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Abstract
The paper describes and approach to providing a learning continuum for entrepreneurial experts using information technology. The rationale for this approach are the rapid changes of expert knowledge, especially in engineering disciplines. Starting with academic education of future experts and continuing with their life-long learning, the approach relies on blending academic and entrepreneurial knowledge by means of technology enhanced learning. To that end a network of organizations is being formed where open educational resources will be published and shared. The main goals to be reached by this network, as well as its salient features are described. Special attention is given to the language support system, which provides for multilinguality of the resources, namely their publishing in different languages.

Keywords: learning continuum, blended learning, technology enhanced learning, life-long learning

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1   Introduction

In our era of extremely rapid technological development, in many disciplines, especially those related to any form of engineering, expert knowledge becomes quickly outdated (Tynjälä, 1999). It is hence inevitable for experts to get involved in one or other form of life-long learning (Longworth, 2013). Once they leave their universities, very soon they need to turn back to them for updating and broadening their knowledge. It is safe to say that this knowledge sharing between the academia and enterprises is these days a well-established fact. However, it is not a one way alley. While still at the university, being educated for their prospective jobs, future experts can significantly enrich their academic knowledge with best practices and other forms of entrepreneurial knowledge. We can thus conclude that academic and entrepreneurial knowledge are complementary and intertwine in various ways (Gaul & Schader, 2012).

In general, knowledge acquisition from these two sources of knowledge is separated, as academic knowledge offered by higher education institutions precedes the solving of practical problems, which is the main source of entrepreneurial knowledge. Although the acquisition of the two types of knowledge is disjointed, the need for blending academic and entrepreneurial knowledge has already been recognized (Etzkowitz, 2004). However, practical realization of this concept and establishing a continuum of knowledge acquisition represents a challenge that needs new approaches and tools to be developed. Available literature lacks examples of effective solutions offered to this challenge, especially those using new learning technologies, as the one presented in this article.

With the advancement of information technology (IT) a powerful mechanism for blending academic and entrepreneurial knowledge is offered by e-learning or technology-enhanced learning (TEL). TEL basically relies on IT for supporting and improving the quality of learning and its outcomes. However, designing effective TEL environments in an efficient and affordable way is not an easy task. Besides a considerable amount of creativity it also requires a significant level of expertise (Goodyear & Retalis, 2010). Since the emergence of the Semantic Web or Web 3.0 web technology is now widely used within IT to support TEL (Daconta, Obrst, & Smith, 2003). A variety of web-related educational

innovations are now available, enabling further advances in the sharing of educational ideas, materials, and knowledge. Social networking, blogs, wikis, cognitive tutors, virtual learning communities, and especially web-based learning management systems (LMS) are being more and more used in TEL (Rhoads, Berdan & Toven-Lindsey, 2013).

Within TEL, the open courseware (OCW) movement has emerged, based on the idea of providing teaching, research and learning materials under an open source licence that permits their free use, access, repurposing, reuse and redistribution by others with limited or no restrictions (Atkins et al., 2007). The OCW was initiated in 1999 with the publishing of videos of lectures online by the University of Tübingen in Germany. It gained impetus three years later with the launch of MIT OpenCourseWare in October 2002, when educational materials from all undergraduate and graduate MIT courses were offered online, partly free and available to anyone. Very soon similar projects have been launched by Yale, the University of Michigan, and Berkeley, followed by other universities within Europe, but also from all other continents.

The rapidly gaining popularity of OCW resulted in the development and implementation of massive open online courses (MOOC), which, in addition to traditional educational resources such as videos, readings, and problem sets, offer interactive user forums aimed at building a community for professors, teaching assistants and students.

Today OCW is a part of the even wider open educational resources (OER) initiative, offering educational materials openly and freely to educators, students, and self-learners to use and reuse for teaching, learning, and research, under an open source license (Bissell, 2009). The worldwide OER community established the Open Education Consortium, with hundreds of higher education institutions and associated organizations committed to advancing open education and its impact on global education. Its goal is to "instill openness as a feature of education around the world, allowing greatly expanded access to education while providing a shared body of knowledge upon which innovative and effective approaches to today's social problems can be built"[1].

In this paper we describe an approach to making available both entrepreneurial knowledge to university students on a wider basis and

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[1] http://www.oeconsortium.org/about-oec/

novel academic knowledge to employees in enterprises, following basic OER principles, within a network of institutions. In this network, higher education institutions publish different academic learning resources in the form of video and audio lectures, printed course materials and the like, and enterprises use similar forms to offer expert knowledge, such as case studies or presentations of industrial software implementation in practice.

The abovementioned approach is being realized within the BAEKTEL (Blending Academic and Entrepreneurial Knowledge in Technology Enhanced Learning) project funded by EACEA (Education, Audiovisual and Culture Executive Agency) of the European Commission[1]. From a managerial point of view the project and the underlying research open new possibilities for enhancing knowledge assets within enterprises and their relation to performance improvement. Through technology enhanced life-long learning opportunities, a novel dimension is added to existing strategies and practices for managing knowledge assets developed within the knowledge management and business intelligence frameworks. From a scientific point of view, the project offers an original approach to bridging the gap between academic education and knowledge assets needed within enterprises, by means of emerging learning technologies and methods.

The initial OER materials in BAEKTEL are published by universities and enterprises of the Western Balkans (WB), mostly in WB languages, which belong to "small" but closely related languages. However, educational materials in "big" languages such as English and Russian, are also envisaged. Given this variety of languages within the network, a language support system, based on state of the art language technology, is put in place to support multilinguality, but also terminology issues and query handling.

Finally, besides the initial institutions involved, it is expected that this network will also attract a wider range of universities and enterprises to offer OER content within additional network nodes, which they would develop within their own institutions. In view of such a development, the BAEKTEL network features a common portal for indexing and facilitating access to various OER materials within its nodes, namely the BAEKTEL Metadata Portal (BMP).

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[1] http://baektel.eu

Section 2 of this paper outlines the main goals to be achieved by the proposed approach, whereas the main features of the network are given in Section 3. Section 4 is dedicated to its language support system, followed by conclusions in Section 5.

2   Objectives to be accomplished

The main goal of our approach is to enable technology enhanced knowledge transfer between academia and enterprises. In the envisaged network of institutions OER materials from both sources will be available on the web for everyone, anytime, which will broaden knowledge acquired within higher education institutions, on the one hand, and foster life-long learning within enterprises, on the other. While still at the university, future experts will be offered an insight into expert knowledge gained through practice within enterprises. On the other hand, once they graduate and become employees, they will have an opportunity for life-long learning, through access to state of the art high quality academic courses. They could thus continue with their professional development in a way more in line with their professional activities as compared to traditional life-long learning programs. By blending academic and entrepreneurial knowledge within one technological framework, the BAEKTEL network, the proposed approach additionally contributes to improvement and enhancement of relations between the academia and the enterprises, as well as to the integration of creative research potentials from industry and academic institutions.

An additional objective of BAEKTEL project is to develop and implement guidelines and procedures for quality assurance of OER in WB according to best practice offered by the EU. Namely, in order to attract a wider audience of potential learners, educational materials need to be of high quality and readily available. In this context, training by qualified OER trainers for both academic institution and enterprise staff involved in production of OER materials will be provided.

The third objective of the project is to produce course materials in several different languages, in various forms such as videos, audio streams and written material. In order to facilitate the use of these materials in a multilingual environment, a language support system is integrated into the BMP, consisting mainly of electronic terminological resources and services. This system will greatly improve the search and browse functionalities within the complex BAEKTEL network. Given the

composition of the project partners the network is initially populated by materials from the domains of ICT, geoinformatics, mining engineering and environmental protection, with other domains to be gradually included in the future.

The BAEKTEL network will thus provide learning opportunities for a variety of users at different levels, offering an educational continuum. In addition to that, it will also offer OER for the initial step to higher education, namely preparation of university admission exams, which precedes academic education and workplace education within the life-long learning paradigm. In brief, a higher quality and improved accessibility of learning through TEL will thus be achieved, enabling OER learners from both universities and enterprises to study educational materials at their own pace.

Within the academic field, the BAEKTEL network will additionally contribute to the development of virtual mobility, as it will enable students to follow courses at universities other than their own, remaining at their home campus. This will help them prepare for actual mobility, which is the basic aim of the Bologna Process. By creating a European higher education area based on international cooperation and academic exchange, universities will also attract students and staff from other parts of the world. In this context, transparency will be increased by offering an insight in the academic content published by different academic institutions, helping prospective students to make their choice of the university that best suits their needs. Besides enhancing cooperation between academia and enterprises in general, BAKTEL network will serve as a valuable tool for facilitating and enhancing cooperation between different universities, on issues such as development of joint courses, or mutual recognition of diplomas.

Finally, as BAEKTEL is conceived as a WB-targeted OCW-based project, it is to be expected that some of its goals coincide with those of the OCW consortium Europe[1]. Namely, the rapid growth of interest of European universities in OER and OCW resulted in the establishment of a consortium of academic institutions committed to publishing their courses on the web, led by the Delft University of Technology. Within the partners of the OCW consortium Europe are also Universidad Politécnica Madrid, Universitat de Barcelona, Katholieke Universiteit Leuven and Université

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[1] http://www.opencourseware.eu/welcome

de Lyon, as well as the OpenCourseWare Consortium (OCWC), Creative Commons (CC) and European Association of distance Teaching Universities (EADTU). The partner institutions that initiated the consortium were subsequently joined by more than fifty European partners from Austria, Belgium, Cyprus, Denmark, France, The Netherlands, Poland, United Kingdom and Spain, where the movement is especially popular with almost 40 universities offering free online courses. OCW consortium members are currently offering more than 14,000 courses online.

In brief, the aim of the outlined approach is to help potential OER learners from both universities and industry to fill in the gaps in their knowledge, by continuously acquiring new knowledge from various sources, throughout their education and professional career.

3   Conceptual design of the BAEKTEL network

The basic structure of BAEKTEL network is illustrated in Figure 1. The initial framework is conceived as a network of six nodes at WB universities, namely University of Belgrade (UB), University of Kragujevac (UNIKG), University of Niš (UNI) from Serbia, University of Banja Luka (UBL) and University of Tuzla (UNTZ) from Bosnia and Herzegovina and University Mediterranean (UNIM) from Montenegro. All of them develop and publish their OER independently using edX, an open-source online learning platform, offered by a MOOC non-profit provider, which includes both a LMS and the authoring tool, Studio[1]. Although edX has been selected as the common LMS, other LMS are not excluded. Thus, for example, UB already uses Moodle[2], Adobe Connect for e-eLearning and Webinars[3], as well as an in-house course MS developed at its Faculty of Mining and Geology (Stanković et al., 2011).

BMP, the central repository with metadata for all published OER within BAEKTEL is hosted by UB, in addition to its own OER in edX and other LMS. BMP features a web application for management, browse and search of metadata, but also web services for terminological and linguistic support. Since OER content within the network can be published in different languages, the web application and web services support network multilinguality. Other various features related to query expansion,

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[1] https://www.edx.org/about-us

[2] https://moodle.org

[3] http://www.adobe.com/products/adobeconnect.html

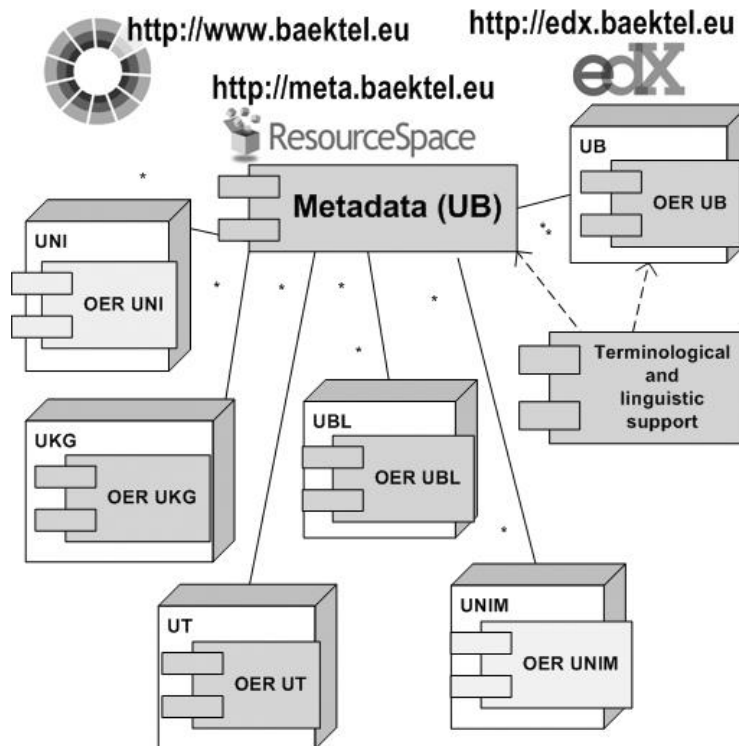information retrieval, OER indexing and classification, and the like, are also available.

Figure 1: Conceptual map of BAEKTEL network

The edX platform, used in BAKTEL nodes for publishing OER content was recently (in 2012) conceived by MIT and Harvard University. Its basic goal is to support massive open online university courses. The platform has been developed as open-source software, and is available to other academic institutions under edX Terms of Service. Among its main features, edX offers interactive online learning software, which provides for production of multimedia educational materials, by combining text, images and videos. Exercises are also included, enabling students to check immediately their understanding of the concepts introduced by the appropriate educational content. The platform also offers creation of online textbooks, as well as discussion forums for student-student interaction. Finally, edX provides for online laboratories, as for example in its first MOOC, a course on circuits and electronics, where students were able to build virtual circuits in an online lab (Breslow et al., 2013). The tool is user friendly, easy to use and allows publishers of educational materials to master it without much effort.

An important issue within the BAEKTEL network is quality assurance. To that end the BMP platform provides for feedback from network users, who will have the opportunity to evaluate both the quality and the accessibility of each particular OER.

In order to broaden the usability of OER within the learning environment, they need to be shared, accessible and discoverable by potential users. To that end, they must be annotated in such a manner that users can easily grasp what a specific learning object is about, what is the essence of its learning content, as well as what are the prerequisites needed for its use, without even seeing the resource itself (Velichová, 2008).

As the amount of OER reaches a considerable size, it becomes important that each learning resource is well described and tagged in a standard way, and in machine readable form. This makes resources more easily located by search engines, and results returned by are more relevant. Both educators and learners can find and compare described and tagged learning materials more efficiently, and select the ones that best suit their current needs.

As a rule, OER with related metadata are stored in the so called Learning Object Repositories (LOR). Metadata schemas describing the OER differ depending on the needs addressed by the LOR. Given this variety of schemas, a lot of effort is needed in order to secure interoperability among metadata records, thus enabling federated searches and facilitating metadata management (Chan & Zeng, 2006).

Generic metadata specifications, such as the Dublin Core (DC) exist, which fulfil the general requirements for documenting web-distributed objects[1]. However, educational resources demand a more specialized treatment and characterization. To that end a combination of DC and the IEEE 1484.12.1-2002 Learning Object Metadata (LOM) standard elements (Barker, 2005) is proposed, as a basis for delivering web services for educational resources (Koutsomitropoulos et al., 2010). The LOM Standard groups data elements for describing a learning resource into nine categories: general, lifecycle, meta-metadata, technical, educational, rights, relation, annotation and classification. It has more than 70 available

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[1] http://dublincore.org/

elements, and it is widely used in educational context and applied in several learning object repositories (Friesen, 2004).

Recognizing the specific needs of educational resources, the Education Working Group of the Dublin Core Metadata Initiative developed supplementary DC elements for their description, and proposed the addition of a number of LOM elements to further enhance the DC model. Recommendations of the DC Education Working Group are followed by several metadata initiatives.

Within BAEKTEL, an analysis was performed of the advantages and drawbacks of DC and LOM standards, in order to form a metadata set that will best suit the search and browse needs of BAEKTEL resources via the BMP.

Although LOM is the leading and most widely used educational metadata specification, its main disadvantage is that it features too many elements, making it extremely tedious to implement. As a consequence, the majority of implementations use in practice only a few elements from the LOM schema. Thus, these metadata schemas are not much different from less complex standards, such as DC, which, on the other side, is compact, well explained and widely used, but lacks elements for comprehensive description of learning resources.

When metadata for BAEKTEL learning resources were defined, the FAO (Food and Agriculture Organization of the United Nations) Learning Object Resources Metadata Application Profile, which combines DC and LOM Standard, was taken as the basis[1]. Compliance with DC and LOM standards was chosen in order to enable sharing of BMP metadata with other OER repositories. However, the mandatory elements for BAEKTEL learning resources had to be selected very carefully, as metadata must not become the bottleneck of the entire system.

As a result of an in-depth analysis of metadata requirements for BMP in view of the existing standards, a metadata model was defined based on DC with addition of some elements from LOM. The selected metadata set is expected to describe the resources sufficiently well for the user to be able to locate and assess them easily, and to facilitate exchange with other OER systems. An overview of the BMP metadata model is given in Figure 2.

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[1] ftp://ftp.fao.org/gi/gil/gilws/aims/metadata/docs/learnap.pdf

Baektel metadata schema

7. Relation
+DCTERMS.Relation.Collection : String
+DCTERMS.Relation.Translation : String

1   0..*   **Taxon**
-IN PROGRESS

0..1

2. Lifecycle
+LOM.Version : String
+LOM.Status : String

0..*

4. Educational
+LOM.InteractivityLevel : Char
+LOM.Context : Char
+LOM.IntenedEndRoleUser : Char
+LOM.TypicalLearningTime : Double

0..*

6.Classification
+LOM.Keyword : String
+LOM.Coverage.Region : String
+LOM.Coverage.Country : String
+DC.Subject : String

0..1   0..1

1. General
+DC.Title : String
+DC.Creator : String
+DC.Description : String
+DC.Language : String
+DC.Date : Date
+DC.Type : String
+DC.Identifier : String

3. Technical
+DC.Format : String
+LOM.Size : String
+LOM.Location : String

0..1

5. Rights
+DC.Publisher : String
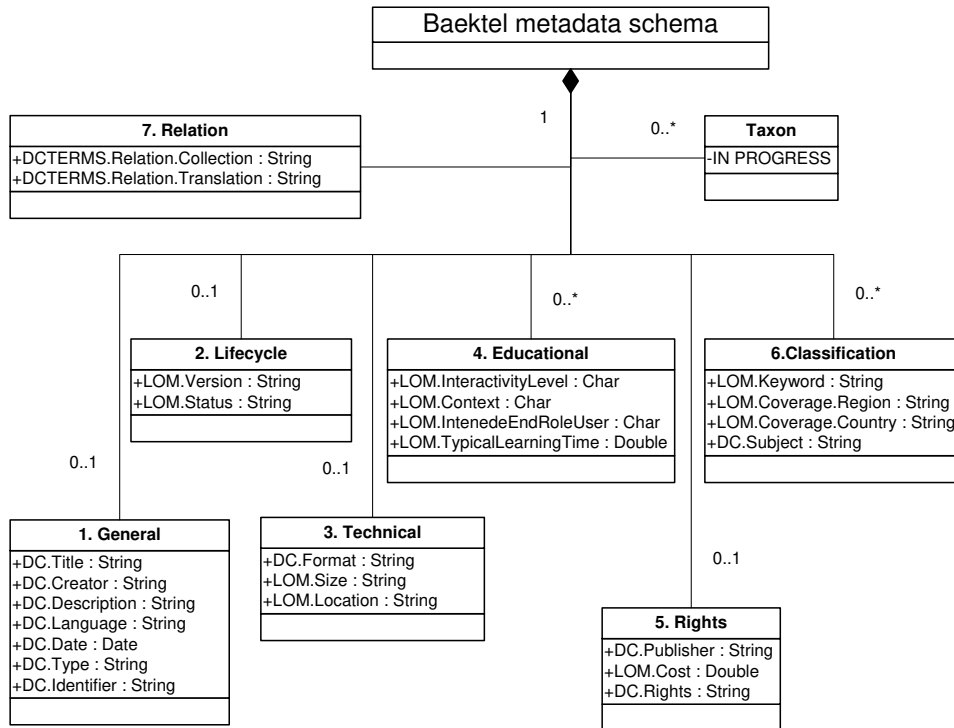+LOM.Cost : Double
+DC.Rights : String

Figure 2: Metadata model for BAEKTEL portal

Within the BMP metadata model there are seven developed subsets: General, Lifecycle, Technical, Educational, Rights, Classification and Relation. Another set aimed at covering metadata related to taxonomy is still under development.

The title, creator, description, language of the resource content, date when the resource was made available to the public, contributor and type of resource are general data, originating from the DC standard. Within general data, a unique code is defined to provide unambiguous identification and access to the resource.

Title is the resource name given by its creator, namely a person, a group of people or an organization that generated the resource content. In the description data field a summarizing description of the resource is given. Once created, some resources can be further enhanced by contributors, that is, persons, organizations, or services, which are then specified in the contributor field. Another important feature of the resource is defined by

the type field, which specifies whether the content of the resource refers to best practice, case study, exercise, guidelines, lesson, and the like.

Data within the lifecycle subset are related to the steps in the development of the learning object and its current state, and originate from the LOM Standard. The version field designates the edition of the learning object, whereas the status field shows whether the resource is already active or pending submission, or maybe archived or even deleted.

The main element of technical data is the resource format, indicating whether it is an electronic or printed document, a set of slides, a website, or a cd-rom/dvd, audio, or video. Other technical data are the resource size, given in bytes for digital resources, and resource location, namely its URL.

Educational data, specific for educational resources, are naturally originating from the LOM standard. They indicate the user type the resource is intended for, the characteristics of the learning environment, estimated time frame needed to master the learning resource, and the level of its interactivity. The intended end user role field indicates the general profile of the expected user: learner, teacher, manager or supervisor. Context describes the environment within which the use of the learning object is expected to take place: school, higher education, training or other. As for typical learning time, it is the approximate time needed for an average learner to study the content of the educational resource. The interactivity level specifies the degree to which the resource can be influenced by the learner, ranging from "very low", e.g. for documents that can only be printed to "very high", such as a virtual 3-D environments, offering various options for exploring.

The rights category is a combination of DC and LOM. The publisher, a person, group, or organization responsible for publication of the resource, and rights, specifying property rights related to resource, especially intellectual property rights (type of license), originate from DC. Cost is derived from LOM, to indicate whether the learning object can be used free of charge or requires some sort of financial contribution.

The classification category is aimed at grouping resources into classes, on basis of their common features, resulting in their systematic arrangement for browsing purposes. The subject field indicates the main topic of the resource, while keywords give more specific resource features and enable

indexing and information retrieval, while coverage specifies the country of jurisdiction for the resource.

The approach to BMP development was to start from of one of the existing open source software solutions, and customize it to the needs of BAEKTEL. To that end a review of most popular open source Digital Asset Management (DAM) systems was performed, and three of them were taken in consideration for BMP: NotreDAM, ResourceSpace and DSpace. After comparing and analysing the three selected candidates, ResourceSpace has been selected due to its main features[1]:

- Intelligent search ordering by scoring resources against keywords on basis of user search activity
- Preselected groups of resources
- Resource access level permissions by user group
- Multilinguality, allowing the user to select the language, with most major languages supported
- Automatic thumbnail creation for resources
- Minimal hosting requirements

A backend control panel within BMP is also envisaged, with the aim to enable teachers in the academic environment to track the progress of students while using the learning resources. This would provide for an insight into how students are mastering specific concepts, especially those featuring entrepreneurial learning content. Based on this insight, especially motivated students could further be filtered out, and engaged in "peer to peer knowledge sharing", namely in providing help and guidance to students who have problems in understanding some concepts. Motivated students could also be encouraged to become teacher assistants and publish their own educational materials within the network.

In the entrepreneurial setting, the portal backend control panel provides similar opportunities for tracking the progress of graduate students who started to work in companies and are now pursuing the life-long learning approach. The same way university teachers in the academic environment monitor their students, supervisors within the enterprise can monitor how their employees are keeping pace with new knowledge, offered within the learning content published by academic institutions.

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[1] http://www.resourcespace.org/

4 The language support system

Learning materials within BAEKTEL network will be available in different languages. Besides WB languages, English and Russian are also envisaged, as well as other languages satisfying specific conditions, namely, that electronic language resources are available for them. This multilingual approach is a combined effect of globalization and European integration, and represents a holistic approach that takes into account all the languages a learner may use, as opposed to the more traditional approach looking at one language at a time (Cenoz & Gorter, 2011). Specifically, providing language resources in WB languages efficiently answers one of the major criticisms of OER, namely that they are biased towards the so called "big" languages. In order to cope successfully with multilinguality within the network, especially when terminology is concerned, a language support system is developed within the BAEKTEL metadata portal. Besides sustaining expert terminology in a multilingual environment this language support system will also improve the search and browse functions of BMP.

The BMP language support system, whose structure is outlined in Figure 3, is based on electronic language resources, namely, lexical resources, textual resources and grammars. The simplest multilingual lexical resources in general are bilingual dictionaries in electronic form. However, for their full functionality in languages with complex morphology, such as Serbian, they need to be coupled with language specific morphological dictionaries. Morphological dictionaries of Serbian simple words and compounds in the so-called LADL format (Krstev et al., 2010) are thus a necessary part of the lexical resources used by the BMP language support system. Besides Serbian, such resources exist for many other languages, including English and Russian, which are also envisaged as OER languages within the BAEKTEL network. Besides morphological dictionaries, for full functionality of the language support system grammars are also needed, and they are implemented by the so called finite state automata, finite state transducers and compound inflection rules (Krstev, 2008).

Another important lexical resource offering support for multilingual terminology is the Serbian wordnet. In brief, a wordnet consists of sets of synonymous words representing specific concepts, called synsets, with a semantic network formed on basis of semantic relations between them. Akin to standard dictionaries, each synset word, or literal, is composed of

a literal string and a sense tag, representing the sense of the literal string specific to that particular concept. The multilinguality potential of wordnets stems from the interlingual index (ILI), which establishes relations between synsets representing the same concept in different languages (Krstev et al., 2004).
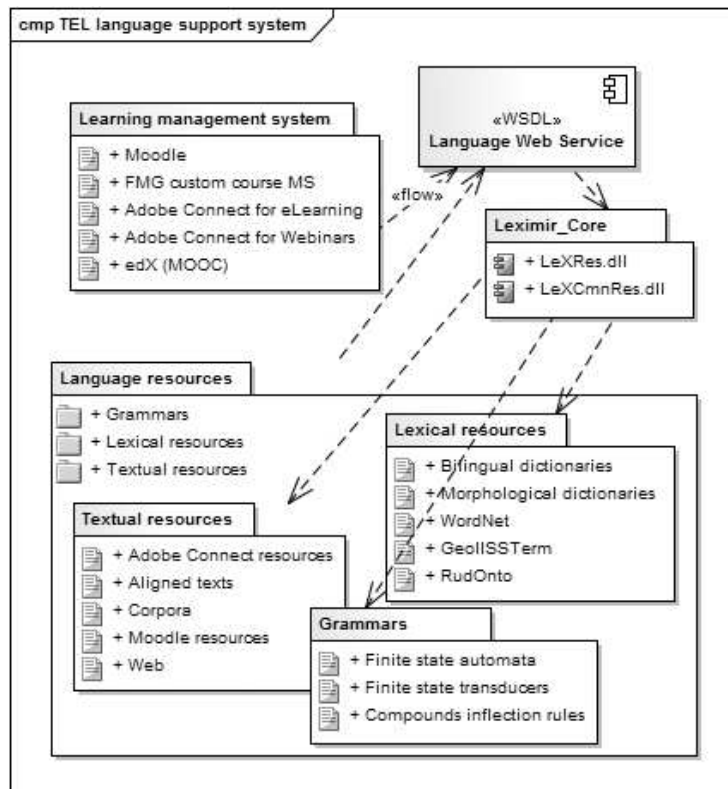

Figure 3: The BMP language support system

Finally, the language support system features domain specific terminological resources such as GeolISS term and RudOnto (Stanković et al., 2012). GeolISS is a thesaurus of geological terms with entries in Serbian and English, developed at University of Belgrade, Faculty of Mining and Geology (UBFMG) within the GeolISS project[1]. Thesauruses are complex terminological resources, usually related to a specific domain, with a semantic structure formed by semantic relations between terms, and thus in some of their features resembling wordnets. RudOnto is another complex terminological resource, also developed at UBFMG with the ultimate goal to gradually evolve into the reference Serbian resource in e-

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[1] http://geoliss.mre.gov.rs

format for mining terminology. Currently RudOnto comprises of concepts in Serbian, their English equivalents, and a small number of equivalents in other languages.

The BMP language support system also offers the possibility of storing specific textual resources, such as aligned texts and corpora. Aligned texts are pairs of texts in different languages, mainly an original and its translation, aligned on some structural level, most often the sentence. Aligned texts in BMP are in the standard, Translation Memory eXchange (TMX) format, which is XML-compliant. Corpora are large and structured sets of texts, both monolingual and multilingual, the latter often composed of aligned texts. Finally the World Wide Web itself represents a textual resource that BMP language support system makes use of.

The language support system handles various types of requests issued by users, usually in the form of a query. The requests are handled by WSDL (Web Services Description Language) described Language Web Service, basically composed of a web application and a web service. When handling a query, the Language Web Service uses a component of the multipurpose tool for lexical resources management and query expansion LeXimir, developed at UBFMG (Stanković et al., 2011). Queries are accepted by the web application, which forwards it to the web service. The web service then invokes LeXimir_Core, a function library of LeXimir, which processes the query using the available resources. During this processing the system can perform a morphological expansion of the query to improve recall, which is especially important for morphologically rich languages such as Serbian. In order to support the multilinguality of the BMP, the language support system can also expand a query formulated in one language to another language, e.g. a query in Serbian to English or Russian, and vice-versa.

With all the aforementioned features the language support system takes a prominent place within the BMP, offering invaluable support for better understanding and handling of the multilingual OER content.

5   Conclusions

The BAEKTEL network described in this paper represents a step forward in OER by blending two major sources of knowledge: academic and entrepreneurial. Its aim is to provide a leaning continuum, from enrichment of university students' knowledge with entrepreneurial

knowledge, which might prove invaluable in their future jobs, to keeping their academic knowledge up-to-date once they have graduated, by offering them a live-long learning opportunity as employees.

There are, however, several critical issues, which might be an impediment to the implementation of the envisaged concept. The first one is how to motivate qualified academic and/or entrepreneurial staff to produce high quality OER content in continuity. A similar problem might arise on the learners' side, as students might lack interest or willingness to invest some additional effort in learning and knowledge sharing. Finally, authorship issues might be also an impediment, due to the lack of adequate legislation regulating the practices and principles of publishing and using OER content, especially in the WB region.

As for the technical issues, successful development of BAEKTEL network requires coordination of activities among partners, with possibly different levels of IT skills. It also needs successful organization of public procurement and acquisition of appropriate equipment. As for its smooth operation, the hardware and software infrastructure and communication links must function flawlessly.

In brief, there is a lot of work to be done before the BAEKTEL network enters full exploitation to the benefit of university students in their preparation for the labour marker, and of those who have graduated, in their lifelong learning endeavour.

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