the responses collected by the questionnaire because it has been observed (Miller, 2002) that questionnaires are not a comprehensive means of evaluation and should be used to support and supplement other tools.

Interviews were synchronous and spoken, but computer-assisted, i.e. interviews were conducted face-to-face, and recorded with Sony ICD-PX820 digital voice recorder.

3.4.3. Pilot Survey

A pilot study "establishes procedures and parameters" and can "help you to clarify

instructions, [...] determine the reliability and validity of your observational methods, and work the bugs out of your procedures" (Bordens & Abbott, 2002, p.145). I decided to conduct a limited pilot study in order to help ensure that my questions were understandable and relevant to potential participants. Prior to distributing the survey widely, I contacted five acquittances who are doctoral students in European Studies. They have certain experience in teaching undergraduate courses and extensive knowledge in EIS, with educational backgrounds in Economy, Political Science and Law. I also contacted one university professor who is an expert in the concepts of online learning and research methodologies. Although they come from five different countries, English is not a native language of none of them.

These pilot participants provided valuable feedback in terms of revising the wording and reconsidering the validity of certain questions with regard to the research questions of the study. It was noted by several participants that the term "Online Learning Resources" is not very clear and it should be further explained, possibly by giving concrete examples. Some of the participants also felt that some questions are repetition of the same idea and that they have provided answer already in some of the previous questions. Based on this feedback, some of the possible answers for the quantitative multiple choice questions were modified, and some of the open ended questions were reworded.

3.4.4. Questionnaire Distribution and Interviewing

Questionnaire was distributed via email invitation to 440 persons, i.e. university instructors who are teaching courses in European Integration studies, on the June 2, 2011. Participants could only access the survey by clicking on the link at the bottom of email body. I find this option to be better then providing a common link for general audience, because in this way, researcher is able to better control respondents, i.e. ensuring that just professionals closely related to the Thesis topic are involved.

QuestBack offers the ability to send automatic reminders to participants who have not yet completed the survey. I set automatic reminder to be sent after 6 days in case participant had not yet filled in the survey. If after the six-day reminder no response had been received, no further reminders were sent, as it was assumed the potential participant was no longer interested.

Interviewing is heavily dependent on the rapport between interviewer and interviewee: conversation has to be as much as relaxing and comfortable as possible, and is responsibility of the interviewer to make it happen. Further-more, interviewer needs to be prepared on topics covered by the interview and react properly to answers: questions have to be asked and answer can lead to unforeseen but meaningful paths.

The consent of interviewees was asked in order to record voice responses and discussions

arisen out of the interview.

Audio recordings revealed fundamentally important to keeping all the data and listen interviews several times: furthermore, it provided security and allowed interviewer to be totally engaged in conversation not taking care of writing every important quote or note. Interviews were audio recorded with Sony ICD-PX820 digital voice recorder. Audio recordings were mp3 files stored in different folders, divided by authors.

3.4.5. Questionnaire and Interview Questions

To repeat, two research questions were as follows:
1. What are the current usage patterns of Online Learning Resources by instructors in European Integration Studies?
2. Which are the pedagogical elements for design of Online Learning Resources in the field of European Integration Studies?

The content of the questionnaire and interviews was designed to respond to two major research questions of this study. Please refer to Appendix 1 for the complete listing of questions.

Questionnaire and interview were divided into four subject-based sections: participants' demographic, learning environment, use of OLRs, and pedagogical elements of OLRs in order to make data obtained easier to analyse. The questions for the interviews were the same as for the questionnaire, but of course, not all questions were asked. Instead, I decided to cover the main topics with prepared questions,which were not final, because during the interview some new topics appeared, new directions were taken, or additional explanations required, which put a researcher in the position to ask new questions. This is also the advantage of the guided interview, because it allows researcher to be sure that all the relevant areas of the topic are covered, but at the same time he(she) is free to explore, probe and ask question not previously specified (Pickard, 2007, p.176). Therefore, the questions provided in this chapter are not final and serve to assure the coverage of the main areas of interest. Answers gained from the interviews were used in several occasions to illustrate participants' thoughts on more abstract ideas.

Part 1 consisted of demographic questions regarding the participants' gender, age, country in which they teach, position at the institution they teach, number of years spent in teaching, courses they teach and the main discipline under which these courses could be classified. These questions were the same for the questionnaire and for the interviews. The intention for including these questions was to be able to develop a profile of who the participants were and to determine if any of these demographic factors had any effect on

participant responses to the questions from the survey; that is to say, whether there are any patterns that could be determined in responses based on the participants' demographic information.

Part 2 consisted of eleven questions (in the questionnaire) and five (in the interviews) related to the educational environment in which instruction and learning occurs. Instructors were asked to describe their teaching methods and learning environment which they stimulate and also to name the learning theory they employ. Also the level of expertise in internet usage and reasons for using web-based tools (if any) in the teaching process and goals and outcomes (in terms of knowledge and skills students are expected to acquire) of courses. Some questions offered multiple choices as answers and some expected instructors to provide explanation (open-ended questions). In addition, instructors were provided in the questionnaire with the opportunity to add their own answer, which might not be offered by the researcher, on every multiple (or single) choice question, with the option "other, please comment). Part 2 was intended to respond to the first research question; that is to say, identify the broader educational setting in which instructors are using (or not) OLRs.

Part 3 consisted of fourteen questions (in the questionnaire) and seven (in the interviews). In the questionnaire, six of them were open-ended questions, others were either single or multiple choice questions. This section tries to address directly the first research question, by asking users of their usage patterns of OLRs and the reasons for using (or not) OLRs in their teaching. Hence the choice for open-ended questions, because the researcher wanted to provide opportunity to participants to comment more on their experiences in order to get more "real" and "non-determined" answers. Also the question of difficulty in finding relevant OLRs was raised together with the role of primary resources for the curriculum and the potential benefit of professional help in adoption of OLRs. The concrete example of European NAvigator digital library was provided for participants to rate their use of ENA's material as well as to comment on which material (in terms of format, content, tools) they use the most and would like to use more.

Part 4 consisted of sixteen questions (in the questionnaire) and six (in the interviews). Participants were asked to provide ratings on a Likert-type scale in fourteen questions for different pedagogical elements for design of OLRs. The last part of the survey addressed directly the second research question, i.e. the theoretical framework of pedagogical elements for design of OLRs in the field of EIS, based on literature review. These elements, which were recognized in the professional literature by other authors, and described in the literature review, cover the following characteristics: collaboration, interaction, feedback, students' learning styles, motivation, coordination, flexibility, multidisciplinary, relevancy, autonomy, context, creativity and time. The importance of these elements ranged on a 1-to-5 scale from 'strongly agree' to 'strongly disagree' and in the last two open questions participants could comment on any additional characteristic which was not included and give any additional

thought regarding OLRs which was not mentioned in the questionnaire.

3.5. Data Analysis Method

As described earlier, this study has employed a mixed model approach with both quantitative and qualitative data, and thus the analysis of this data has required the use of a varied set of strategies. These strategies best respond to the need to extract and interpret the meaning of the responses provided by participants.

3.5.1. Qualitative Analysis portion

In order to analyze the qualitative data gleaned from the open-ended questions throughout Part 2, 3 and 4 of the survey and four interviews, a preliminary content analysis was performed on participant responses. According to Bordens and Abbott (2002), content analysis is used "when you want to analyze a written or spoken record for the occurrence of specific categories or events, items, or behavior" (p.206). The three defining characteristics of a proper content analysis, as elucidated by Holsti (1969) are that it should be objective, systematic, and have generality. The categories chosen should "reflect the purposes of the research, be exhaustive, be mutually exclusive, be independent, and be derived from one classification system" (p.95). I have made very effort to adhere to these criteria.

The content analysis I completed allowed me to create categories in order to classify responses, that is to say, to begin the process of factor analysis, which has been defined by the influential scientific journal Nature as "a data reduction and exploratory method [...]. Factor analysis techniques seek to reduce the number of variables and to detect structure in the relationships between elements in an analysis". In this case, *exploratory factor analysis* was utilized, since I conjectured that any indicator could be associated with any factor due to large set of variables. Exploratory factor analysis has been defined as the search for hidden patterns in the data "that may shed additional light on the problems you are interested in resolving (Bordens & Abbott, 2002, p. 346). As shown in Table 1., the exploratory factor analysis is based on the Common Factor Model. This model proposes that each observed response (measure 1 through measure 5) is influenced partially by underlying common factors (factor 1 and factor 2) and partially by underlying unique factors (E1 through E5). The strength of the link between each factor and each measure varies, such that a given factor influences some measures more than others (DeCoster, 1998).
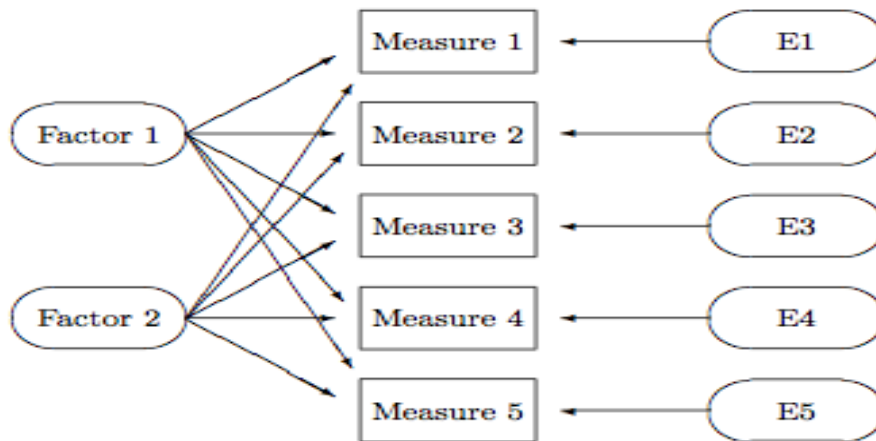
Table 2: The Common Factor Model (Pickard, 2007, p. 104)

Researchers Gery W. Ryan, of the non-profit think tank RAND Corporation, and H. Russell Bernard (2003), of the University of Florida's Department of Anthropology, have identified different strategies for extracting themes to classify qualitative data. In order to create themes or categories, they named the following strategies: word repetitions, indigenous categories, key-words-in-context, compare and contrast, social science queries, searching for missing information, metaphors and analogies, transitions, connectors, unmarked texts, pawing, and cutting and sorting. In the case of this study, several of these strategies are appropriate for analyzing the open-ended responses provided by participants. These are the strategies focusing on analysis of words (scrutiny and processing techniques) which will be used for categories extraction:

- word repetition ("topics that occur and reoccur", i.e. the more the same concept occurs in a text, the more likely it is a category),
- similarities and differences (searching for similarities and differences by making systematic comparisons across units of data),
- cutting and sorting (identifying quotes or expressions that seems somehow important and then arranging the quotes/expressions into piles of things that go together)

To accomplish this process of categorization, I copied participant answers into an Excel file with separate worksheets for each open-ended question. Each question was coded separately. Participant responses were color-coded according to the category to which they were assigned. Certain themes emerged throughout the responses to the open-ended questions, but since each set of questions was unique, it was not possible to create categories that would overlap to cover all questions. To provide one example of how categories were created, for question 11 (Please describe in Your own words the methods You use when teaching, i.e. the learning environment which You stimulate?), "lecturing" was designated as one of the categories

to classify responses. In addition to participant responses that explicitly included the term "lecturing" or its variants, other synonymous terms were assigned to the "lecturing" category. The terms I selected as synonyms included the following: "oral explanation", "traditional expositive methods", "teaching".... The other questions were coded in a similar manner, with categories being created to group similar terms together.

3.5.2. Quantitative Analysis Portion

The quantitative analysis portion was carried out using the data compiled on various participants' usage patterns of OLRs and reports on the learning environments they teach in and the Likert-type importance rating scales to rate different pedagogical elements for design of OLRs. The online survey tool used, QuestBack, offers various tools for analyzing, processing, and visualizing quantitative data. Data can be filtered and analyzed according to the researcher's specifications. A univariate strategy was employed, by which "multiple dependent variables [are] treated separately in [...] statistical tests (Bordens & Abbott, 2002, p. 417). The aim of such a strategy for completing the analysis, in accordance with the responses to the various survey questions, was to garner descriptive and inferential statistics that would hopefully elucidate the research questions.

According to Bordens & Abbott (2002), descriptive statistics "allow you to summarize the properties of an entire distribution of scores with just a few numbers" (pp. 364-365). Further, according to the University of West of England, Bristol, descriptive statistics "include measures of central tendency (averages-mean, median, and mode) and measures of variability about the average (range and standard deviation). These give the reader a 'picture' of the data collected and used in the research project," while inferential statistics "are the outcomes of statistical tests, helping deductions to be made from the data collected, to test hypotheses set and relating findings to the sample or population" (para. 3 & 4). As stated before, one should take caution when attempting to broadly generalize the results of this study due to the small sample size, but perhaps it is possible to generalize to certain extent if care is taken to keep this limitation in mind.

3.6. Ethical Considerations

All potential survey participants were advised of what their participation in this study would entail (Appendix 2). Participants were assured that no personally identifying information would be presented in the reporting of the results. Quotes from participant comments have been included where applicable in the reporting of the results, but they have not been attached to

any information that might be used to personally identify the participant. Demographic information was collected for participant gender, age, country where they teach, position at the institution where they teach, number of years spent in teaching, but once again, none of this information has been presented in a way that would personally identify any individual participant. Also the email correspondence was encrypted so that the information could not be retrieved by a third party.

3.7. Limitations

This study has several limitations in terms of methodology. The most obvious one is in terms of chosen sample. In order for OLRs to be pedagogically designed, it is not enough to analyze the use and suggestions of university instructors, but also the direct users – students. But this study is aimed as a first step toward this goal. The logical continuation of this thesis is a study where students of EIS will be involved as a sample. Also a small response rate to the emails sent (36 responses out of 440 emails sent) plus four interviewees, makes generalization of the results difficult and inappropriate.

3.8. Trustworthiness of the Enquiry

The information obtained from the questionnaires, interviews and on the literature review of this thesis was considered sufficient for the intended analysis. The trustworthiness of the data obtained is assured, as it is used as it was obtained from online survey, and because the objective of this thesis was to analyze pretty much subjective phenomena. Finally, the detailed quotations presented in the data analysis Chapter and other evidence for the patterns found in the data can guarantee the trustworthiness of this research.

3.9. Conclusion

In this chapter, I have discussed the qualitative dominant mixed model approach that was selected for this study based on interpretivist approach. A combination of both qualitative and quantitative measures was selected as the best tools to answer the two research questions for this study. The means of obtaining the sample for the study, as well as the justification for the selection of a university level instructors group were described. The online survey tool that was selected, QuestBack, was described along with its features for data management and analysis. The survey questions, both open and closed, in questionnaires and interviews, as well as the Likert-type importance scale ratings, were also described. Each survey question and rating scales included in the online survey in QuestBack was presented in the context of the specific research question. Description of the theoretical and practical bases for analyzing both the

qualitative and quantitative data was provided. Finally, ethical considerations and procedures to ensure participant confidentiality were discussed followed by the possible limitations of the chosen research methods.

CHAPTER 4: RESEARCH RESULTS AND DISCUSSION

As described in detail in Chapter 3: Research Design, the survey questions were crafted to respond to two major research questions of this work:

1. What are the current usage patterns of OLRs by instructors in the European Integration Studies?
2. Which are the pedagogical elements for design of OLRs in the European Integration Studies?

This chapter will report the results obtained from the surveys. First, the demographic information of the participants will be presented. Second, the learning environment teachers stimulate will be described. Third, teachers' usage patterns of OLRs will be discussed alongside noteworthy comments. Finally, a comparison will be made between participants' ratings of specific pedagogical elements for the design of OLRs and proposed framework based on the literature review. A discussion will be provided to draw attention to interesting findings, and ideas will be given as to why those results may have been obtained.

4.1. Demographic information

As noted in Chapter 3: Research Design, surveys were distributed via the online survey tool QuestBack between June 1 and June 9. Responses were received between the dates June 1 and June 20. There were total of 36 surveys returned out of a total of 440 distributed, equating to a 8,18 % return rate. In addition to online survey, four interviews were conducted in the period 18 July to 25 July, 2011.

Participants' gender is unequally represented, where 30 respondents were men and only 10 women.

The majority of participants were between the ages of 40 and older, with the age range of 50 to 60 being most represented. Only a few participants were in the category 30-40 years old.

Name	Percent
20-29	0,0 %
30-39	5,6 %
40-49	25,0 %
50-59	41,7 %
>60	27,8 %
N	36

Table 3: Participant age

Under the the country of origin it is meant the country where the teacher currently teaches. Most of the participants are from Europe (30). Three participants were from Asia (Japan and China), three from South America (Chile and Argentina). Majority of European respondents come from Western European countries (23), and 7 from Eastern Europe. Also, 29 of European respondents come from European Union, and 1 from non-EU countries.

Regarding the position at the institution where participants teach, most of them are full-time professors (47,2%), followed by associate professor rank (38,9%). Some of the participants (8,3%) belong to the "other"categorization, but they haven't indicated their academic rank. Only 2,8% of participants are assistant professor, and other 2,8% are lecturers.

Name	Percent
Teaching Assistant or Teaching Fellow	0,0 %
Adjunct Professor	0,0 %
Lecturer	2,8 %
Assistant Professor	2,8 %
Associate Professor	38,9 %
Professor	47,2 %
Other, please specify	8,3 %
N	36

Table 4: Participants' academic rank

The number of years in professional engagement in teaching is pretty high. The average number of years spent in teaching is 25,65, where the highest value is 40, and the lowest is 8.

Courses teachers in European Integration Studies teach can mostly be classified under the broad area of Political Science (30,6%), followed by Economics (25%), Law (22,2%) and History (8,3%). The rest of the participants (13,9%) have chosen the option "other" with the answers "Economic History", "History, Political Science, Economy", "History, Politics, Society", "Business", "Education". From these additional responses, it is clear that the majority of answers (except "Education") could still be classified under one or more of the four provided categories.

4.2. Learning Environment

Regarding the learning environment in which teachers teach, most of them (75%) deliver instruction in traditional or face-to-face environment, and others (25%) in blended learning environment, i.e. the combination of face-to-face instruction with computer-mediated instruction. No teacher has reported the use of e-learning, or participation in fully online

courses.

Name	Percent
Traditional (physical classroom)	75,0%
Online (e-learning)	0,0%
Blended (combination of traditional and online teaching, i.e. Combination of face-to-face instruction with computer-mediated instruction)	25,0%
Other, please specify	0,0%
N	36

Table 5: Teaching environment

Majority of teachers (80,6%) use the Internet and Web-based tools in their instruction, while smaller portion (19,4%) don't use it at all.

Name	Percent
Yes	80,6 %
No	19,4 %
N	36

Table 6: The use of internet by teachers

When analyzing the reasons for using Internet and Web-based tools, majority of participants use them to communicate with students (75,9%), find relevant material (75,9) and present course material and assignments during the course (69%), while 34,5% of participants use them to share home assignments. Some participants (13,8%) use Internet and Web-based tools for other purposes such as "to direct students to sources", "analyze softwares", or for "online exercises".

Name	Percent
Share home assignments	34,5 %
Communicate with students	75,9 %
To find relevant material	75,9 %
To present course material and assignments during the course	69,0 %
Other, please specify	13,8 %
N*	29

Table 7: The reasons for using Internet and Web-based tools

When it comes to expertise in using Internet and Web-based tools, most of the participants consider themselves to have a good knowledge in using Internet and Web-based

tools (47,2%), while 25,0% find themselves to be intermediate users, 13,9% basic users, 11,1% excellent users and only 2,8% of participants expressed no expertise at all in using Internet and Web-based tools.

Name	Percent
None	2,8 %
Basic	13,9 %
Intermediate	25,0 %
Good	47,2 %
Excellent	11,1 %
N	36

Table 8: Participants' expertise in using Internet and Web-based tools

Participants have provided variety of answers when asked to describe with their own words the methods they are using when teaching, i.e. the learning environment they stimulate. Small number of participants (12,5%) stated only one method in their answers and majority (87,5%) stated more then one method. Almost half of the participants (40%) mentioned the use of technology to some extend to assist their teaching, while (60%) didn't mention any use of technology in the classroom. Only (15%) of participants don't expect students to be active participants in the classroom, and (85%) mentioned student participation as a part of their classroom instruction.

Couple of answers are given bellow in order to illustrate the variety of participants' answers:

> The teaching part is the only one not hosted by our Virtual learning environment. I use powerpoint presentations for each 1.5 hours lectures. The materials for each lecture are available for students in the Virtual Learning Environment so the only additional steps after the lectures are one-to-one meetings with the students to discuss lectures.

> Defining the subject Ideas-sources-data (micro: Amadeus: OECD, EUROSTAT, macro: EC, Eurostat). Analysis questions – hypotheses: from micro to macro. Methodology of analysis: compare and contrast – argue the case.

> Traditional expositive methods with the help of selected books.

> Cases and materials for readings + PPT during class and course is based on questions and answers.

Name	Percent
One method	12,5%
Multiple methods	87,5%
Use of technology in the classroom	40.00%

Non-use of technology in the classroom	60.00%
Active student participation	85.00%
Passive student participation	15.00%
N	36

Table 9: The learning environment teachers support

As is evident from the figures in the table below, when asked to name the most used teaching methods, a large number of participants indicated that their favorite teaching method is lecturing (91,7%). Lectures as a favorite teaching method is followed by seminars and tutorials (75%), case-studies (58,3%), essays (50%), projects (38,9%), computer-assisted methods (16,7%), fieldworks (11,1%), portfolios (5,6%) and other methods (5,6%). The answers provided under the option "other" were: 'short researches presented by students' and 'one-to-one meetings with the students'.

Name	Percent
Lectures	91,7 %
Projects	38,9 %
Seminars and Tutorials	75,0 %
Computer-assisted	16,7 %
Case-studies	58,3 %
Fieldworks	11,1 %
Essays	50,0 %
Portfolios	5,6 %
Other, please specify	5,6 %
N*	36

Table 10: Methods used when teaching

For the majority of participants (58,6%) the basic educational theory underpinning participants practice was objectivism, followed by constructivism (31%). Other responses (10,3%) provided by participants in the "Other" category were as follows: "History based", "I don't believe in educational theory" and "Behavioral perspective on negotiations, sometimes constructivism."

Name	Percent
Constructivism	31,0 %
Objectivism	58,6 %
Other, please specify	10,3 %
N	29

Table 11: Educational theory

More than half of the participants (15) stimulate their students' participation in online learning environments, while 12 participants don't. Some interesting comments were provided by participants:

> The software I use enhance a sort of on-line chat. Also sometimes we use games-schemes to stimulate participation in negotiations.

> No, not really because I am not sure what the positive net effect will be.

Participants were asked to write down the goals and objectives of the courses they teach, in terms of knowledge and skills students are expected to acquire by the end of the course. There was a variety of responses, but after the content analysis was performed it was observed that most of the participants focus in their answers either on knowledge transmission (42,5%), or knowledge construction (32,5%) and smaller number on both aspects (15%). Knowledge transmission means that professors expect their students to memorize facts and focus is on information, while knowledge construction means the active involvement of students into learning process and is associated with the terms: understanding, critical thinking, discussion, application.

Most of the courses participants teach are taught within one specific program (50%), while 25% teach courses within multidisciplinary program and 13,9% teach in interdisciplinary program. Another 11,1% have chosen the "Other" option, but it is clear that these answers could be classified in one of the provided answers.

Name	Percent
within one specific programme (Political Science, Law, Economy, History)	50,0 %
within more than one European Studies programme (MULTIDISCIPLINARY PROGRAMME)	25,0 %
as a joint combination with other degree programmes (INTERDISCIPLINARY PROGRAMME)	13,9 %
Other, please specify	11,1 %
N	36

Table 12: Types of EIS programs

4.3. Use of OLRs

Some of the participants have had some experience in designing online learning resources (33,3%), while majority didn't had any experience (66,7%).

Name	Percent
Yes	33,3 %
No	66,7 %
N	36

Table 13: Participants' experience in designing OLRs

Majority of participants (61,1%) find OLRs to be important in their teaching, while smaller number of participants (38,9%) don't see the importance of OLRs.

Name	Percent
Yes	61,1 %
No	38,9 %
N	36

Table 14: The importance of OLRs for teaching

When asked to describe the reasons for the answer on the previous question, participants offered different answers. Some participants have formed their answers based on the experiences (23%). This was obvious from their answers because they were describing their experiences. Majority of the participants (58%) have based their answers on their beliefs relating to the use of OLRs. This was concluded because they were using the words such as "I believe" and synonyms such as, "In my opinion", "I think", etc. Of those participants whose answers are based on their beliefs, 67% think that OLRs are not useful for their teaching, while 33% think that it is useful. Of those participants who have based their answers on personal experiences, 76% find OLRs to be useful for their teaching, while 24% don't think so. Some of the participants' answers are:

> I have made a course of on-demand AV programme on the institutions of the EU. More than 200 students registered that particular programme, but 90% of them failed exam. (I suspect they either did not watch the programme at all or did watch but only in a last minute before the exam.)
>
> I believe that classic, discussion-based seminars are still the most effective way to teach.
>
> Students' learning behavior has changed over the recent years/decades = being online and using internet sources have become part of social and learning experiences of students that seem to be much more accepted than traditional ones such as books, even PPP.
>
> I would need an update in computer use and an assistant. The first is possible, the second isn't.

Name	Percent
Experiences	23.00%
Beliefs	58.00%

Table 15: Experiences and beliefs

Name	Percent
Not useful	67.00%
Useful	33.00%
N	36

Table 16: Usefulness of OLRs related to pedagogical beliefs

Name	Percent
Not useful	24.00%
Useful	76.00%
N	36

Table 17: Usefulness of OLRs related to personal experience

Those participants who do use OLRs were asked to describe the way they use them. After careful analysis of the answers, three categories were created. Some of the participants use OLRs in order to improve their existing teaching methods (56,3%), some to design learning materials (24,5%), and to a lesser extent to engage students in active learning through the use of OLRs (19,2%). Here are some of the answers participants have provided which illustrates the three aspects of the OLRs usage:

> (I use OLRs) as a part of the course's reading list and as a source for the preparation of papers and presentations.
>
> Use it (OLRs) as a traditional teaching material.
>
> The software of (x) University combine an online- chat among participants (student teams) and many on-line conferences. Those last ones enables an on-line debate of an agenda previously designed. These on-line conferences embraces more than 25 universities around the world.

Name	Percent
Improve existing teaching methods	56,3%

Design learning materials	24,5%
Engage students in active learning	19,2%
N	36

Table 18: Reasons for using OLRs

Although the use of OLRs may vary significantly, majority of participants find primary online resources to be very important (48,6%) for the courses they teach, and others find it to be important (28,6%) and moderately important (22,9%).

Name	Percent
Very Important	48,6 %
Important	28,6 %
Moderately Important	22,9 %
Of Little Importance	0,0 %
Unimportant	0,0 %
N	35

Table 19: Importance of primary resources

Majority of the participants (78%) don't have any difficulty in finding relevant OLRs for the courses they teach, while smaller number of participants (22%) have experienced certain difficulties. Here are some of them:

> For example, you can not find any OLR or even the basic video/DVD explanation of the working of the EU institutions (at least from the official internet site). (I do not know the private ventures in this respect).
>
> Probably (due to) modest computer skills.
>
> I am historian. Archive material is in the Archives (Firenze, Bruxelles, Luxembourg...).

Most of the participants (72,2%) don't use European Navigator digital library to find relevant resources for their course, and 27,8% of participants do use it.

Those participants who have used ENA digital library expressed mostly positive feelings about their experience. While having no unsatisfied experiences, 40% of participants were not either unsatisfied or satisfied, while other 40% were satisfied and the rest of the participants (20%) were very satisfied.

Name	Percent
Very Unsatisfied	0,0 %
Unsatisfied	0,0 %
Indifferent	40,0 %
Satisfied	40,0 %
Very Satisfied	20,0 %
N	10

Table 20: Satisfaction with the use of ENa

When it comes to the the most often use of OLRs by the type of format, participants have provided following answers. Very large majority of participants (97,2%) are heavy users of text materials for their instruction, followed by charts (41,7%), videos (33,3%) and maps (27,8%). Other, less used types of materials include photographs (13,9%), audio (11,1%), games (5,6%), quizzes (5,6%) and chat rooms (5,6%). The rest of the answers (5,6%) falls under the option "Other" in which two additional answers were provided: slides and power point.

Name	Percent
Text documents	97,2 %
Video	33,3 %
Audio	11,1 %
Charts	41,7 %
Games	5,6 %
Maps	27,8 %
Photographs	13,9 %
Quizzes	5,6 %
Chat rooms	5,6 %
Other, please specify	5,6 %
N*	36

Table 21: Preferred type of resources

Different answers were provided when asked which of the above mentioned materials participants would like to use more often in their instruction. Video format materials are the most desired (41,4%) together with text documents (37,9%). These are followed by games (27,6%), maps (27,6%), charts (24,1%) and photographs (24,1%). To a lesser extent, participants would like to use more audio (13,8%), quizzes (13,8%) and chat rooms (13,8%). The rest (10,6%) of participants have chosen the option "Other" with the following answers: none and cases.

Name	Percent
Text documents	37,9 %
Video	41,4 %
Audio	13,8 %
Charts	24,1 %
Games	27,6 %
Maps	27,6 %
Photographs	24,1 %
Quizzes	13,8 %
Chat rooms	13,8 %
Other, please specify	10,3 %
N*	29

Table 22: Desired types of resources

To have a better insight into the current needs of of participants concerning the use of OLRs, participants were asked to give their comments on what kind of OLRs they find to be most useful for their courses regarding not just the format, but also the content and tools. Most of the participants still feel that content is the most important (83%). Historical material is found to be the most important (69%), followed by legal (13%), economical (13%) multidisciplinary (5%). Other participants (17%) find tools and different formats of OLRs as important. Several participants have expressed the need to have "basic video(AV) material explaining the workings of the EU institutions" or " AV material (with) short historical overview on the EU development".

Name	Percent
Content	83.00%
Tools and other formats	17.00%
N	36

Table 23: Importance of OLRs

Name	Percent
Historical	69.00%
Legal	13.00%
Economical	13.00%
Multidisciplinary	5.00%
N	36

Table 24: Importance of OLRs according to content

In the last question of the third part of the survey, participants were asked to give their opinion weather a professional support would be useful for them in order to integrate OLRs into their teaching (for example, recommendation and help with various educational tools and their application in education). Large majority of participants do feel that some kind of professional support would be useful for them and they would accept it (84%), some participants are reluctant and they would use use professional help only if they are sure OLRs would be beneficial for the education (11%), and 5% of participants don't feel they need any kind of professional support regarding the use of OLRs in the classroom. We will provide some of the participants' answers:

> Yes, I enthusiastically encourage any support that allows the use of OLRs because it could improve the effectiveness of teaching decisively.

> Yes, If I decide that OLRs are of crucial relevance.

> Of course. As far as my experience helped me, I certainly need a more comprehensive community of Universities and/or academic institution working together in this field. It's a way to access to innovated tools and/or perspectives in using e-learning.

4.4. Pedagogical elements

In this section, participants were asked to rate the thirteen pedagogical elements on a Lykert-type scale from strongly agree to strongly disagree. Firstly, they were asked to rate each pedagogical element individually, then a set of thirteen elements was provided to rate the most important ones. The pedagogical elements and the questions are as follows:

Collaboration is important for your course. OLRs should provide students to work together on the various topics and to practice their problem solving skills.

OLRs should stimulate interaction between students, content and teacher.

It is important for students to get immediate feedback for their activities. Therefore OLRs should be designed to provide encouraging assessment and help during the entire students engagement.

Students' learning styles are important for their successful learning outcomes. Therefore OLRs should take into account students' different strengths and preferences in the way they appropriate, process and manage information.

OLRs should contain motivating material and activities which would increase students' interest and stimulate their active participation.

It is important for student activities in online environment to be coordinated and guided.

OLRs should be flexible, i.e. They should provide different levels of complexities and difficulty to suit students' needs.

Multidisciplinarity of EIS should be well supported by the OLRs in terms of interrelatedness of material and activities in the fields of history, political science, law and economy.

Relevancy of the OLRs is important, i.e. They should be linked with current events and ongoing affairs.

OLRs should provide students to work in their own, being autonomous and not entirely dependent on lecturer.

Context of the topic or activity should be clear, so that students can understand the wider setting of researched event.

OLRs should enable students to express their creativity in using learning objects and construction of new knowledge.

It is important for OLRs to allow students to learn the subject matter within a short, but acceptable period of time.

After individual rating of pedagogical elements participants were asked to rate all thirteen elements together according to the importance and relevance of each element for courses they teach. Pedagogical elements were rated from 1 to 13, where 1 is the the most important and 13 the least important element. To list of the elements: 1.collaboration, 2.interaction, 3.feedback, 4.learning styles, 5.motivation, 6.coordination, 7.flexibility, 8.multidisciplinarity, 9.relevancy, 10.autonomy, 11.context, 12.creativity, 13.time.

Context (8,21%), creativity (8%) and motivation (7.96%) are found to be the most important elements, followed by time (7,57%), feedback (7,57%), autonomy (7,21%), multidisciplinarity (6,90%), learning styles (6,81), collaboration (6,64). Coordination (6,58%), relevancy (6,50%), flexibility (5,86%) and interaction (5,68%) are the least important pedagogical elements for participants.
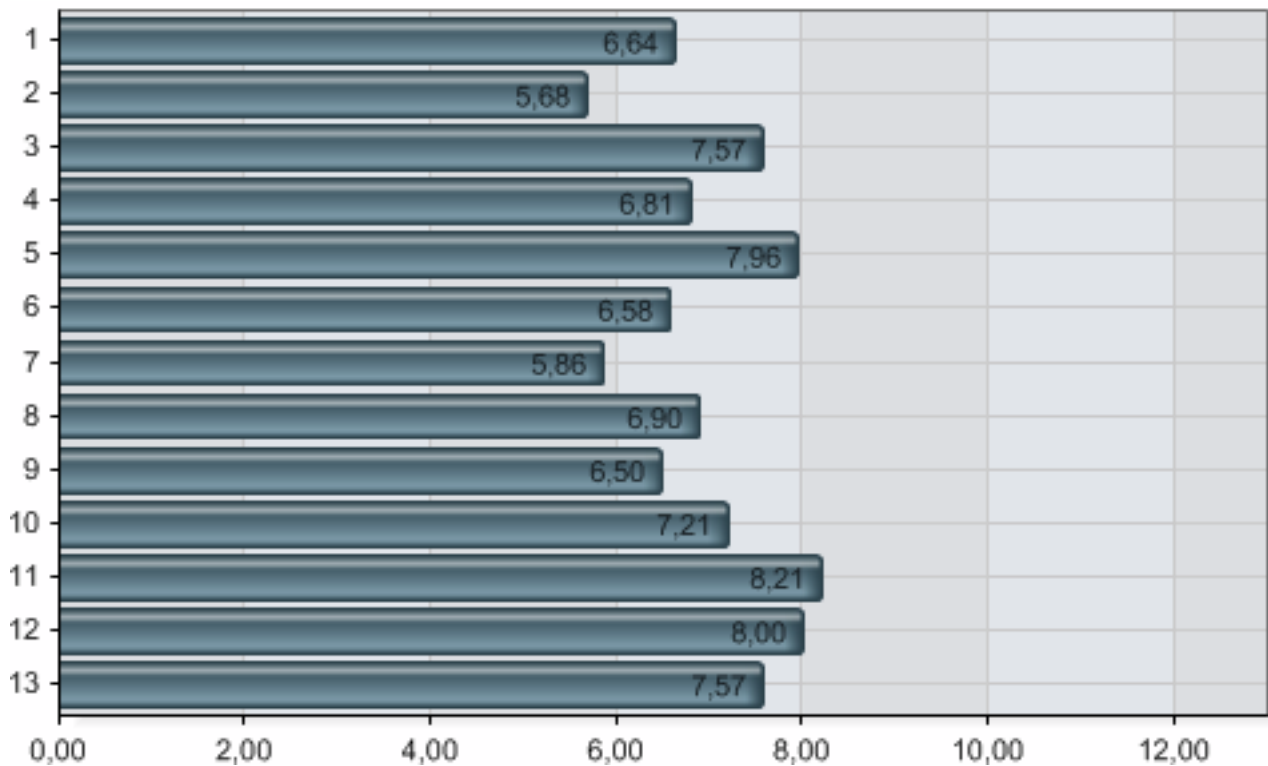
Table 25: The ranking of the importance of pedagogical elements

Participants were provided with an opportunity to comment on any additional characteristic or element they find to be important for their teaching, but only three answers were gathered: 'updated factual information', 'motivation and creativity' and 'none in particular'. It is clear from these answers that 'updated factual information' can be classified under the "relevancy" category and 'motivation and creativity' have their own, separated categories.

In the last question of the questionnaire, participants were able give any additional thoughts related to Online learning resources. If some of the related issues were not covered by the offered questions, this was the opportunity to express it. Only one participant has commented:

'The interest and perception of students in knowing more about European issues. Many people know something about European history, so few know what is really happen in European processes to day.'

4.5. Filtering

In an attempt to find the patterns in responses, several filters were applied. First major filter applied was related to the subject which participants teach (Table 26).

	Environment	Use of Internet	Reasons for using Internet	Teaching Methods	Educational Theory	Objectives and Goals	Use of OLR	Primary Resources	How to find OLRs
History	Traditional 100% / Blended 0%	100% use / 0% non-use	Share Home Assignments 66,7%; Commicate with Students 100%; Find relevant material 100%; Present material during the course 100%	Lectures 100%; Seminars/Tutorials 66,7%; Projects 0%; Essays 66,7%; Case Studies 66,7%; Fieldwork 33,3%; Computer-assisted 33,3%; Portfolios 0%	Constructivism (C) 100%; Objectivism (O) 0%	Knowledge Transmission (KT) 58.2%; Knowledge Construction (KC) 38.4%; Both (KT/KC) 3.4%	Improve existing teaching methods (ITM) 44,5%; Design Learning materials (DLM) 28,2%; Engage students in active learning (EAL) 17,3%	Very Important 66,7%; Important 33,3%; Moderately 50%; Of little importance 0%; Unimportant 0%	Printed material in the library 33,3%; Specialized online databases 100%; Software and Hardware 50%; Open access resources 100%
Political Science	Traditional 72,2% / Blended	72,7% use / 27,3% non-use	Share Home Assignments 50%; Communicate with Students 87,5%; Find relevant material 75%; Present material during the course 75%	Lectures 100%; Seminars/Tutorials 81%; Essays 54%; Projects 18,2%; Fieldwork 0%; Computer-assisted 0%; Portfolios 0%	C-40%; O-60%	KT 48.5%; KC 40.2%; KT/KC 11.3%	ITM 52%; DLM 22%; EAL 26%	very important 18,2%; important 27,3%; moderately 54,5%; of little importance 0%; unimportant 0%	Printed material 40%; databases 60%; Software and Hardware 40%; Open Access Resources 70%
Economy	Traditional / Blended	66,7% use / 33,3% non-use	Share home assignments 28,6%; Communicate with students 71,4%; Find relevant material 85,7%; Present material during the course 57,1%	Lectures 88,9%; Seminars/Tutorials 66,7%; Case Studies 66,7%; Projects 77,8%; Fieldwork 22,2%; Computer-assisted 11,1%; Portfolios 0%; Essays 44,4%	C-44,4%; O-55,6%	KT 48.2%; KC 44.4%; KT/KC 7.4%	ITM 42,2%; DLM 30,4%; EAL 27,4%	very important 55,6%; important 33,3%; moderately 11,1%; of little importance 0%; unimportant 0%	Printed material 22,2%; databases 77,8%; Software and Hardware 22,2%; Open access resources 44,4%
Law	Traditional / Blended	75% use / 25% non-use	Share home assignments 16,7%; Communicate with Students 66,7%; Find relevant material 66,7%; Present material during the course 66,7%	Lectures 87,5%; Seminars/Tutorials 75%; Case Studies 75%; Projects 25%; Fieldwork 12,5%; Computer-assisted 0%; Portfolios 0%; Essays 50%	C-20%; O-80%	KT 60.1%; KC 37.3%; KT/KC 2.6%	ITM 48,4%; DLM 22%; EAL 31,6%	very important 71,4%; important 28,6%; moderately 0%; of little importance 0%; unimportant 0%	Printed material 25%; databases 50%; Software and Hardware 12,5%; Open access resources 75%

Table 26: Subject areas

As noted before, four major areas are of particular importance for the European Integration studies, namely: History, Political science, Economy and Law. It has been assumed that the teachers teaching different subjects will have different preferences for the design and use of OLRs. It has to be noted that there were only four teachers who teach courses related to the European Integration. As this group makes only 8,6% of the participants, it is difficult and maybe unrealistic to draw general conclusions and one must be very careful in interpretation of results related to this subject category.

The second major filter applied in an attempt to find patterns in responses was related to the basic educational theory (Table 27) which is underling teachers beliefs and practices. Two major educational theories, either constructivism or objectivism, were offered in the questionnaire. Based on the literature review, it is noticed that constructivism theory is predominant in the last couple of decades, but objectivism is retained its importance as an educational theory as well.

	Environment	Use of Internet	Importance of OLR	Teaching Methods	Educational Theory	Objectives and Goals	Use of OLR	Online Participation	How to find OLRs
Constructivism	Traditional 77,8% / Blended 22,2%	77,8% use / 22,2% non-use	Important 66,7% / Unimportant 33,3%	Lectures 88,9%; Seminars/Tutorials 66,7%; Projects 55,6%; Essays 44,4%; Case Studies 66,7%; Fieldwork 33,3%; Computer-assisted 22,2%; Portfolios 11,1%	Constructivism (C) 100%; Objectivism (O) 0%	Knowledge Transmission (KT) 20,2%; Knowledge Construction (KC) 48,2%; Both (KT/KC) 31,6%	Improve existing teaching methods (ITM) 44,5%; Design Learning materials (DLM) 28,2%; Engage students in active learning (EAL) 17,3%	yes 78% / no 22%	Printed material in the library 11,1%; Specialized online databases 77,8%; Software and Hardware 22,2%; Open access resources 55,6%
Objectivism	Traditional 75% / Blended 25%	75% use / 25% non-use	Important 55% / Unimportant 45%	Lectures 90%; Case Studies 50%; Seminars/Tutorials 80%; Essays 45%; Projects 35%; Fieldwork 10%; Computer-assisted 20%; Portfolios 5%	C-40%; O-60%	KT 44,1%; KC 38,3%; KT/KC 17,6%	ITM 56,8%; DLM 33,3%; EAL 9,9%	yes 62% / no 38%	Printed material 47,4%; specialized online databases 57,9%; Software and Hardware 26,3%; Open Access Resources 73,7%

Table 27: Educational theory

The third major filter applied in an attempt to find patterns in responses was related to the participants pedagogical beliefs (Table 28). Teachers' pedagogical beliefs were found to be very important for the successful technology integration in the teaching process. Therefore two main categories of responses were created: positive beliefs where participants believe that the use of OLRs will help them to improve their teaching and negative beliefs, where participants believe that the use of OLRs will not contribute to the increase of student performance or improve teaching in any considerable way.

	Environment	Use of Internet	Importance of OLR	Teaching Methods	Educational Theory	Objectives and Goals	Use of OLR	Online Participation	How to find OLRs
Negative	Traditional 100%	51,1% use	Important 0%	Lectures 85,7% / Seminars/Tutorials 71,4% / Projects 42,9% / Essays 35,7%	Constructivism (C) 25%	Knowledge Transmission (KT) 42%	Improve existing teaching methods (ITM) 42,3% / Design Learning materials (DLM) 24,4%	Yes 37%	Printed material in the library 15,4% / Specialized online databases 53,8% / Software and Hardware 7,7%
	Blended 0%	42,9% non-use	Unimportant 100%	Case Studies 57,1% / Fieldwork 14,3% / Computer-assisted 0% / Portfolios 7,1%	Objectivism (O) 75%	Knowledge Construction (KC) 40% / Both (KT/KC) 18%	Engage students in active learning (EAL) 33,3%	No 63%	Open access resources 61,5%
Positive	Traditional 59,1%	95,5% use	Important 100%	Lectures 95,5% / Case Studies 59,1% / Seminars/Tutorials 77,3% / Essays 59,1%	C-35,3%	KT 40,2% / KC 44,1%	ITM 38,3%	Yes 58,7%	Printed material 45,5% / Specialized online databases 72,7%
	Blended 40,9%	4,5% non-use	Unimportant 0%	Projects 36,4% / Fieldwork 9,1% / Computer-assisted 27,3% / Portfolios 4,5%	O-47,1%	KT/KC 15,7%	DLM 26,2% / EAL 35,5%	No 41,3%	Software and Hardware 36,4% / Open Access Resources 77,3%

Table 28: Pedagogical beliefs

4.6. Discussion

In this section, I will discuss some interesting points from the data analysis, and hypothesize as to why these results were obtained, and provide justifications for the points in question where necessary. A complete summary of the most important findings of the study can be found in Chapter 5: Conclusions, under part 5.1.: Conclusions to the Research Questions.

As suggested by some earlier studies (Flood, 1997; Horga & Farneti, 2011), teachers of European Integration studies are mostly teaching in traditional environment. This study confirms the same (Table 26). Subjects such as History, Law, Political science traditionally belong to the science areas where the use of technology has never taken dominant role or considered to be of great importance for the teaching activities. Economy teachers, on the other hand were more successful in introducing Internet and technology into their classroom. In this study, Economics teachers have the highest rates of Internet usage as it is visible from the Table 26. This is also evident in learning environment, because economics teachers are the biggest practitioners of blended environment and use OLRs to develop learning materials to a greater extent than the others do. On the other hand, they don't find OLRs to be of particular importance for their instruction, but the Law teachers do. Although the reasons for these findings are not clear, it could be argued that one of the reasons is the need of lawyers to have access to updated and primary resources, as shown in Table 26.

Educational theories guiding teachers practices were found to have a certain impact in several domains (Table 27). While there was no significant difference in the use of Internet and the type of learning environment between the teachers which are guided by constructivist and objectivist learning theories, findings show a correlation between other variables and educational theories. Teachers with objectivist educational theories are focused more on knowledge transmission (44,1%) in their curriculum, than on knowledge construction (38,3%), whereas teachers whose underlying education theory is constructivism, focus more on knowledge construction (48,2%) than on knowledge transmission (20,2%). This is easy to explain when one has in mind that teachers with the constructivist learning approach put focus more on learners' individual ways and techniques of constructing knowledge, guided with the thought that there is no single, universally accepted way for all learners to acquire knowledge (Hrastinski, 2009). Since constructivism is based on students' active participation in problem-solving and critical thinking regarding a learning activity (Ryba & Brown, 2000) it is not a surprise that this study has found positive correlation between these two categories. Namely, teachers supporting constructivist theories find OLRs to be more important for their teaching activities and use it more to engage students in active learning and participation in online environments than teachers supporting objectivist theories who use OLRs mostly to improve their existing teaching methods. This is supported also with the data describing teachers' most used teaching methods. Lectures, seminars, case studies, and essays are the most used teaching methods by the objectivist-orientated teachers, while constructivist-orientated teachers use these as well, although to a lesser extent, and at the same time put more stress on individual, creative and student-driven tasks, such as projects, portfolios and case-studies. In his minimalism theory for the design of instructional material, Caroll (1998, 2000) believes that students learn more effectively when given a "real-world" task and therefore all the learning material should "minimize the amount of reading and other passive forms of training by allowing users to fill in the gaps themselves" (2000, p.93).

Many researchers demonstrated that teacher beliefs play critical roles in successful technology integration into their instruction (Ertmer, 1999, 2005; Hermans et al., 2008) or influence technology use indirectly (Y.-L. Chen, 2008). Therefore, it is important to analyze teachers' beliefs and see their effect across various categories (Table 28). It has been noted before that 67% of participants have negative pedagogical beliefs, i.e. find OLRs not to be useful for their teaching, while 33% have positive pedagogical beliefs, i.e. find OLRs to be useful (Table 28). The data gathered and related to teachers' pedagogical beliefs reveal considerable importance and effect to other variables. Teachers holding positive pedagogical beliefs tend to use internet considerably more often then teachers with negative pedagogical beliefs, and therefore to use technology increasingly as part of their instruction. This explains why there is

considerable difference in learning environments, where teachers with negative pedagogical beliefs teach only in traditional environments, and teachers with positive pedagogical beliefs teach to certain degree (40,9%) also in blended learning environment. As Hrastinski (2009) has noticed, constructivist learning environment has embraced the possibilities which Internet and technology offer in order to increase students' performance and ease learning process. The results obtained confirm this statement. Those teachers who integrate technology into their instruction tend to have more constructivist approach to teaching then those who don't (35,3% compared to 25%).

It is interesting to notice that even though there is considerable difference in technology use between teachers who hold positive and negative pedagogical beliefs, there is no big difference in the way they use OLRs and what they want to achieve in terms of goals and objectives of their instructions. Both of them use OLRs almost to the same extent in order to improve their existing teaching methods and engage students in active learning, and to a lesser extent to design learning materials. Also for both of them, the ultimate goal of their curriculum is to equally transmit knowledge to student and to help students to construct their own knowledge.

This might seems contradictory, but as noticed in some studies (Zhao & Cziko, 2001; Chen, C.-H., 2008) teachers beliefs and teachers practices might be inconsistent. Ertmer (2005) stated that most teachers, regardless of whether they are veterans or novices, have limited understanding and experience about how technology should be integrated into various educational aspects to facilitate teaching and learning. This might be also true for the participants of this study, because only 24,5% (Table 28) of them use OLRs in order to design learning material, with no significant difference between participants with positive and negative pedagogical beliefs (26,2% : 24,4%).

4.7. Chapter Summary

This chapter has presented the findings of the survey that was conducted via the online survey tool QuestBack and semi-structured interviews. First, the demographic information of participants were presented. Then the various aspects of learning environment in which participants teach were presented and described. This was followed by the presentation of data related to the actual use of OLRs by the EIS teachers and pedagogical elements which they find to be important when designing OLRs. Next, data gathered were filtered according to three categories which were found to be important during the literature review: subject area, pedagogical beliefs and educational theory. Finally, a discussion was provided, highlighting specific points of interest and positing potential reasons for the results that were obtained. Conclusions to the research questions, including summaries of the most significant results

provided in this chapter; implications of the research; reflections on the research; and directions for the future research will be provided in the next section, Chapter 5: Conclusions.

CHAPTER 5: CONCLUSIONS

The aim of this study was to describe current usage patterns of OLRs in the field of European Integration studies and to develop a set of relevant pedagogical elements needed for design of OLRs. The ultimate purpose was to develop a framework of pedagogical elements which would help the team working in CVCE to develop learning resources designed for teachers' and students' needs, by taking into consideration teachers' educational theories, beliefs and learning environment in which they teach.

A literature review was carried out to determine what the major issues surrounding the use of OLRs are, including learning environment, educational theories, issues of usability and teachers' beliefs in using technology for the instruction. Also the issues pertinent to the field of European Integration Studies such as the development of core curriculum, teaching methods and the scope of this field. Definitions were also provided. Through this literature review, it emerged that there has been much stress on technological usability of OLRs, but not on pedagogical usability. Therefore, this study was intended to address this gap in the literature and to provide a framework for the OLR designers in the fields of EIS. Ideas for different paths and subject areas that may be explored by future researchers in the domain is provided in section 5.4: Directions for Further Research.

5.1. Conclusions to the Research Questions

In this section I will provide a summary of the most significant results gleaned from the data analysis as they pertain to two major research questions of this study.

5.1.1. Research Question 1
What are the current usage patterns of OLRs by the instructors of EIS?

Part 1 and part 2 of the survey were mostly designed to answer this research question. Teachers who teach courses related to the economics are the heaviest users of the OLRs and most experienced in their application. On the other hand, teachers teaching law courses are the ones who feel they need OLRs the most for their instruction.

Collected data reveal that teachers supporting objectivist educational theories focus more on knowledge transmission and teachers supporting constructivist theories focus more on knowledge construction. Therefore, the first ones prefer more lectures, seminars, case studies, and essays as their favorite mode of teaching methods, while the later ones prefer projects, portfolios and case-studies and in accordance to their teaching preferences they want OLRs to suit their needs.

Teachers with the positive pedagogical attitudes are more likely use OLRs as a part of their instruction in comparison to those teachers with the negative pedagogical attitudes. However, they both use OLRs to achieve the same curriculum goal and outcomes and OLRs serve them to improve their existing teaching methods.

5.1.2.   Research Question 2

Which are the pedagogical elements for design of OLRs in the EIS?

The section four of the survey was designed to answer this research question. Even though pedagogical elements were ranked differently by teachers teaching different subjects, the general ranking of the importance of pedagogical elements is as follows: context, creativity, motivation are found to be the most important elements, followed by time, feedback, autonomy, multidisciplinarity, learning styles, collaboration, coordination, relevancy, flexibility and interaction.

The elements which are ranked as the most important (context, creativity, motivation), are also elements which are characteristic for the constructivist learning environment. If OLRs are designed in the way to allow students to use them in a creative way, increase their motivation and if their content support learners to identify key ideas, they will be more accepted by the EIS teachers whose basic educational theory is constructivism.

5.2.   Implications of the Research

The findings of this study, and in particular, the results as they correspond to the two major research questions, can be instructive for librarians, research institutions, and other institutions trying to design online learning resources suited for their users in the field of European Integration Studies. The first step to develop a digital library requires a deep and systematic user preferences analysis.

The specific implications occasioned by the results of this research show that teachers' self reported usage patterns of OLRs, and the related issues, in general mirror what has been described in the literature in terms of pedagogical usability, and, more specifically, also add a new level of knowledge to the subject of the importance of teachers' pedagogical beliefs for the successful OLRs integration into instruction.

5.3.   Reflections of the Research

In reflecting on this research, I feel that I was able to adequately answer the two research questions elaborated at the beginning of this investigation. The choice of a mixed model approach was appropriate to answer the research questions, with a valuable set of quantitative and qualitative data provided by participants. This rich variety of data, while time-consuming and somewhat complex to analyze, is instructive for parties that are interested in developing European integration subject-specific online learning resources because of the unique personal insights provided by participants. The quantitative data from the survey made it possible to be more efficient in the process of data analysis than a purely qualitative study would have allowed, given the time constraints limiting the process of completing the thesis.

5.4.   Directions for Future Research

As described in Chapter 1: Introduction and Chapter 2: Literature Review, the issue of pedagogical usability of OLRs has not been addressed enough. This is particularly true for the field of European Integration studies, which is considerably new field of inquiry and, as some authors have noticed, changing with every treaty signed. Therefore, every contribution, even on purely theoretical level is more then welcomed.

One of the obvious shortcomings of this study is that the students studying European Integration Studies were not included into research. As explained earlier, this was mostly due to the time constraints and some practical issues. It is most logical that the future studies try to fill this gap, conduct research among students and compare results with this study. In order to design user-oriented OLRs, preliminary studies, including all potential users, must be conducted in order to define user needs in a detailed fashion.

This social science field is rapidly gaining interest and as European Union is consolidating itself and becoming more and more dominant on the word level, so does the interest to study it grows. Online resources and specialized, high-quality digital libraries have the potential to overcome geographical and language obstacles and bring a new dimension of the teaching into the classrooms and students' way of constructing knowledge. Therefore there will be much work to be done in the way of research in the near future regarding how to create pedagogically usable OLRs.

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APENDIX 1 : SURVEY QUESTIONS

1. Gender

Male /Female

2. Age

20-29/ 30-39/ 40-49/ 50-59/ +60

3. Country

4. Your position at the institution You teach (or have taught)

Teaching assistant or Teaching fellow/ Adjunct professor/ Lecturer/ Assistant professor/ Associate professor/ Professor/ Other

5. Number of years You have spent in teaching

6. Course(s) related to European Integration Studies You have taught

7. The courses You mentioned in previous question can be classified under which of the following broad areas of study

History/ Political Science/ Economy/ Law/ Other

8. Teaching environment in which You deliver instruction can be classified as

Traditional (physical classroom)/ Online (e-learning)/ Blended (combination of traditional and online teaching, i.e. Combination of face-to-face instruction with computer-mediated instruction)

9. Do You use Internet and Web-based tools in Your instruction

Yes/No

10. You use Internet and Web-based tools in order to

Share home assignments/ Communicate with students/ To find relevant material/ To present course material and assignments during the course/ Other

11. How would You rate your expertise in using Internet and Web-based tools

None/ Basic/ Intermediate/ Good/Excellent

12. Please, describe in Your own words the methods You use when teaching, i.e. the learning environment which You stimulate

13. Which of the following methods You use mostly when teaching

Lectures/Projects/Seminars and Tutorials/ Computer-assisted/ Case-studies/ Fieldworks/ Essays/ Portfolio/Other

14. Basic educational theory underpinning your teaching practice is

Constructivism/Objectivism/Other

15. Do You stimulate students' participation in Online learning Environments (chat rooms, forums, games etc.)? Please comment.

16. In which way is the course You teach related to European Integration Studies

17. What are the objectives and goals of the course You teach (in terms of knowledge and

skills students are expected to acquire by the end of the course)

18. At the institution where You teach, European Integration Studies are taught

Within one specific programme/ Within more than one European Studies programme/ As a joint combination with other degree programme

19. Do You have experience in designing online courses or online learning material

Yes/No

20. Do You find Online Learning resources as important for Your teaching

Yes/No

21. Please explain why You gave the ranking above

22. If You do use Online Learning Resources, please describe in which way

23. How important is the use of primary resources in Your course

Very important/ Important/Moderately important/ Of little importance/ Unimportant

24. Do You experience difficulties in finding relevant OLRs for your course

25. To find relevant Online Learning Resources, You use mostly

Printed material in the Library/ Specialized Online Databases/ Software and Hardware owned by the Institution I work for/ Open Access resources I find by myself on the web/ Other

26. Do You use European NAvigator digital library to find relevant resources

Yes/No

27. If "yes", how useful were resources provided by ENA for Your teaching

Very unsatisfied/ Unsatisfied/ Indifferent/ Satisfied/ Very satisfied

28. Which one of the following resources You use the most in your teaching

Text documents/ Video/ Audio/ Charts/ Games/ Maps/ Photographs/ Quizzes/ Chat rooms/Other

29. Which one of the following resources You would like to use more

Text documents/ Video/ Audio/ Charts/ Games/ Maps/ Photographs/ Quizzes/ Chat rooms/Other

30. Please describe what kind of OLRs You find to be most useful for Your course(s)? You might want to reflect upon format (audio,photo etc), content (historical, legal, etc), tools (annotation, bibliography, etc).

31. Do You feel there is a lack of Online Learning Resources related to some event, country, idea, period, educational activity, etc? Please comment.

32. Do You feel a professional support would be useful for You to integrate OLRs into your teaching? (For example, recommendation and help with various educational tools and their application in education). Please comment.

33. Collaboration is important for your course. OLRs should provide students to work together on the various topic and to practice their problem solving skills.

34. OLRs should stimulate interaction between students, content and teacher.

35. It is important for students to get immediate feedback for their activities. Therefore OLRs should be designed to provide encouraging assessment and help during the entire students engagement.

36. Students' learning styles are important for the successful learning outcomes. Therefore OLRs should take into account students' different strengths and preferences in the way they appropriate, process and integrate information.

37. OLRs should contain motivating material and activities which would increase students' interest and stimulate their active participation.

38. It is important for student activities in online environment to be coordinated and guided

39. OLRs should be flexible, i.e. they should provide different levels of complexities and difficulty to suit students' needs.

40. Multidisciplinarity of EIS should be well supported by the OLRs in terms of interrelatedness of material and activities in the fields of history, political science, law and economy.

41. Relevancy of the OLRs is important, i.e. They should be linked with current events and ongoing affairs.

42. OLRs should provided students to work on their own, being autonomous and not not entirely dependent on lecturer.

43. Context of the topic or activity should be clear, so that students can understand thw wider setting of researched event.

44. OLRs should enable students to express their creativity in using learning objects and construction of new knowledge.

45. It is important for OLRs to allow students to learn the subject matter within a short, but acceptable, period of time.

46. Please rank the following characteristics of OLRs from 1 to 13 which you find important in relation to the course you teach (where 1 is most important).

47. Please comment on any additional characteristic of OLRs which you find as important for your course.

48. Please share any additional thoughts You might have related to Online Learning Resources in European Integration Studies.

APPENDIX 2: SURVEY INVITATION

Dear Sir/Madam,

Please can You find 15 minutes to answer the survey related to use and design of Online Learning Resources (OLRs) as well as educational environment in which You use them. Under the term OLRs we consider all materials, tools and application which can be used for educational purposes. Your e-mail contact was found in the publication "Who's Who in European Integration Studies", published by European Community Study Association in 2006. PLEASE NOTE: fill in this questionnaire if You have (had) experience in teaching courses related to European Integration Studies.

The study is concerned with the use of OLRs by the instructors in the field of European Integration Studies (EIS). Moreover, this study aims at developing the set of pedagogical elements which are important for the design of OLRs related to the EIS. The findings of this Thesis will be applied for improvements of European NAvigator (ENA), a digital library developed by Centre Virtuel de la Connaissance sur l'Europe (CVCE), a research center on the European integration process, based in Luxembourg.

This Thesis is a part of International Master program in Digital Library Learning undertaken at the Oslo University College (Norway), Tallinn University (Estonia) and Parma University (Italy).

To start the questionnaire, simply click the link provided in this email. If you want to participate in this research but You are not able to fill in the questionnaire because of the language, please let us know by sending an e-mail to d.cuturic@gmail.com

All individual responses will be treated as confidential. The aggregate results of the survey will be made available to wider audience.

Thank You so much for reading this introduction and I sincerely hope You will decide to complete this survey.

Sincerely yours,

Danijel Cuturic