CONTENTS

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Enhancing Students' Language Competence
Applying Innovative Teaching/Learning Tools

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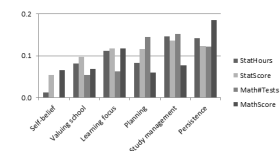Turiba University, Graudu 68, Riga, Latvia

Abstract. Globalization has changed the world as we have previously known it setting different requirements for communication and introducing new learning opportunities. In these conditions ubiquitous learning is developing and language learning for special purposes is flourishing. Hence, the content of the language course and the methodology applied are significant. The present paper provides an overview of the latest trends in teaching Languages for Special Purposes and introduces teaching/learning tools designed to enhance students' language competence in an online and/or blended-learning course. The language learning tools were developed within the framework of an LLO project the aims of which are also reflected in the present paper. The paper offers a practical guide on how to apply the developed online learning materials and elaborates suggestions on alternative ways for the development of students' language competence for special purposes.

Introduction

Globalization is changing the world as we have known it. The dramatic increase in mobility and contacts has turned communication into the big issue and cultures and languages play a major role in successful communication [1]. Communication is everywhere, all around us and it includes not only oral communication but also written communication. However, the rapid pace of life sets its own requirements for communication, especially the one for business purposes. Communicators tend to express themselves briefly and efficiently, using specific lexis which is suitable for the communication context and sometimes might be understood within professional circles only. Similarly, in written communication precision dominates over verbosity. In fact, here we can speak about the specifics of Languages for Special or Specific Purposes.

Another factor that has changed contemporary life is the World Wide Web which has opened "new channels for communication and information delivery and retrieval. Recent advances in information, and communication technologies have led to advances in mobile devices that have nurtured the development of learning on-the-go and access opportunities for learning anywhere at any time" [2]. These latest technological advancements have impacted the development of a new kind of learning - *ubiquitous learning*, which is associated with a mixture of mobile learning with e-learning. According to Watson and Plymale ubiquitous learning or U-learning is a learning paradigm that offers "support for teaching anything at any time in any place by using ubiquitous computing de-

vices, software, and services" [3]. Various supporting devices can be used in ubiquitous learning, for example, personal computers, notebooks, personal digital assistance devices (PDA), smartphones, iPads, GPS, interactive television, podcasts, etc. [4].

The afore-mentioned factors set new requirements for language teaching/learning and, hence, the content of the language course and the applied methodology are significant. The aim of the present study is to provide an overview of the latest trends in teaching Languages for Special Purposes and introduce the online teaching/learning tools designed within the EU project "Language learning opportunities - ways out of unemployment risks" (LLO) from 2012 to 2014 [5] that may be applied to enhance students' language competence in the following languages - English, German, French, Spanish, Russian, and Latvian.

1. Languages for Special Purposes

The emergence and development of Languages for Special Purposes (LSP) is connected with the emergence and satisfying of social and communicative needs of definite speakers [6], and the main function of LSP is associated with "the special discourse used in specific settings by people sharing common purposes" [7]. Regarding the origin of LSP, we may refer to the period of Antiquity when a limited group of people engaged in a certain activity for a long time had to communicate with each other intensively, for example, early physicians. Latin may be considered as the first LSP which

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especially flourished as LSP and became even a lingua franca in the Middle Ages [8].

The origin of contemporary LSP is closely connected with recognizing the communicative role of languages and their functional styles in 1920ies when linguists from the Prague linguistic circle defined functional language. Next, in the 1930ies German linguists introduced the concept of *Fachsprachen* and in 1950ies Savory laid the foundations for the theory of LSP. 1960ies could be considered as the beginning of specialized language courses for different target groups in America. In the 1970ies linguists agreed that LSP served the needs of individual fields of science, for example, business, law, medicine, etc. By 1980, LSP, to be more precise - English for Special Purposes (ESP), was established as an institutional reality entering the field of higher education as well [9], [10]. In 1985 LSP courses and programs were delivered in 275 out of 450 higher education institutions of the USA [11].

One of the first great contributors to LSP was Henry G. Widdowson who differentiated between the purpose of General Language and Special Language courses pointing out that the purpose in LSP is a descriptive term, not a theoretical term, and it "refers to eventual practical use to which the language will be put in achieving occupational and academic aims" [12]. Although many prominent scholars have defined ESP, LSP definitions are rarer, which might be explained by the fact that most research in LSP has been done in the field of ESP. Still, Laborda defines LSP as "the teaching of a language as a second or foreign language for certain groups of students to whom the syllabus, tasks and methodology is especially tailored to their interests and needs" and he also argues that the most essential linguistic aspects of LSP are lexis, language forms, topics for conversation integrating authentic texts and materials [13].

Over the past twenty years global socio-economic and political changes have made an impact on LSP - globalization, internationalization of higher education, requirements of the labour market, multiculturalism, technology development have favoured its development. This trend has been observed at universities all over the world. With the introduction of ubiquitous learning opportunities language learners may engage in communication with other learners and not only develop their language competence but also enhance intercultural competence and collaboration skills. The Internet has brought significant changes to language teaching/learning. "Blogs, Wikis, Skype, Facebook, Twitter, chat and text messaging by means of mobile communication devices and videoconferencing programs" are just some of the examples [14].

Various Internet resources are widely used as authentic teaching/learning tools nowadays. As summarized by Arnó-Maciá [15] the changes brought to language learning by the Internet are associated with authenticity, literacy, interaction, vitality, and empowerment. Moreover, lots of materials are also suitable for mobile devices. Laborda [16] groups the Internet materials into 4 large groups which are further broken down into several subgroups:

i)   traditional web materials - chats and forums; E-pal; online dictionaries;

ii) social web: podcasts, video casts and video sharing; blogs; wikis and Wikipedia;

iii) virtual worlds - for example, Second life;

iv) mobile learning.

Presuming that with the invention of new technologies ubiquitous learning opportunities will increase in the future, special attention shall be paid to the tasks design and maintaining communication between language learners as well as learners and the teacher. As pointed out by Arnó-Maciá [17] tasks have to be authentic and ecologically valid, reflect activities performed in learners' professional fields and develop their collaboration and problem solving skills. It is especially important in LSP, as in LSP we are dealing with students for whom language learning "is auxiliary to some other primary professional or academic purpose. It is clearly a means for achieving something else and is not an end in itself" [18] as the focus is on students' future profession and language is a means to successfully operate in it. To increase students' motivation and diversify modes of learning, classroom learning should be supplemented with online learning, i.e., LSP courses may be delivered in a blended-learning format.

Most higher education institutions of Latvia, including Turiba University, offer its students the opportunity to acquire ESP courses, which have become popular in Latvia during the last 15 years. During the last ten years LSP courses have been introduced alongside with ESP courses. The most frequently offered languages are German, Russian, and Spanish. Some universities offer also the LSP courses of Italian, French, Latvian for foreigners, and other languages. In all these courses teachers tailor their own language teaching/learning materials, including technology-based tools. Lots of different teaching/learning materials have been created within the framework of various EU projects.

The current paper introduces the online teaching/learning modules created for LSP courses (English, German, French, Spanish, Russian, and Latvian) during the implementation of Leonardo da Vinci Grundtvig Learning Partnerships project "Language learning opportunities - ways out of unemployment risks (LLO)" (2012-2014). The modules created are used as supplementary teaching/learning tools thus making the traditional teaching/learning more versatile and providing students with an opportunity for autonomous learning.

2. Language learning opportunities - ways out of unemployment risks

This part of the paper deals with the main ideas of the EU Grundtvig Learning Partnerships project "Language learning opportunities - ways out of unemployment risks (LLO)" implemented in the Lifelong Learning programme in the period 2012-2014, the project No. 2012-1-DE2-GRU06-11344 X.

The aim of the project is to better integrate different groups of people in the European society, and improve their professional abilities on the European labour market through language skills. Additionally, the project is focussed on the exchange of various experiences in formal and non-formal language learning as a means of improving communication skills of the target groups. There is a wide range of methods,

Fig. 1. Online learning tools for Spanish.

Fig. 2. Tasks for the ESP module Travelling by Air.

tools and instruments which play different roles in each country. Traditional and new methods of communication are combined and have a great influence on individual activity, creativity and intercultural development. This also means that the relation between communication, exchange and mobility is the main tool to implement this approach into action. The project is focussed on interested partners, i.e., teachers and learners, to share their experience and learn to communicate with partners/learners across Europe, broaden participants' horizons and help find other opportunities around them that can make them more attractive for the European labour market using new skills and methods.

The consortium is formed by adult educators from six EU countries representing different types of education institutions - tertiary level education institutions (Biznesa augstskola Turība, Latvia; Vilniaus verso kolegija, Lithuania; Ekonomska šola Murska Sobota, Višja strokovna šola, Slovenia), second chance education provider (Voksenuddannelsescenter Frederiksberg, Denmark), and adult education centres (EUROPANORAT Schulung - Training - Management - Consulting GmbH, Germany; Gönen Halk Egitim Merkezi ve Aksam Sanat Okulu, Turkey).

The general topic of the project is of overall relevance for adult education in the partner organisations and in their countries. Alternative and classic approaches to language learning and their blending with non-formal methods is the general way to communicate and improve mutual understanding. The LLO project introduces and applies new and innovative communication tools, such as different versions of comic strip exercises, using games in foreign language classes, e.g., *Scrabble*, *Bingo*, *Monopoly*, *Hangman*, combined with intercultural games on the Internet and supplemented with different and relevant grammar exercises.

Other tools applied are the exchange of cooking recipes and cooking food, learning in the natural environment, e.g., from buildings, monuments, etc., learning from proverbs and poems, e.g., form Haiku, as well as applying online teaching/learning tools.

This paper further introduces online teaching/learning tools created within the project to enhance students' language competence in six languages - English, German, French, Spanish, Russian, and Latvian.
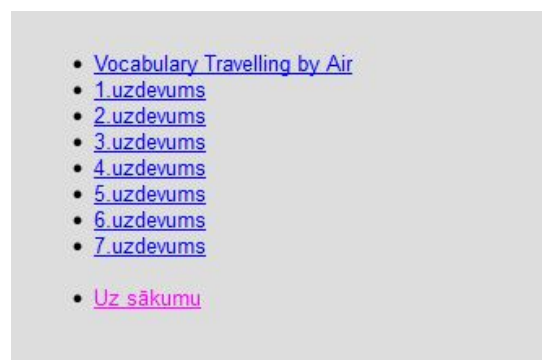
3. The online teaching/learning tools created for Languages for Special Purposes

The materials created comprise online learning modules ensuring the enhancement of students' pluricultural competence and professional language skills. The study materials created are available on the project Website of Turiba University: <http://llo.turiba.lv/> [19].

The online learning modules are designed for different language competence levels: 1) English - A2, B1, other languages - A1, A2, texts in general require a higher language competence level - B1, B2.

The section "Study materials" is further subdivided into six subsections - one subsection per language. The materials created for each language consist of two parts: online learning materials created within the LLO project and other publicly available online learning materials for the target language (see Fig. 1).

The created modules cover a wide range of topics characteristic to LSP (*Meetings, Occupation, Job Interview, Travelling, Hotels, Restaurants, Business Etiquette* etc.) and include the following traditional types of exercises in an unaccustomed online learning form - *Matching tasks, Gap filling, Quiz, Substitution, Jumbled word order, Sentence completion, Word formation and derivation, Crossword puzzle for learning lexis, Describing a picture, Reading comprehension,* etc. The materials also include texts on intercultural topics and text comprehension tasks. Created modules may be used as a supplementary material to regular lectures and as self-study materials for those who want to refresh their language skills. The project website offers also links to online dictionaries. In order to use the created online tasks for students' self-dependent learning it is important to provide students with the necessary vocabulary which is done twofold:

i)   including the relevant vocabulary items as a *.pdf file for students to study the vocabulary on their own (see Fig. 2), or

ii) the vocabulary is prior acquired during the face-to-face stage of learning.

Students may choose a module they want to study and then by clicking on the title *1.uzdevums* [Task 1] start doing the
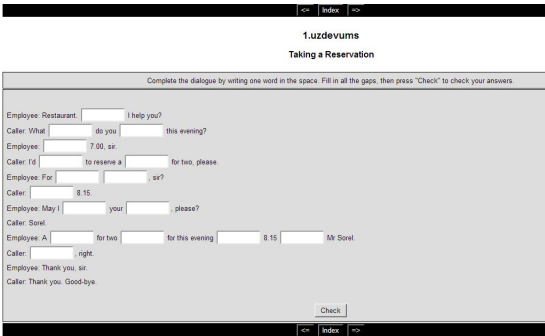
Fig. 3. An example of a gap fill task.

Fig. 4. An example of the key for the task.

task (see Fig. 3). When students have done the task, they click on *Check* and see their score and mistakes (see Fig. 4). In some tasks students may avail help - a hint on how to do the task.

As the tasks in one module are contextually related, it is recommended to start with the first task of the module and finish with the last one and only then select another module for learning. Students can get from one task to another by clicking on the arrow next to the *Index* sign: "→" to go forth and "←" to go back.

The last module for all languages is connected with intercultural issues comprising two intercultural topics. First, students are supposed to read a text presented in a pdf file and then do the reading comprehension task and other tasks which might be lexical, grammar, conversation tasks depending on the text presented. In reading comprehension tasks students can do one question after the other or alternatively clicking on the button *Show all questions* they are first exposed to all the questions and afterwards students may do the task.

As the created materials focus on the development of students' professional lexis and reading skills, they can be used as a source of information on pluricultural issues as well as a supplementary material to develop students' Language for
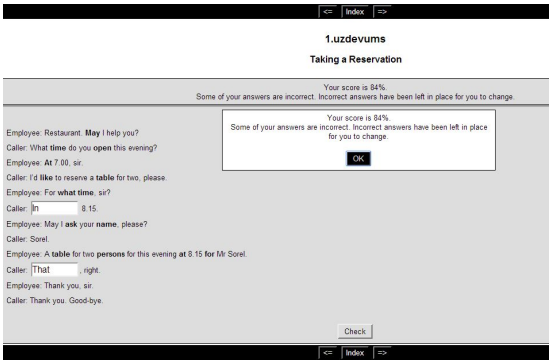
Special Purposes competence. If the created online teaching/learning tools are used for blended learning purposes, of course, it might be useful to discuss the result at the face-to-face stage of learning in which a teacher can explain the issues not clear to the students. For online teaching option the project website provides contact details of the staff involved in the current project and if requested consultancy over e-mail will be provided.

The project website was launched in January 2013 with a couple of tasks. All online learning tasks were uploaded by March 2013. The website statistics counts unique visitors and page views. The statistics might be derived per hour, day, week, month, country, on each separate module, etc. Fig. 5 shows the statistics for applying learning tools since launching of the website.

The statistics also shows that so far most of the learners have been from Europe (92.41% or 414 learners), 20 learners from North America (4.46%), and 14 learners (3.12%) from Asia. The statistics on different countries is reflected in Fig. 6.

The statistics also shows that most of the learners have used computers, only some have used other devices (see Fig. 7) which points to the fact that learners still prefer more traditional learning options and although we are entering the phase of ubiquitous learning, in language learning more traditional devices dominate.

To summarize, the online teaching/learning modules designed have been used by learners as a self-dependent lear-
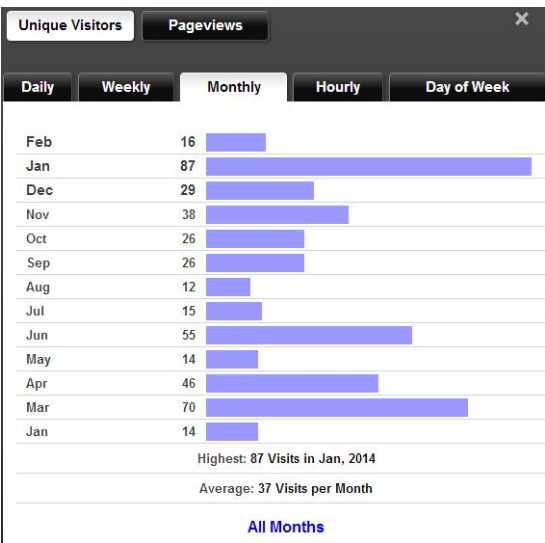

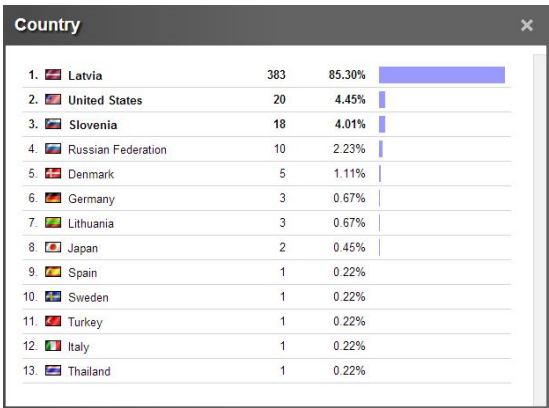Fig. 5. The number of the unique visitors of the learning programme.

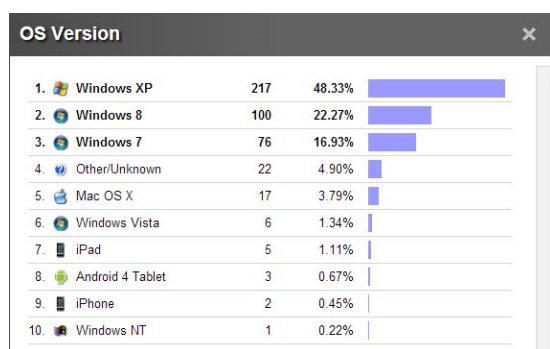Fig. 6. The number of learners per country.

Fig. 7. OS version of learning devices used for doing the tasks.

ning tool and as a supplementary material for developing language competence in LSP and although the number of tasks for the second foreign language is limited, the materials may be evaluated as useful and more modules and tasks could be designed and uploaded onto the current website.

Conclusions

Globalization has changed the life as we have known it; consequently the learning paradigm is changing. There is a shift from traditional scheduled teaching/learning at education institutions to ubiquitous learning which is emerging as a significant contributing factor to lifelong learning. This means that learning occurs anywhere and at any time and from anything. The integration of a range of learning technologies in education requires a different kind of thinking and learners' readiness to apply new learning options. Although the research points to the use of a variety of technological devices to be used in formal and non-formal learning, including learning LSP, practice reveals that language learners give preference to traditional face-to-face learning and applying PCs for online learning. When designing online language teaching/learning tools, it is essential to create a learning platform which would enable learners' online communication and communication with the teacher so that language learning could stimulate learners' activities and provide opportunities for learning from others and learning with others.

To conclude, in order to ensure real U-learning opportunities the following features of U-learning pointed out by Watson and Plymale [20] have to be taken into an account:

1) urgency of learning need;
2) initiative of knowledge acquisition;
3) interactivity of learning process;
4) situated interaction;
5) context-awareness;
6) personalized services;
7) self-regulated learning;
8) seamless learning;
9) adaptation of subject contents;
10) interaction between learners and teachers.

These characteristics are in line with social constructivist learning approach that has been applied to language teaching/learning since communicative approach has gained its popularity, which means that if appropriately applied U-learning may successfully enhance students' language competence.

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Innovative Learning, Peer To Peer (p2p)

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Abstract.   This paper seeks to examine a specific *Peer to Peer* (P2P) degree programme of business management within a new *learning by development initiative* (LbD) in a university setting. Laurea University of Applied Sciences (Finland) introduced LbD in 2006 as a pedagogical framework for learning in all its degree programmes based on authenticity, partnership, experimentation, research orientation and creativity. There are five competences within this pedagogical framework to be acquired by the learner: ethical, global, networking, innovative and reflective, respectively. Within this framework Laurea Hyvinkaa campus has developed since 2008 a P2P learning model.

Four specific projects involving real businesses within this unique P2P programme are described and assessed within that objective in this paper. The research approach used involved assessing quantitative empirical findings from this P2P model and through those findings evaluating the reality of the presence of the LbD competences. An anonymous questionnaire was given to participants within the P2P model. The findings show that this particular P2P educational model is a good example of the LbD initiative, and that the LbD's 5 competences are present in reality within it. The empirical evidence shows that the most present competences within the P2P model are the innovative, reflective and network ones, which are strongly incorporated. The global and ethical competences are present in reality to a far lesser extent. This paper demonstrates additionally that this P2P educational model fills the gap between traditional teaching methods and pure research based learning. It highlights the successful reality of collaborative learning and the development of knowledge for those involved in the process (mentors, students and businesses).

Introduction

Ever increasing globalisation means that modern universities have to respond more quickly and appropriately to the needs of the learning and business communities. Laurea University of Applied Sciences in Finland (LUAS), a modern multidisciplinary institution, is an example of a flexible, innovative university that has made such a response. Since 2006 LUAS has shifted its focus from traditional teaching methods to a student centred approach, within its learning processes. The pedagogical framework for learning at LUAS is called *Learning by Development* (LbD), which is the systematic development of an interaction between training and the reality of working life [1]. The objective of this paper is to describe and assess the reality of this LbD development as a learning framework, through one model called *Peer to Peer* (P2P).

The LbD framework is based around 5 competences to be acquired by the learner, ethical, global, networking, innovative and reflective [2]. This P2P model was introduced in business studies in August 2008, at the Hyvinkaa unit of LUAS, and it is a model where student's learning is linked to development projects that are rooted in the business world. The reality of its development includes an academic description and assessment of each of the (LbD) competences. There is then a description of 3 real life P2P projects and an assessment of the reality of the acquisition of these competences by the learner. This is achieved by quantitative empirical research through an anonymous questionnaire which was given to all participants.

1. The LbD model and its competences

The LbD model defines a learning environment which utilises internal and external networks and is in constant interaction with the world of work. Authenticity is implemented in practice as research and development projects and initiatives linked to the students' studies, work placements and theses. The opportunity to participate as developers in such projects

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helps students to grow into people who can change established workplace practices, and develop into business leaders.

These development projects are built on the concept of partnership, which implies cooperation between lecturers, experts from the labour market and students. The core of development activities is formed by development teams in which shared expertise is generated. Development teams manage partnership networks and the progress of the project and organise work activities and methods. The cooperation between students, lecturers and business people is based on responsible commitment, mutual respect, equality and appreciation for diverse competences. The competences are founded on research-based knowledge, the understanding of professional contexts, skills in completing the necessary tasks and managing various workplace situations. Students use projects to learn for example the basics of networking, social skills and communication with experts in the field. This project work enhances individuality in learning, and whilst working as partners, students build their own study plans according to their own objectives. They recognise the competence requirements of participating in the development project, as well as the competence they can acquire through the project, and this increases the students' self-directiveness.

Of Laurea's five competences, the *ethical competence* concentrates on the private dimension which is embodied in the student's selfreflection. In this process, students examine their own concepts of right and wrong. Professional ethics refers to a professional code, i.e. a number of ethical principles and rules agreed for a specific trade, which direct individual professionals' actions. They include considerations of what is ethically acceptable and advisable when carrying out the trade [3].

The competence-based core curriculum has made it possible to give a definite role to ethical competence. However, the integration of ethical competence into the teaching of subject-specific units is challenging particularly in terms of ethical sensitivity and moral-ethical problem solving. The inclusion of ethical sensitivity implies a need for specific objectives in interaction skills. Developing moral ethical problem-solving skills, on the other hand, requires that the teaching naturally include the consideration of professional problems from ethical points of view. The real tool for teaching ethical competence is the message and the effectiveness of traditional lectures has been found to be low. Effectiveness in this case is linked to diverse pedagogical solutions, such as role-play, simulations, film analyses, interaction skills, dilemma discussions, reflective journals, professional mentors and projects related to ethical issues [4].

The *reflective competence* describes how a growing expert's competence includes recognising one's own abilities, understanding earlier developments, having the courage to participate, and leading innovative development. The growth of an expert involves rethinking one's own reasoning and actions, evaluating, and researching and developing the area

of expertise. Delayed interaction, text-based communication and new ways of thinking about oneself, reflecting on society, communities and circumstances, create some of the necessary conditions for growth. Reflection is an essential aspect of professional growth and competence [5, 6], directed by human cognitive abilities [7, p. 27-28]. Critical reflection relates to both defining individual operators' thoughts and experiences, and to identifying and evaluating our reasoning, the concepts that direct our operations, psychological reactions, and the social and cultural processes that affect them. Swift changes in the employment market create a need for self-directed learning, and for individuals to take responsibility for their own management, they need reflective competence that is the ability to critically evaluate their work [8, p. 46]. Together with self-directedness, reflection makes up the content of the research-oriented and developmental approach described in higher education pedagogy [9].

The concept of *network competence* encompasses a broad range of phenomena, ranging from individual communication skills to organisational networking and strategic network leadership. Communication is an essential requirement of social activity [10]. The significance of communication competence is particularly marked in today's global networks. Dialogue and interaction are essential resources of the network society [11]. In order for social and economic structures to become networked, new kinds of skills and attitudes are needed in the network's participants [12, 10].

This requirement for good communication skills does not apply just to communication professionals operating in a work community or any other social network it calls for good interaction and communication skills from all participants. Regardless of the sector, employees need diverse social skills to complete their tasks. In all customer service situations, interaction skills are at the core of the customer encounter, and even within a work community the social skills of members are significant to the success of the group as a whole. Communication skills and success in working life are linked to one another. For instance an analysis by Payne [13] found good communication skills and motivation for social interaction to correlate with high performance at work.

In the *innovation competence*, the first level consists of the individual's own continuous innovative renewal, encompassing both internal changes and modifications of external behaviour and contexts. The second level consists of innovations created in environments immediately surrounding the individual, i.e. teams. These innovations can relate for example to the team's work methods or services. The third level consists of innovations produced by broader organizations of which the individual is a representative. These are typically product, process and strategy innovations, and are often of incremental or standard type. The fourth level consists of innovations from the individual's various operating networks. These networks are essential in the creation of all-new, radical innovations. New companies, for instance, can be based

on innovations generated by a network. The broadest fifth le-vel consists of societal innovations, which can be anything up to global in scope.

Social innovations can be for example new technologies or political processes. As a minimum, all working professionals should be able to assume responsibility for continuous per-sonal innovation, and to work amidst changes in their teams. Thus the pedagogical aim is to make all students at LUAS approach change as an opportunity and not as a threat.

The *globalisation competence* is the most difficult to cover of the 5 competences within LbD. This competence is not a specific discipline such as ethics, but a concept that describes the development of the human race in history. Thus there are no commonly accepted subjects one could study in relation to globalisation. It is a highly debated topic, with a lack of consensus even on its basic definitions [14].

The word 'global' refers to things that encompass a whole group of objects, that is comprehensive or complete, or that involves the whole world [15, p. 1011]. This is a good wor-king definition when we look at globalisation as the series of events and processes that cause the world to merge into a single, all-encompassing social system [16, p. 53], [17, p. 3]. In other words, here 'globalisation' refers to the processes by which phenomena acquire worldwide scope. '

2. The P2P programme

LUAS Hyvinkaa, introduced the P2P model of learning in August 2008 in its Business Studies Department. This deg-ree programme model has been based around business pro-jects which are rooted to the reality of working life. The stu-dents learning is directly linked to these development projects from the very beginning of their studies. In this unique pro-gramme there are no lectures or exams, the students work in teams to solve business problems. Teachers' role is to super-vise the projects, let the students become more independent during their studies and to raise future professionals that will not hesitate to start identifying and solving a problem they face. The themes and contents of the projects vary, but are all related to business operations, marketing, management, communications or finance. All students participate in inter-national projects as well, and these projects are often related to Russia, Scandinavia and the Baltic countries. The main emphasis lies, however, in Russia, and very common themes are export/import, creating marketing plans to a new market, finding new target groups or possibilities for using social me-dia in business operations.

Projects are implemented with very different organiza-tions: small and large enterprises, associations or even go-vernmental bodies, but share one similar characteristic, they are all development projects aimed at solving a problem that is important for the organization, which the organization it-self has neither time nor knowledge to solve.

The goal of the P2P model is to fill the gap between tra-ditional education and companies' expectations. Companies are encouraged to participate actively in the process and their feedback is valued through the whole process. A clear mo-tivational factor for the students in the projects is the project briefing at the beginning of the project and the assignment is given to them by the company representative, not by the teacher. This fact both increases the motivation of the stu-dents, as they see that the project and its success is important to the company and helps the students to create networks and relationships to promote their future careers.

The very first step for the students is to draw a mind map that clearly presents the theoretical parts included in the pro-ject. In order to do this they have to familiarize themselves with the theme in question and read books, academic articles and other research materials. A well- built mind map that is approved by the supervising teachers forms a basis at least for the theoretical part of the project, but quite often also for the table of contents for the final project report.

The main challenge for the students lies in combining the theoretical and practical parts of the project. The students search for relevant materials mainly in books and academic journals, but look also for research materials on the Internet. All the theory has to be clearly linked to the project and all the sources need to be clearly marked. The final result of a project is a large report consisting of theoretical and practi-cal part of the project, as well as conclusions and further re-commendations. The project results will be presented to the company representative at the end of the project either at P2P office, in the company or by using a negotiation programme on the Internet.

By their nature some of the projects are more practice ori-ented, for example, developing business processes by looking for practical solutions, building Internet-sites. Some other projects are based more on finding information about target groups, new markets, marketing channels or creating hand-books for a company's use. At the end of each project an evaluation discussion is held and both the process and results are evaluated. Special attention is to be paid on co-operation within the team and also with company representatives and teachers during the project as well as the quality of the sour-ces used. Evaluation is based on students' self-evaluation, team evaluation and teachers' evaluation.

One of the most popular project themes covers social me-dia. An example of that project was to find out how a hotel should be visible in social media. The hotel was mainly in-terested in "easy" marketing and to possibility of communi-cating easily with their clients. The main research question for the project was how the hotel should be visible in the so-cial media. This main question was divided into several sub questions: What are the user profiles in social media, what applications are used the most, is the information in social media usable and if yes, to what extent. Additionally, how popular are the social media channels, what channels could the hotel use, risks related to using social media, can social

media be used for a marketing and information channel for both restaurant business as well as an accommodation side.

Another typical example is a market entry plan to a new, selected country. In this project, a domestic entrepreneur and designer wanted to have a market entry plan to Germany and Netherlands. The project included market research, finding out different logistics solutions, researching legal restrictions, contacting organisers of handicraft exhibitions and sellers. The client was very pleased with the results, announcing that the conducted plan helped her to negotiate with future partners and intermediaries.

A third example is related to a typical theme, a marketing plan to Russia. A small Finnish company wanted to find the best way to get to the Russian market. First, a market entry plan was conducted, and later on a marketing plan followed as a separate project. The students found out information related to consumer preferences, buying behaviour, competitors and market trends, and made a realistic marketing plan based on the gathered information. In addition to marketing and social media, they had learnt about internationalisation as well as cultural and business differences between Russia and Finland. The students wrote at the end of the project: "We came face to face with the fact that international marketing is very challenging and it needs a lot of preparation and background research about the target country to be successful. The peculiarities of marketing in Russia were paid special attention to".

A fourth project example was related to planning and developing business processes for a Finnish entrepreneur. The entrepreneur specialised in translations and wanted to reorganise his large network of subcontractors and to change his business model. At the beginning the student team created a new business plan with concrete instructions on how to change the legal status and the operating form. The business plan was complemented by a marketing strategy, brand strategy and a marketing plan. At the same time a new logo and slogan were planned and image marketing studied. The entrepreneur wanted the team to help him to create an easily distinguishable image and brand. In addition, the project group found out information about different programmes in financial management and negotiated with different companies to find the best features. During the project new Internet sites were created by English and Russian. The student team found the project very interesting and regarded it as one of the best projects that they had had. One of the biggest motivating factors was the entrepreneur himself who valued his student team, gave them a lot of responsibility, asked for their opinions and participated very actively. At the end of the project the entrepreneur gave very positive feedback and was very happy with the whole process. In addition to all the practical help provided by P2P students and staff, the entrepreneur thanked the project group for changing his attitude towards his business, as the project had activated him to plan and develop his business and to think more like an entrepreneur.

3. Student feedback by questionnaire

Data was collected through an electronic anonymous questionnaire administrated to all 65 students who had enrolled and participated in P2P projects during one semester. The questionnaire was of a quantitative style, in the sense that it was questions which were seeking a response in terms of ticking boxes. The ticking of boxes does not provide the level of evaluative information that is optimal for quality enhancement. However, ticking of boxes allows for the identification of a specific aspect of the programme, and are particularly useful for quite high student numbers as well as enhancing response rates. These are points well made by Rowley, Ref. [18]. In this case there were 65 students who participated and 44 responded to the questionnaire. Consequently, it was a useful questionnaire for finding out the reality of the competences as extensively as possible. Additionally, questionnaires should be presented when the course is complete (Rowley loc cit). This was the case here as they were sent shortly after the project evaluations.

The data collected in relation to the ethical competence particularly highlights that 75% of students answered that they had learnt and knew the ethical principles in their area of study. Over 70% answered that their ability to analyse and develop their own actions had increased, and additionally over 80% answered that their ability to evaluate their own knowledge had increased. Consequently the reflective competence of the LbD was well learnt within the P2P programme by the students.

With regard to the network competence two of the key findings were that approximately 80% of the students had learnt to co-operate with different partners, significantly improved their communication abilities, and that co-operating with company partners had helped their knowledge levels. The innovation competence in reality through the student feedback is particularly present in the sense of independent actions of students (90%). Additionally, the learning of new skills and use of equipment was quite high. The fifth competence, globalisation, was the weakest of the competences within the student feedback. Although, there were still over 50% of students who were involved in the projects were able to recognise aspects of internationalisation.

Conclusion

Overall this study indicates that the *Peer-to-Peer* learning model is a good example of the LbD initiative and that the LbD's five competences, ethical, global, networking, innovative and reflective competences, are present in P2P projects, to a greater or lesser extent. The analyses show that in reality the students learn more about reflective, networking and innovation competencies, whereas ethical and especially global knowledge remain weaker. However, even inside a certain competence, different kinds of skills are acquired. Some

of them are related to the development of the students' own knowledge and skills, some to the innovations and phenomena in different companies or networks. The analysis show clearly that the students have learned to assess and evaluate their own skills in different situations and are able to realise the value of peer feedback both from other students, teachers and company partners. The basis of the P2P learning method, (collaborative learning for all involved in the process), fills the gap between universities and businesses and enables new methods, innovations and ideas to be created and developed further.

This learning model, which concentrates on both practice and research, is constantly being developed further by its students, teachers and company partners and this includes the five LbD competences. The global competence is shown within the empirical findings to be the weakest in attainment by the students. However, new contacts to foreign universities and companies are constantly being created, and new international student projects started both with exchange students and student teams from foreign universities. Also special attention is being paid to international cooperation skills (for example through cross-cultural student visits). Consequently this competence will hopefully be more easily absorbed by P2P students in the future.

If higher education is to be based on the demands of the employment market and its development, universities and employers must work together closely. The reality of this unique P2P degree programme is that it provides such collaboration as well as the development of knowledge within the competences discussed, for the students involved.

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Learning Analytics And Formative Assessments
In Blended Learning Of Mathematics And Statistics

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Abstract.   Learning analytics seeks to enhance the learning process through systematic measurements of learning related data, and informing learners and teachers of the results of these measurements, so as to support the control of the learning process. Learning analytics has various sources of information, two main types being intentional and learner activity related metadata. This contribution provides a practical application of Buckinghan Shum and Deakin Crick's theoretical framework of dispositional learning analytics [1]: an infrastructure that combines learning dispositions data with data extracted from computer based, formative assessments. In a large introductory statistics course based on the principles of blended learning, combining face-to-face problem-based learning sessions with technology enhanced education, we demonstrate that students learning choices profit from providing students with feedback based on learning analytics, so as to optimize individual learning choices. This study is based on a project financed by SURffoundation as part of the Dutch Learning Analytics program..

Introduction

The prime data source for most learning analytic applications is data generated by learner activities, such as learner participation in continuous, formative assessments. That information is frequently supplemented by background data retrieved from learning management systems and other concern systems, as for example accounts of prior education. A combination with intentionally collected data, such as self-report data stemming from student responses to surveys, is however the exception rather than the rule. In their theoretical contribution to LAK2012 [1], see also the 2013 LASI Workshop [2], Buckinghan Shum and Deakin Crick propose the dispositional learning analytics infrastructure that combines learning activity generated data with learning dispositions, values and attitudes measured through self-report surveys and fed back to students and teachers through visual analytics. Their proposal considers for example spider diagrams to provide learners inside in their learning dispositions, values and attitudes.

In our empirical contribution focusing on large scale education in introductory math and statistics, we aim to provi-

de a practical application of such an infrastructure based on combining learning and learner data. In collecting learner data, we opted to use a wide range of well validated self-report surveys firmly rooted in current educational research, including learning styles, learning motivation and engagement, and learning emotions. Learner data were reported to both students and teachers using visual analytics similar to those described in [1], so instead of focusing on technology to feedback learner data, we will focus here on the crucial role of the richness of the profile of learner dispositions, values and attitudes.

Our second data source is rooted in the instructional method of test-directed learning, and brings about the second focus of this empirical study: to demonstrate the crucial role of data derived from computer-based formative assessments in designing effective learning analytic infrastructures. This paper extends our earlier study [3].

1. Formative Assessment

The classic function of testing is that of taking an aptitude test. After completion of the learning process, we expect stu-

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dents to demonstrate mastery of the subject. According to test tradition, feedback resulting from such classic tests is no more than a grade, and that feedback becomes available only after finishing all learning.

The alternative form of assessment, formative assessment, has an entirely different function: that of informing student and teacher. The information should help better shape the teaching and learning and is especially useful when it becomes available during or prior to the learning. Diagnostic testing is an example of this, just as is practice testing. Because here the feedback that tests yield for learning constitutes the main function, it is crucial that this information is readily available, preferably even directly. At this point digital testing comes on the scene: it is unthinkable to get feedback from formative assessments in time without using computers.

2. Learning Analytics

The broad goal of learning analytics is to apply the outcomes of analysing data gathered by monitoring and measuring the learning process, as feedback to assist directing that same learning process. Several alternative operationalizations are possible to support this. In [4], six objectives are distinguished: predicting learner performance and modelling learners, suggesting relevant learning resources, increasing reflection and awareness, enhancing social learning environments, detecting undesirable learner behaviours, and detecting affects of learners. In the following sections describing our approach, we will demonstrate that the combination of self-report learner data with learning data from test-directed instruction allows to contribute to at least five of these objectives of applying learning analytics. Only social interaction is restricted to learners being able to assess their individual learning profiles in terms of a comparison of their own strong and weak characteristics relative to the position of other students.

These profiles are based on both learner behaviour, including all undesirable aspects of it, and learner characteristics: the dispositions, attitudes and values. Learner profiles are used to model different types of learners, and to predict learner performance for each individual student. Since our instructional format is of student-centred type, with the student, and not the teacher, steering the learning process, it is crucial to feedback all this information to learners themselves as to make them fully aware of how to optimize their individual learning trajectories.

3. Case Study: Mathematics and Statistics

Our empirical contribution focuses on freshmen education in quantitative methods (mathematics and statistics) of the business & economics school at Maastricht University. This education is directed at a large and diverse group of stu-

dents, which benefits the research design. The population of students studied here consists of two cohorts of freshmen: 2011/2012 and 2012/2013, containing 1,800 students who in some way participated in school activities (have been active in the digital learning environment *BlackBoard*). Besides *BlackBoard*, two different digital learning environments for technology-enhanced learning and practicing were utilized: *MyStatLab* and *MyMathLab*.

The diversity of the student population derives mainly from its very international composition: only 23% took Dutch high school, whereas all others were educated in international high school systems. The largest group, 45% of the freshmen, were educated according to the German Abitur system. High school systems in Europe differ strongly, most particularly in the teaching of mathematics and statistics. In that European palette the Netherlands occupies a rather unique position, both in choice of subjects (one of the few European systems with substantial focus on statistics) and the chosen pedagogical approach. But even beyond the Dutch position, there exist large differences, such as between the Anglo-Saxon and German-oriented high school systems.

Therefore it is crucial that the first course offered to these students is flexible and allows for individual learning paths. To some extent, this is realized in offering optional, developmental summer courses, but for the main part, this diversity issue needs to be solved in the program itself. The digital environments for test-directed learning play an important role in this.

4. Technology-Enhanced Learning

The two technology-enhanced *MyLabs*, *MyStatLab* (MSL) and *MyMathLab* (MML), are generic digital learning environments, developed by the publisher Pearson, for learning statistics and mathematics. It adapts to the specific choice of a textbook from Pearson. Although *MyLabs* can be used as a learning environment in the broad sense of the word (it contains, among others, a digital version of the textbook), it is primarily an environment for test-directed learning and practicing. Each step in the learning process is initiated by submitting a question. Students are encouraged to (try to) answer the question. If they do not master (completely), the student can either ask for help to step by step solve the problem (Help Me Solve This), or ask for a fully worked example to show (View an Example). Next, a new version of the problem loads (parameter based) to allow the student to demonstrate their newly acquired mastery.

In the investigated courses, students work an average 35.7 hours in MML and 23.6 hours in MSL, 30% to 40% of the available time of 80 hours for learning in both topics. In this study, we use two different indicators for the intensity of use of thye *MyLabs*:

1) #hours, the number of hours a student spent practicing in both *MyLab* environments, and
2) #TestScore, the average score for the practice questions, all chapters aggregated, again for both topics.

5. Educational Practice

The educational system in which students learn mathematics and statistics is best described as a 'blended system'. The main component is 'face-to-face': problem-based learning (PBL), in small groups (14 students), coached by a content expert tutor. Participation in these tutor groups is required, as for all courses based on the Maastricht PBL system. Optional is the online component of the blend: the use of the two test-directed learning environments.

The reason for having this component optional is at one hand that this best fits the Maastricht educational model, which is student-directed and places the responsibility for making educational choices primarily with the student, and at the other hand, the circumstance that not all students will benefit equally from using these environments: due to the diversity in prior knowledge, it is supposed to have less added value for students at the high end.

However, the use of technology-enhanced environments is stimulated by making bonus points available for good performance in the quizzes. Quizzes are taken every two weeks and consist of items that are drawn from item pools very similar to the item pools applied in the two digital practice platforms. We chose for this particular constellation, since it stimulates students with little prior knowledge to make intensive use of the test platforms. They realize that they fall behind other students in writing the exam, and need to achieve a good bonus score both to compensate, and to support their learning. The most direct way to do so is to frequently practice in the MML and MSL environments.

The student-directed characteristic of the instructional model requires first and foremost adequate information for students so that they are able to monitor their study progress and their topic mastery in absolute and relative sense. That provision of relevant information starts the first day of the course when students take two entry tests for mathematics and statistics, so as to make their positions clear. Feedback from entry tests provide the first signals of the importance of using the test platforms.

Next, the digital MML and MSL-environments take over the monitor function: students can at any time see their progress in preparing the next quiz, get feedback on the performance in the already taken quizzes and on the conduct of the practice sessions. The same information is also available for the teachers. Although the primary responsibility for directing the learning process is with the student, the tutor acts complementary to that self-steering, especially in situations where the tutor considers that a more intense use of digital learning environments is desirable, given the position of the student concerned. In this way, the application of learning analytics shapes the instructional situation.

6. Impact of Technology-Enhanced Learning

To explore the role of technology-enhanced learning, we investigated the relationship between the intensity of use of the two technology-enhanced platforms and academic performance. Two indicators measure academic performance: the exam containing a mathematics and statistics part (Math-Exam and StatExam) and three quizzes for both sub-topics, summed into a MathQuiz and StatQuiz score. Before examining the relationship between practice and performance, we corrected for differences in prior knowledge, in two ways: by the level of prior mathematics education, and by the student score in the math entry test. What prior education is concerned: high school systems distinguish a basic level preparing for the social sciences and an advanced level preparing for sciences. An indicator variable is used for math at advanced level (MathAdv) (which is true for one third of the students), with basic level of math prior schooling being the reference group. Moreover, the level of prior math knowledge is determined by the day-one entry or diagnostic test, of which the score is labelled as EntryTest, focusing on the mastery of basic algebraic skills.

One of the most straightforward ways to investigate the role of technology-enhanced learning on achievement is to use regression analyses in which performance variables are explained by prior knowledge and data on intensity of using the practice tests. These regressions indicate that prior knowledge, both as type of prior schooling and as score in the entry test, explains part of performance differences. But the most important predictor of course performance is the level that students gain in the test platforms. The number of different tests students need to acquire that level, or the time they need to practice to acquire that level, has a corrective effect, what is intuitive: knowledge achieved through testing helps, but if a student needs a lot of time or effort to reach that level, this signals more problematic learning. An alternative demonstration of the impact of using the test environments is obtained by dividing the population of students into students with high and low mastery in the entry test and high and low level of intensity of using the test platforms, and comparing exam scores and pass/fail outcomes. The fit resulting from these prediction models is very high. For example, in a median split on performance in the math platform, 92% of the students with the better practice performance do pass, against 59% in the students with lower practice performance.

6.1. Learning Analytics: Demographic Characteristics

Having demonstrated that on average students benefit from the opportunity of technology-enhanced learning, the ques-

tion arises whether this is equally true for all students. This question asks for learning analytics applications using data from other sources than the learning environments to identify specific student groups most in need for these practice environments. In this section of our empirical study, we follow [1], [5] to investigate individual differences in the intensity of using digital learning tools. As a first step, we make use of data from the regular student administration such as whether or not Dutch high school, whether or not advanced prior math schooling, gender, nationality and entry test score. Students with advanced prior schooling are better at math, without incurring more need to practice. They are not better at statistics, which corresponds to the fact that in programs at advanced level, the focus is not on statistics but abstract math. Dutch students make considerably less use of both test environments and hence achieve a slightly lower score, benefiting from a smoother transition than international students, but relying just somewhat too much on that. Students with a high entry test score do better in mathematics and a little better in statistics in the test environments, without the need to exercise more. Finally, there are modest gender effects, the strongest in the intensity of exercising: female students are more active than male students.

6.2. Learning Analytics: Cultural Differences

The remaining data from the student records of administrative systems regard the nationality of students. Because cultural differences in education has been given an increasingly important role, and because the Maastricht student population makes it very suitable through its strong international composition, the nationality data are converted into so-called national culture dimensions, based on the framework of Hofstede [6]. In that framework, there are a number of cultural dimensions that refer to values that are strongly nationally determined. In this study we use six of these dimensions: Power Distance, Individualism versus Collectivism, Masculinity versus Femininity, Uncertainty Avoidance, Long-Term vs. Short-Term Orientation and Indulgence vs. Restraint. Scores for each of these national dimensions are assigned to the individual students. Correlating these scores with the four indicators of practice tests intensity result in several significant effects, all in line with Hofstede's framework. The most significant effects are for students from a masculine culture, where mutual competition is an important driver in education, for students from a culture that value long-term over short-term and, somewhat in relation thereto, cultures that value sobriety rather than enjoyment. In this, masculinity and hedonism have a stronger impact on the intensity of exercising, than on the proceeds of exercising, in contrast to long-term orientation, that has about equal impact on both aspects. Uncertainty avoidance contributes, as expected, to practicing, albeit to a lesser extent and again primarily toward intensity of exercising rather than its outcome. The roles of power dis-

tance and individualism play a less salient role in learning, as expected.

6.3. Learning Analytics: learning styles

Although the effects are smaller in size, learning data based on the learning style model of Vermunt [7] exhibit a characteristic role. Vermunt's model distinguishes learning strategies (deep, step-wise, and concrete ways of processing learning topics), and regulation strategies (self, external, and lack of regulation of learning). Deep-learning students demonstrate no strong relationship with test directed learning: they exercise slightly less, but achieve a slightly better score. That is certainly not true for the stepwise learning students. Especially for these students the availability of practice tests seems to be meaningful: they practice more often and longer than other students and achieve, especially for statistics, a better score than the other students. These patterns repeat themselves in the learning regulation variables that characterize the two ways of learning: self-regulation being characteristic for deep learning, external regulation as a feature for stepwise learning. Indeed, the students whose learning behavior has to be externally regulated, are those who benefit most from the test environments: both in intensity and performance they surpass the other students. A notable (but weak) pattern is finally visible in learning behaviour lacking regulation: these students tend to practice more often and longer than the other students but achieve in both subtopics lower performance levels. Apparently, even the structure of the two test environments is incapable to compensate the of lack of regulation for these student.

6.4. Learning Analytics: (Mal)Adaptive Thoughts & Behaviours

Recent Anglo-Saxon literature on academic achievement and dropout assigns an increasingly dominant role to the theoretical model of Andrew Martin: the 'Motivation and Engagement Wheel' [8]. That model includes both behaviours and thoughts or cognitions that play a role in learning. Both are then divided into adaptive and mal-adaptive or obstructive forms. As a result, the four quadrants are: adaptive behaviour and adaptive thoughts (the 'boosters'), mal-adaptive behaviour (the 'guzzlers') and obstructive thoughts (the 'mufflers'). In Figure 1, two panels depict the relationships of adaptive and mal-adaptive thoughts and behaviours with the usage data.

The first panel documents adaptive thoughts Self-belief, Value of school and Learning focus, and adaptive behaviours Planning, Study management and Perseverance. All adaptive thoughts and all adaptive behaviours have a positive impact on the willingness of students to use the test environments, where the effect of the adaptive behaviour dominates that of cognitions. The mal-adaptive variables show a less uniform
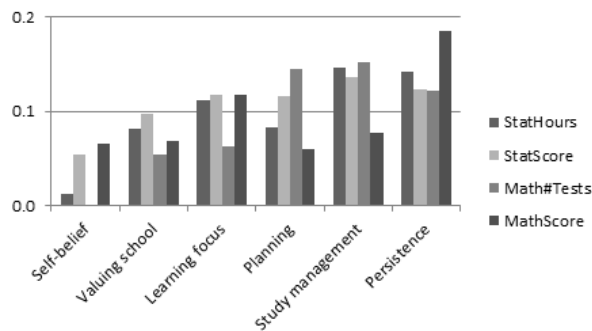
Fig. 1. Role of (mal)adaptive thoughts and behaviours.

picture. Because gender effects play a prominent role here, the dummy variable female/male is added to the four data of use intensity in the panel. From these additional correlations we conclude that mal-adaptivity manifests itself differently in female and male students: for female students primarily in the form of limiting thoughts, especially fear and uncertainty, in male students primarily as mal-adaptive behaviours: self-handicapping and disengagement. That difference has a significant impact on learning. Mal-adaptive behaviours negatively impact the use of the test environments: all the correlations, both for use intensity and performance, are negative. The effect of inhibiting mind, however, is different: uncertainty and anxiety have a stimulating effect on the use of the test environments rather than an inhibitory effect. Combination of both effects provides a partial explanation for the observed gender effects in the use of the test environments.

6.5. Learning Analytics: Learning Emotions

Also of relatively recent date is research on the role of emotions in learning. Leading in this research is Pekrun's control-value theory of learning emotions [9]. That theory indicates that emotions that arise when learning are influenced by the feeling to be 'in control' and something worthwhile to do. Pekrun's model distinguishes several emotions, and for this study we selected emotions that contribute most strongly to student success or failure: the negative emotions of Anxiety, Boredom and Hopelessness, the positive emotion Enjoyment. Emotions are context-specific measured, for example, Anxiety is defined in the context of learning mathematics. Learning emotions are typically measured in the middle of the course, unlike all other instruments that are taken in the beginning of the course. Correlations can thus not be interpreted within a cause-effect framework, as we can do for most other variables. The most obvious association is that of mutual influence: emotions will impact the use of the test environments, but conversely experience gained in practicing, and ideally the performance in practicing, will also determine learning emotions. Associations we find all have predicted directions: negative emotions demonstrate negative relationships to the use of the test environments, positive emotion and feeling in control, demonstrate positive relationships. It is striking that
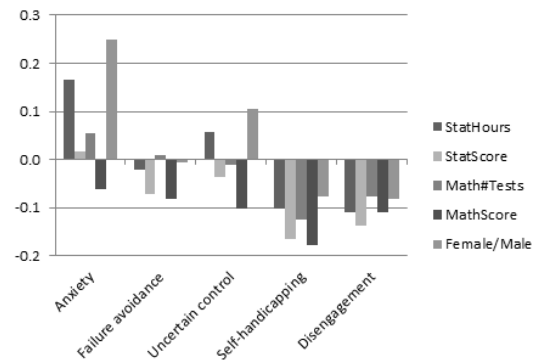
performance in the test environment, especially for mathematics, is much stronger associated with learning emotions than the intensity of practicing in the test environments.

Conclusions

The intensive use of technology-enhanced environments makes a major difference for academic performance. But in a student-centred curriculum it is not sufficient when teachers are convinced of the benefits that test-based learning in digital learning environments entails. Students regulate their own learning process, making themselves choices on how intensively they will exercise and therefore, are the ones who need to become convinced of the usefulness of these digital tools. In this, learning analytics can play an important role: it provides a multitude of information that the student can use to adapt the personal learning environment as much as possible to the own strengths and weaknesses. For example, in our experiment the students were informed about their personal learning dispositions, attitudes and values, together with information on how learning in general interferes with choices they can make in composing their learning blend. At the same time: the multitude of information available from learning analytics is also the problem: that information requires individual processing. Some information is more important for one student than the other, requiring a personal selection of information to take place. Learning analytics deployed within a system of student-centred education thus has its own challenges.

The aim of this contribution extends beyond demonstrating the practical importance of Buckingham Shum and Deakin Crick's dispositional learning analytics infrastructure. Additionally, this research provides many clues as to what individualized information feedback could look alike. In the learning blend described in this case study, the face-to-face component PBL constitutes the main instructional method. The digital component is intended as a supplementary learning tool, primarily for students for whom the transition from secondary to university education entails above average hurdles. Part of these problems are of cognitive type: e.g. international students who never received statistics education as part of their high school mathematics program, or other

freshmen who might have been educated in certain topics, without achieving required proficiency levels. For these kind of cognitive deficiencies, the technology-enhanced environments proved to be an effective tool to supplement PBL. But this applies not only to adjustment problems resulting from knowledge backlogs. Students encounter several types of adjustment problems where the digital tools appear to be functional. The above addressed learning dispositions are a good example: student-centred education presupposes in fact deep, self-regulated learning, where many students have little experience in this, and feel on more familiar ground with stepwise, externally regulated learning. As the analyses demonstrate: the digital test environments help in this transformation. It also makes clear that the test environments are instrumental for students with non-adaptive cognitions about learning mathematics and statistics, such as anxiety. An outcome that is intuitive: the individual practice sessions with computerized feedback will for some students be a safer learning environment than the PBL tutorial group sessions. Finally, the learning analytics outcomes make also clear where the limits of the potentials of digital practice are: for students with non-adaptive behaviours and negative learning emotions. If learning involves boredom and provokes self-handicapping, even the challenges of test-based learning will fall short.

Acknowledgements

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eCuisine - A Model For Interactive E-Learning
To Enhance Vocational Conversation And
To Raise Intercultural Awareness In The Hospitality Sector

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Abstract.　　*eCuisine* is a project transferring knowledge and material established in existing language learning programs for schools and the wider field of vocational education and training into the field of gastronomy, hospitality and service. *eCuisine* expands the range of the UK developed language learning program *Tick-Tack* and the much elaborated *EuroCatering Language Learning* (ECLT) program. The project seeks a greater understanding through transnational cooperation in a European context of the specific language and cultural awareness needs as well as of the learning culture of SMEs in the Hospitality and Leisure sector. The project is essentially aimed at reducing barriers to work mobility, increasing international understanding and cooperation, supporting a flexible delivery mode, modern learning requirements with attractive and interactive e-learning materials. The project foresees a glossary and description of dishes from all partner countries with detailed information regarding preparation techniques, the ethnic nature of the dishes as well as recommendations for consumers and chefs that could be accessed through interactive devices (smart phones, tablets etc.) that could be used both for informative as well as education and training purposes.

Introduction

The importance of education and training for the implementation of the Europe 2020 Strategy. The "Agenda for new skills and jobs", published by the European Commission in November 2010 highlights the necessity that "all EU citizens should have the opportunity to acquire and develop the mix of knowledge, skills and aptitudes they need to succeed in the labour market. To this end, education and training systems must deliver the right mix of skills, including digital and transversal key competences, media literacy, and communication in a foreign language" [1].

The modern labour market is facing new challenges with increasing mobility of the labour force and the rapid growth of tourism, which is one of the biggest and fast expanding European economic sectors. These challenges at the same time provide excellent opportunities for mobility of the labour force that is adequately educated and trained to face these challenges. The mixture of language learning combined

with the ability to make use of new media and technologies is one of the basics in tourism education. Language competency is often described as a threshold skill for entry into the tourism trade in order to enhance people's possibilities for mobility within the tourism labour market. Cross-European studies have highlighted the need for enhancing language skills and intercultural awareness training of small and medium enterprises (SMEs). Varying terminology has been used in discussions about the role of culture in language teaching. One of the terms which has gained prominence is cultural awareness.

Understanding the nature of the relationship between language and culture is central to the process of learning another language. Liddicoat, Papademetre, Scarino and Kohler [2] describe it as follows "Intercultural language learning involves developing with learners understanding of their own language(s) and culture(s) in relation to an additional language and culture. Learning to communicate in an additional language involves developing an awareness of the ways in which

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culture interrelates with language whenever it is used. Indeed Mitchel and Myles [3] point out that "researchers in language socialization tradition believe that language and culture are not separable, but are acquired together with each providing support for the development of the other". There is no doubt that language learning contributes to intercultural learning and empathy which is a basic need in the hospitality industry.

In his speech at the conference "Travelling Languages: Culture, Communication and Translation in a Mobile World", held from 03-05 December 2010 in Leeds, UK, the lecturer Klaus Pfatschbacher from the University of Applied Sciences in Krems makes clear that "students are not only asked to widen their lexical knowledge, they are also expected to go beyond the level of simple language acquisition. As touristic activities continuously force students to cope with cultural encounters, they are asked to understand foreign cultures in detail in order to serve international clients best. All in all, foreign language teaching assumes the responsibility to link grammar, syntax or lexical items to a higher level dominated by social interaction, dialogue and cultural understanding. Tourism can be seen as an outstanding manifestation of these complex elements". By following this understanding of language teaching it is essential to "cross borders" already in the development of learning and teaching programs as intended in the proposed project.

Dealing with dishes from other countries, even if basically on language level, will also encourage those in the hotel-tourism sector to foster the interest of students and their teachers in the culinary tradition of other countries. Skills and knowledge relating to food and drink and to their choice enhances the pleasure and enjoyment of eating and drinking. Such pleasures are central to gastronomic tourism which is developing as a subset of cultural tourism where the experience of participating in a different culture is central. The hospitality industry has a natural role in the provision of these experiences but it also has the opportunity to enhance the enjoyment of such experiences through the provision of relevant information. It is therefore appropriate that hospitality education and training include a gastronomy component in order to give students a greater understanding of the history and culture of food and drink (Dr. Barbara Santich, [4]. Very often it is the quick/immediate response to "simple" questions, such as when ordering meals from a menu in a foreign country, that initiates customer satisfaction and intercultural understanding. Thus, proper language use in the tourist/host interaction could enrich the tourist experience and satisfaction leading to repeat visits and increased tourist receipts. This paper gives an overview of the project *eCuisine* which is essentially aimed at reducing barriers to work mobility in the hospitality sector, foster language learning and intercultural awareness by supporting a flexible delivery mode, modern learning requirements with attractive and interactive e-learning materials and enriching the tourist experience and satisfaction.

1. *eCuisine* - interactive e-learning to enhance vocational conversation and intercultural awareness

This part of the paper focuses on the main features of the EU Leonardo do Vinci Transfer of Innovation project "*eCuisine* - A Model for Interactive Learning to Enhance Vocational Conversation and to Arouse International Awareness in the Hospitality Sector" [5] implemented during the period 2012-2014, the project No. 2012-1-AT1-LEO05-06979. The project involves 7 partners: Unternehmensberatung Heffeter (Austria, leading partner), Primrose Publishing (United Kingdom), Tourismusschulen Klessheim (Austria), Turiba University (Latvia), Vilniaus Kolegija (Lithuania), Srednja šola za gostinstvo in turizem Celje (Slovenia), Turistička i ugostiteljska škola Dubrovnik (Croatia) and GMS Hutter (Austria).

There are an increasing number of applications dealing with cuisine/cooking available in the style of traditional recipe books, providing information about ingredients, quantities of ingredients and ways of preparation. Those dealing with gastronomy give directions and recommendations for finding a nice place for dining, as well as make ordering easier/quicker for both guests and personnel, or allow payment via smartphone. There are no applications available though that would give more detailed descriptions about the ingredients or the ways of preparation, about the region in which the selected dish is traditionally prepared, and they say nothing of cultural and historic data or "stories" that change simple menu selection into an unforgettable adventure. The best solution would be to have such a collection of information easily, quickly and neatly arranged in a single application. This is one of the basic concepts of the project *eCuisine*, which is a project transferring knowledge and material established in existing language learning programs for schools and the wider field of vocational education and training into the field of gastronomy, hospitality and service. *eCuisine* expands the range of the UK developed language learning program *Tick-Tack* and the much elaborated EuroCatering Language Learning (ECLT) program.

Tick-Tack as such is basic software with multilingual word-processing facilities and structure for running various programs (e.g. business, travel) including the development of materials for conducting seminars, workshops and training courses in universities, schools and companies. Teachers and trainers are introduced how they can improve their effectiveness in using their respective business language more quickly and flexibly. This was the original idea in the Italian LdV project "*Tick-Tack-Tech* for technical engineers. On the other hand the project "EuroCatering Language Training" (ECLT) was designed as "A free language kit for professionals in the kitchen and restaurant" which is now available online in 7 languages (English, French, Spanish, Galician, Slovenian, Norwegian, Dutch). By relying on the structures

of the existing programs (esp. the *Tick-Tack* software) *eCuisine* is based on well implemented and widely tested program structures which helps to accelerate the progress considerably as development processes will not start at the very beginning. The learning concepts will be revised and adapted to the use of communication devices. Moreover the planned development of apps will be made applicable for the use on ordering devices in the catering and restaurant service.

The key objectives of the programme are following:

i) to support participants in training and further training activities in the acquisition and the use of knowledge, skills and qualifications to facilitate personal development, employability and participation in the European labour market - students of vocational as well as higher education institutions in the field of food and catering;

ii) to support improvements in quality and innovation in vocational education and training systems, institutions and practices - use a wide variety of flexible delivery modes, with attractive and interactive e-learning materials;

iii) to enhance the attractiveness of vocational education and training and mobility for employers and individuals and to facilitate the mobility of working trainees - creating an extended database that covers not only traditional recipes with ingredients and preparation methods but also interesting ethnic and cultural contexts, recommendations and advice thereby supplementing the knowledge base of future employees in the hospitality sector;

iv) to improve the quality and to increase the volume of cooperation between institutions or organisations providing learning opportunities, enterprises, social partners and other relevant bodies throughout Europe - the project involves 8 partners from 5 different EU member states including representatives of vocational education, higher education and the industry.

2. The project stages

The project will be implemented over a two year period and will include the following stages.

1. Analysing the national cuisine of 5 partner countries (Austria, Latvia, Lithuania, Croatia and Slovenia), selecting dishes that best represent the region and then preparing descriptions and word lists describing national cuisine in the national language.

2. Appending the dishes with a photograph and making short translations of the dishes into English.

3. Creating a set of study materials based on the data and description of the dishes and piloting the materials with students; developing a web app incorporating the data gathered on the various cuisines which could be used by the hospitality industry and the general public;

development of DVD learning software and training other teachers or trainers who would be involved in the programme after the project duration has come to an end thereby ensuring continuity.

3. Analysis and descriptions of the national cuisines

The national cuisine of Austria is in the centre of the project and the emphasis is not only on the analysis of the Austrian cuisine but also to make Austrians aware of their heritage and the opportunities of either work or tradition. Dishes are not just to be collected and translated as easily available in existing online dictionaries but also explained and described to enable people in the industry as well as in practice oriented educational programs to start vocational conversation with guests from project partner countries without barriers of grammar and vocabulary. Similarly at least 30 highlights of national cuisines of the partner countries were developed as well in their own language. The dishes were broken down into categories such as cold starters, soups, hot starters, main courses and desserts. The categories were chosen in accordance to how the same may appear on different menus. The descriptions included information regarding the type of dish whether it is vegetarian, meat, fish or a seafood dish, the ingredients, method of preparation, preparation time and ways of serving the dish. In order to address intercultural issues the descriptions also included information regarding the geographic region within country, the ethnic context and whether the dish can be compared to other dishes worldwide. The tourist satisfaction can also be enhanced by gathering information regarding recommendations and medical advice.

4. Translation of dishes into English

The dishes and their descriptions will be translated into English and (via English) into the respective languages of the partner countries. The project is meant to enhance mobility and cross cultural understanding by learning of languages especially on the applied knowledge of dishes, cuisines and culinary activities. The translations of the data base will definitely involve challenges, arising from the language diversity and specific features of the gastronomy-related vocabulary. Language barriers are mostly the reason for poor intercultural knowledge which is not developed enough to break down national borders and resentments. The project is therefore also intended to start intercultural curiosity via diminishing language borders and enhancing cultural and language diversity. The target groups will have the opportunity to use other EU languages particularly when dealing with traditional dishes and their original names which sometimes can not be translated word by word. The online availability of the program itself in the partner languages will encourage students to switch between the languages. This is encouraged

by the main idea of the program as being not grammar based but word list and text-module/boilerplate focused. Due to the easy access via electronical devices and the transfer of existing software products to modern communication systems as smart-phones with apps and training DVDs customers are also encouraged to try dishes that they would otherwise have a more sceptic approach because of language barriers and a lack of explanation.

5. Course methodology

The methodological/didactic approaches are based on the experience (strengths, weaknesses) from the Eurocatering Language Training (ELT) project. At the beginning an analysis was conducted to define the needs of the ones lecturing/training/teaching and personal features of the potential learners ("consumers"), their interests, motivation and language learning potential and eagerness to improve their language skills and their professional conversation abilities. As in a regular learning situation there is a face to face communication between teacher and student also in the non-physical situation of an online learning program.

Tick-Tack has broken these regular roles already with its pioneering approach and ECLT followed the principles of the constructivist theory for knowledge acquisition and the guidelines/evaluation criteria for good educational web based materials [6]. The focus is on real-life situations providing a vocationally oriented concept supported with intercultural aspects related to the addressed situations. The features of the learning plans for foreign language learning (workplace-related) at target schools were also taken into account to make the course applicable for integration into the curriculum.

The course designed within the project itself based on revised cognitive taxonomy (Anderson/Karthwohl) is split up into six modules that focus on various aspects of the data gathered on the national cuisine of all the partner countries. The modules are: Introduction, Geography, Culinary details, Intercultural relevant information, Gastronomic advice and Cross country comparison. The exercises designed for the modules take the students through the cognition ladder (remember, understand/apply, analyse, evaluate, create) and include numerous tasks based on excerpts taken from the various national cuisines. Tasks and exercises include reading/listening comprehension, gap fills, substitution as well as creative tasks.

6. Course piloting and trainer training

The course is presently being piloted at the partner institutions both at the vocational level as well as higher education level. After piloting and amending the course will be integrated/adapted into the existing curriculum for hospitality studies. Again it must be underlined that above course was just designed to test the usability of the data gathered

and that the easy access to the database via electronical devices and the transfer of existing software products to modern communication systems such as smart-phones with apps and training DVDs will enable educators and trainers to exploit the data gathered in innovative ways to better facilitate teaching/learning.

In the situation of an on-the-job learning process which is especially intended when working in the hospitality industry, it is not possible to have undisturbed learning opportunities. Learning happens in situations while taking orders from the guests and trying to explain cultural specifics of dishes or eating habits as well as the structure of typical menus. The role of the technical partners is especially to ensure the implementation of glossaries and explanations together with pictures produced by the enterprises/users themselves onto the hand held devices thereby enhancing the on-the-job learning process.

These outputs will be integrated into DVD software and simultaneously, in cooperation with partners from the industry, prototype apps will be designed for the use on modern communication devices through partnership with software engineering enterprise which has developed ordering devices for the restaurant use, which is an important and integrated part of the project.

The potential effectiveness of different solutions in relation to the needs of teachers in the hospitality and catering fields and how far they do or could exploit successfully the latest advances in technology and in digital communication play a key part in developing a teacher/trainer training course that would seek to obtain first-hand experience from teachers on the programs that they use and have found the most valuable, why they have adopted them in preference to others, what level of motivation they give to their students and how they use them in class.

Training teachers/trainers in the use of the new product will definitely produce the multiplicative effect and ensure that the outcome of the project is not a dead end story but a basis for new projects and they will carry on the development of learning materials for the hospitality industry in the future.

Finally, these outcomes are widely disseminated in seminars, workshops and presentations at educational institutions and fair with the aim of increasing awareness and raising interest in the project. The use of the apps is to be piloted in real praxis at associated partner restaurants. The presentation and publication of this paper itself is an example of one of the various avenues that could be employed in reaching a wider audience.

Conclusions

The project is essentially aimed at reducing barriers to work mobility, increasing international understanding and cooperation, supporting a flexible delivery mode, modern learning requirements with attractive and interactive e-learning mate-

rials. As its short term objectives it plans to:

1) increase language and digital skills of formal/informal learners;
2) update/adapt existing language learning software to innovate use in communication and ordering devices;
3) reduce barriers in language learning by offering an integrated approach to language and intercultural training, attractive and interactive e-learning materials supported by pictures;
4) arouse proudness of own culture and traditions.

The project closes the gap between various levels of vocational training which increases chances to participate in the much diversified field of tourism. Language skills are one of the most important factors for success in tourism for those who will work in services and to arouse the curiosity for learning and understanding new cultures. In the long term integrating partners from the EU helps to bring European members together even closer and in terms of tourism this integration of the regions will bring added value and welfare.

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