



TOULL – Tourism and Life-long Learning

PROBLEM-BASED TOURISM LEARNING

Principles, applications, experiences



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1 WHAT IS PROBLEM-BASED LEARNING?

Higher education – especially management education in hospitality and tourism – needs to adapt to the developments of the 21st century. To prepare students for their future careers, a new approach to education is required. Universities across the world has adopted problem-based learning as the basis for their educations: The Institute for Tourism Management has been working with Problem-Based Learning (PBL) since 2001, and Aalborg University has worked with PBL since 1974, and specially in tourism studies for more than a decade. PBL is a competence-based teaching and learning method. In essence, PBL is “A learning method based on the principle of using problems as a starting point for the acquisition and integration of new knowledge.” (Barrows & Tamblyn, 1980).

1.1 The core elements of Problem-Based Learning

Learning is student-centred - we want the students to take responsibility for their learning. As we cannot “fill in” the knowledge in the minds of students, we are convinced that the learner has to have the ownership of the learning process. For PBL-based universities, lifelong learning is not only a keyword, it is an attitude.

The beginning point for learning should be a problem that the learner wants to resolve. We use real-life problems as the motive and chief focus of student activity. It is important to us to confront the students with the challenges of today’s world.

Learning with and from others – collaboration is essential in tourism management and development. PBL offers the possibility to gain active experience with working in teams.

Teachers are facilitators – the role of the teacher is changed: they do not give lectures or tell the students what to do, nor do they tell them whether they are right or wrong. They ask questions, motivate the students to learn, and give feedback to individuals and the collective learning process.

Learning is a reflective process – to develop learning skills it is important to reflect on the individual and the collective learning progress.

1.1.1 Objectives of Problem-Based Learning

PBL pursues various objectives:

- students take responsibility for the learning process
- knowledge is pooled and integrated
- students learn competent use of resources
- students experience, test and subsequently possess a team-based problem-solving method
- students develop the ability to solve real-life problems in the tourism industry
- learning in small groups
- acquiring collaborative and team-learning skills
- acquiring skills necessary to organise their own work process
- students assess themselves and their peers
- meaningful presentation of expertise within time constraints

1.1.2 What is different?

Traditional learning model	PBL
Tutor gives answers	Tutor asks questions
First theory – then application	First the problem – then theory
Social and contextual factors are limited	Importance of social and contextual factors
Tutor determines working methodology	Step-wise procedure applied by learners

PBL is an educational approach where the problem comes first. The idea is that the starting point for learning is a problem that the learner wishes to solve. The aim is not simply to solve the problem, but rather to get students to search for the knowledge that they need to handle the problem.

Usually, in education, you are not confronted with a problem until you have acquired the knowledge to solve it. Therefore, many books will provide questions at the end of a chapter. If you properly study the chapter, you should be able to apply this knowledge and answer the questions. However, this process leads to a restricted or passive way of learning.

Short Story: A young boy is playing in the garden and discovers a beetle in the autumn leaves. He goes to his father - a biology professor--and asks him what kind of beetle he has found. The father examines the creature closely and responds: "This is a great find - I don't recognize this type but in my study on the second row of the bookshelf is a book with pictures of many different beetles." The boy goes off to find out what type of beetle it is. After some time, he comes back and says that it must be a 'May beetle'. The father replies: "That's a funny name, why is called a 'May beetle'? Does the book say anything else? And the boy goes off again..... (from a story told by Prof.Dr. Gerald Hüther at the aha Conference 2012)

PBL takes as their point of departure real-world cases. The function of these cases is to challenge students and motivate them to take responsibility for the learning process. They should realise what they already know about the problem and also identify the gap between their knowledge and the knowledge needed to find answers. They should then learn how to find the relevant knowledge and share it with others and start a collaborative learning process.

The PBL approach can be applied in different ways, depending on the institutional context. At the FH Wien PBL is an integrated and highly-structured part of the delivery of courses within the tourism programme. At Aalborg University PBL-style elements can be found in the courses, but its main role can be found in the projects written by groups of students that account for around half of the total time devoted to their study.

The following sections explain both versions of PBL in more detail, starting with the course-oriented Vienna version, and then moving on to the project-based Aalborg version. On the basis of this the final section of the text discusses the challenges of moving towards a PBL approach in universities with other pedagogical traditions, focusing in particular on issues associated with lifelong learning.

2 THE PBL COURSE AT THE FHWIEN UNIVERSITY OF APPLIED SCIENCES

The PBL course at FHWien is organised on the basis of the so-called Seven Steps of PBL. This sections first describes the seven steps, then defines the key roles of the participants, describes the structure of the PBL course, and finally explains the assessment and

2.1 How does it work? – The Seven Steps of PBL

On the one hand, PBL learning outcomes are determined by the learners themselves. On the other hand, the learning process is determined by seven steps. Depending on experience with PBL, the seven steps can either be very strictly followed within set time constraints or, with more experienced PBL groups, they can be adjusted situationally. But most importantly, the starting point is always a problem, typically presented in the form of a text. The problem is characterised by being

- a real-life problem
- adapted for educational purposes
- description of a number of interrelated phenomena or events
- ill-structured and complex
- can be connected to the needs of the learning group
- is attractive to the learning group

The seven steps are outlined in the table below, and then described in more detail in the following text.

Steps	To do	How	Suggested Time
Step 1	Clarify text and terms	Group work	5 minutes
Step 2	Define the problem(s)	Group work – Metaplan	10 minutes
Step 3	Problem analysis	Group work – Brainstorming	20 minutes
Step 4	Inventory of problems and solutions	Group work – discussion	10 minutes
Step 5	Formulate self-study objectives	Group work	5 minutes
Step 6	Self –study	Individual	Self-directed

Step 7	Conclusion, Synthesis	In group	30 minutes
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Step 1: Clarify text and terms

- deals with questions such as: Which are the difficult phrases or words? Does anyone know what XYZ is?, What do you mean by XYZ?
- aim: each group member should be able to read the material in the same way, providing definitions for any unfamiliar terms which may be obstacles to group work
- process: read out the problem and identify words with an unclear meaning. Prior knowledge of the group should be used or terms can be looked up. If they remain unclear, they then become a learning objective

Step 2: Define the problem(s)

- deals with questions such as: What is the real problem here? What are the underlying problem(s)?
- aim: different perspectives, different problem definitions
- requires as much input as possible from group members
- problems need to be formulated in an 'answerable' format
- this is a 'questions-only' step!
- process: individual query with cards

Step 3: Problem analysis

- deals with hypothesis: could it be that ... I assume that I suspect that ...
- aim: generate hypotheses of causes and mechanisms
- using prior knowledge; possible explanations, answers and/or solutions relevant to the formulated problem(s) should be found
- everyone should contribute to the discussion
- process: try to explain the problem(s) - often takes the form of a 'brainstorming'

Step 4: Inventory of problems and solutions

- deals with questions such as: how do the pieces of the puzzle fit together? What pieces are still missing?
- aim: tidy up, list possible explanations, rank hypotheses, eliminate hypotheses, results of the analysis so far are assessed, structure is added to the insights generated in steps 2 and 3, define the limits of knowledge
- process: systematize the ideas with a mindmap

Step 5: Formulating self-study objectives and set priorities

- deals with questions such as: what do we need to learn?
- aim: a clear set of objectives for the individual self-study activities, defines what needs to be researched/measured/understood
- provides a clear indication of when to be satisfied with your efforts
- S.M.A.R.T. formulation could be useful here
- add an indication of sources to be used as a starting point
- make sure the set of objectives is complete (i.e. they ensure a solution of the problem in the final step).
- process: list the self-study objectives

Step 6: Self-study

- using the set of study objectives, group members work individually
- each student usually sets out to pursue all study objectives
- planning and devising an effective study strategy are important skills here!
- do not lose sight of the main goal!

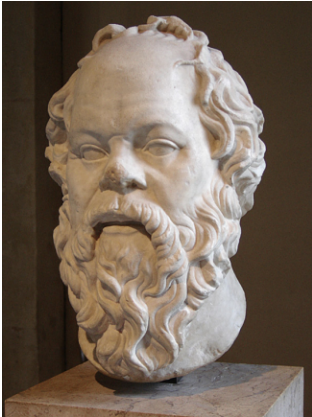
Step 7: Conclusion

- deals with questions such as: What have we learned? Have we found a satisfactory solution to our problem?
- aim: agreement on explanations/answers found, and on detail and depth of understanding of the related subject matter. If unsatisfied, the group may reformulate further study objectives!
- process: Each member presents his/her findings for each of the study objectives, in-depth questions and explanations, discussing inconsistencies and clarifying confusion

2.2 PBL Group Roles

Within the highly-structured PBL environment, the participants perform different roles in order to drive the process forward. The roles are outlined in the table below.

<p><i>The Student</i></p>	<ul style="list-style-type: none"> • is responsible for the individual learning process • is responsible for using his/her own resources • is responsible for using the resources of the group • reflects on his/her own behaviour and the group dynamics
<p><i>The chair-person</i></p> <ul style="list-style-type: none"> • is a student • the role rotates every week 	<ul style="list-style-type: none"> • leads and chairs the group (welcomes the participants, plans the agenda, responsible for the timetable) • proposes the methods of working • passes the floor • summarizes the results – visualizes the results • maintains an overview
<p><i>The Note-taker</i></p> <ul style="list-style-type: none"> • is a student • the role rotates every week 	<ul style="list-style-type: none"> • summarizes the content on flip-charts / whiteboards • documents the discussion • maintains eye-contact with the leader • provides a written summary of the group meetings as well as the defined learning objectives and work packages • posts the team reports on the Moodle communication platform
<p><i>The observer</i></p> <ul style="list-style-type: none"> • is a student • the role is optional • the role rotates every week 	<ul style="list-style-type: none"> • observes the process in the group and of each individual person • remains in the background and gives no comments on the content • gives feedback to the group and to each individual team member 10 minutes before each session ends
<p><i>Tutor / Facilitator</i></p>	<ul style="list-style-type: none"> • is responsible for the working atmosphere • is responsible for the structure • lays down rules and regulations • helps to explain new methods of working

	<ul style="list-style-type: none"> • asks questions and challenges assumptions • engages in learning activities • motivates / challenges students • ensures that the students are 'on track' • does not provide 'mini-lectures' • does not lead the discussions • deals with group dynamics • ensures constructive feedback • provides feedback on the group learning process • provides feedback on the individual learning process • evaluates the results of the learning process
<p><i>External Expert from the business world</i></p>	<ul style="list-style-type: none"> • evaluates the results of the group work • gives feedback
<p><i>Organisation</i></p> <ul style="list-style-type: none"> • the teacher • course administrative staff 	<ul style="list-style-type: none"> • organisation of the schedule and the rooms • organisation of the learning platform

2.3 Structure of PBL course at FHWien

One PBL course consists of seven 90-minute units. Classes are held weekly. Students receive the case study after the introductory workshop via the Moodle learning platform before the second PBL meeting starts.

Students read the case study individually ("confrontation") and compile a personal "micro-article". Each micro-article includes the following three elements:

1. History and Background (Briefly describe the circumstances of the case)
2. Graphical representation (Draw a chart representing the subject matter)
3. Relevant questions (Impulses: Are there any unanswered questions?)

Completed micro-articles must be posted on the platform by 6 pm of the day before the second PBL meeting and must be brought to the second meeting in printed form. The micro-article serves as a basis for content-based study.

In the first meeting, an introductory workshop on PBL is held. The tutor explains the PBL-system, PBL-roles and the concept of moderation and facilitation. The students allocate the roles of chairperson and notetaker.

units	Objective/Content	Method	Tutor
0.0. ex ante	Presentation of PBL; first impressions of PBL	Individual information about PBL: 1. PBL-Film: http://www.youtube.com/watch?v=gE04TbxQWS8 http://www.youtube.com/watch?v=gE04TbxQWS8 2. Handout for PBL 3. PBL Moodle Platform	-
1. meeting	PBL presentation; benefit & sense of PBL	Introductory Workshop and Team Building: - What is PBL? - How does it work? - roles in the PBL sessions - moderation tools - principles of feedback - evaluation and assessment - process & organizational matters - rules of cooperation - questions for reflection paper	Input & exercises in small groups with the PBL-tutor
1.1. at home	Case study	Individual work: - read the case study - Micro-article-template	
2. meeting	Observation (1): perceive & describe (step 1 to 5)	Teamwork/moderation: 1. Query with cards to history: collect and arrange on a pin board 2. Common picture on whiteboard 3. Open questions 4. What is the problem? Mindmap 5. Previous knowledge and missing knowledge: Brainstorming 6. Formulate 2 – 3 learning objectives 7. Hints for individual work	Focus: Analysing the problem "Time-out-Joker" for the tutor
2.1. in between	Collect information Individual work (step 6)	Individual work: Literature and internet research (utilization of theory, models and concepts)	
3. meeting	Observation (2): perceive & describe (step 7 and step 1 to 5)	Teamwork/moderation: 1. Exchange of information: 2 – 3 posters (per learning objective) catchwords, exchange and reconciliation 2. By today´s view: What is the problem? à 2/3 small groups: formulate learning objectives; in a plenum: combining & sorting 3. Tutor: Critical questions (in relation to the learning objectives and the mindmap of session 1.0, point 4) 4. Define the work tasks and organise it in subgroups	Focus: The tutor takes over the role of the devil´s advocate Analysing the problem "Time-out-Joker" for the tutor Questions about utility and adequacy of models and past outcome

3.1. in between	Collect information Individual work (step 6)	Research & elaboration of the learning objectives	
4. meeting	Analysis & Generation of possible solutions	Teamwork/moderation: 1. Presentation of the preparation 2. What could the solution look like? Plenum in the whole group; mindmap 3. What is useful in the preparations? What is missing? Brainstorming	
4.1. In between	Collect information Individual work (step 6)	Work out different aspects for the solution	
5. meeting	Concentration on evaluation & argumentation	Teamwork/moderation: 1. Presentation of the preparations on a flipchart (done by the note-taker) 2. Reality check & argumentation "role play"; students take over the role of the company representative: critical questions from the viewpoint of the company representative – group gives reasons: Is it acceptable, useful?	Focus: Critical questions
5.1. in between	Development of the solution Small groups	Individual and group work	
6. meeting	Decision and realization	Teamwork/moderation: 1. Argumentation and Structure of the solution on flipchart within the group 2. Presentation – who & how 3. Preparation of the presentation	Focus: Critical questions
6.1. In between	Preparation of the presentation Small groups Individual work: Reflection paper	Finalization of the presentation Creation of the PPP Send the solution paper to TM@fh-wien.ac.at + Upload on Moodle; one day before presentation at the latest! Reflection paper Tutor gives the questions at the beginning of PBL Send the reflection paper via e-mail to the tutor; one day before presentation at the latest!	Individual feedback
7. meeting	Presentation and discussion with a company representative	Presentation of the solution Discussion with a company representative	Moderator
8. meeting	Feedback of the process	Reflection within the group on - the whole process - the lessons learned	Feedback and moderation

2.4 Assessment

Grades are awarded according to the Austrian system of assessment (1 to 5, with 1 being the highest and 5 representing a fail).

There is a compulsory attendance requirement for PBL courses. If attendance is below 75 % of the course or if their PBL course grade is negative, the student has to hand in a written compensation work of about 10 pages. The topic is provided by the tutor.

The tutor continually assesses the students:

a) Quality of work

- well formulated Micro-article
- quality of individual work
- student delivers individual work on time
- quality of the reflection paper
- student makes creative and reflective contributions

b) Interaction within the group / dealing with differences & conflicts:

- student participates in class
- student recognises and understands his/her strengths and weaknesses
- student listens actively to colleagues and joins in discussions
- student contributes to a climate of trust and supports others
- student shows the ability to reflect on his/her own behavior
- student shows the ability to reflect on the group process

2.5 Reflection

In order to improve the capacity of participants to benefit from future PBL courses, students are encouraged to reflect on the following questions after the first PBL course:

- What have I observed / experienced?
- What have I learned/realized/will I change?
- What role did I take within the group?

Similarly, after the second PBL course students are encouraged to reflect on the following questions:

- What have I learned methodically?
- What / who over the course of the work process most developed me? And how?
- What / who over the course of the work process most hindered me? And how?
- What have I learned in relation to the group or my behavior in groups?
- Projects for other PBL groups

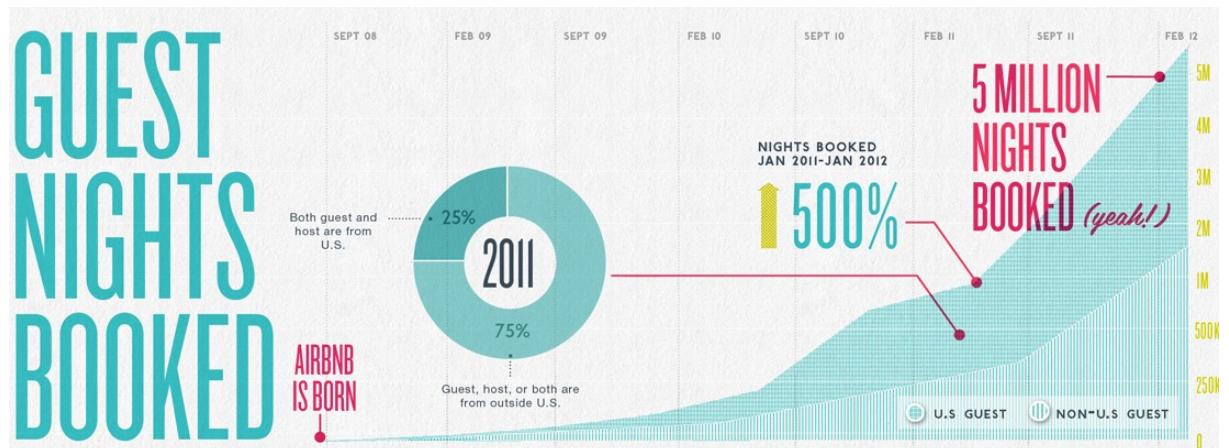
Finally, for students with more experience in PBL activities, the following questions need to be reflected on:

- How would I assess my contribution to the solution of the case studies within the team? (quantitatively in %, qualitatively descriptive)
- How would I characterize my personal development areas / strengths in teamwork?
- What were the differences between case one and two? Name the criteria at the level of group/ process / course / person / atmosphere etc.
- What is the central conflict of this group? How does this conflict manifest itself?
- What are the strengths / areas of learning of this group?

2.6 PBL Cases Examples

2.6.1 Air bnb – find a place to stay

Mag. Rainer Ribing, Managing Director of the Federal Economic Chamber Sector Tourism and Leisure, is looking at this diagram:



He observes the growing activities of private accommodation skeptically. As a representative of the hotel industry, he asks himself: "How large is this market actually already in Austria? What about the legal aspects? How can the official hotel industry react? This development is to be taken very seriously, and we should find answers quickly!"

Homepage: <https://www.airbnb.at/>

Film: <https://www.airbnb.at/home/press>

In cooperation with:



2.6.2 Business Model with a Future

On 30th October, 2011: Mag. (FH) Martin Schaffer, Managing Director of Kohl & Partner Wien, reads this news item:

"Health tourism plays a major role in Bavaria and translates to 40 billion euros per year. The growth rates are 2 to 3 percent annually. The share of gross domestic product is around 10 percent. In the future, more and more wealthy Russians and Indians will fill hotel beds in Bavaria."

Alexander Sergejevich Pushkin, an entrepreneur from Russia, suffered a stroke in October. Since then he is no longer able to walk, suffers from double vision and speech difficulties. Rehabilitation is urgently needed and he requires physical and speech therapy. Furthermore, his doctor has prescribed plenty of rest (the entrepreneur used to work 7/365 for his company.) Alexander wants to have the best possible care and decided not to be treated in Russia as he is being forced to keep his distance from his business activities. There are some countries in Europe that have an excellent reputation for their healthcare provision. Money is no object in his recovery and he wants his wife and three daughters to be by his side during his treatment. In addition, they should be able to enjoy a relaxing holiday while Alexander is being treated.

In cooperation with:



3 PBL-BASED PROJECT WRITING AT AALBORG UNIVERSITY

At Aalborg University PBL-style elements can be found in the courses in form of case-studies used as part of the pedagogics of teaching e.g. tourism marketing, but its main role can be found in the projects written by groups of students that account for around half of the total time devoted to their study. Here students define their own problems and work under the supervision of staff in order to develop the best possible project report on the topic of their choice.

3.1 The process of project writing

3.1.1 Project beginnings

When the study courses are well under way, students are encouraged to think about topics for projects and form working groups around this. The starting point is mostly a combination of two factors

- a shared interest in particular aspects of courses students are attending
- a real-life problem that puzzles students (e.g. a marketing campaign, new forms of tourist behaviour, lack of innovation in a destination)

3.1.2 Defining the problem

Students groups are assigned a supervisor who takes on the role of dialogue partner for the duration of the project period, typically two months from beginning to hand-in of the written text. The first task of the project group is to become clearer about what the problem is, similar to going through steps 2-4 in the Wien model. This is typically done through brainstorming discussions and results in a draft introduction to the project, setting out

- what the problem is perceived to be
- why this is relevant in relation to the academic literature and the tourism industry
- (sometimes even) what possible solutions to the problem may be

This text is discussed with the supervisor and revised, often more than once.

- Is 'curious', seeks to explore a 'problem' (not aimed simply at describing or giving an account of a phenomenon)
- Is original (rather than copying what has been done before).
- Is academic (as opposed to commonsensical, non-theoretical)
- Is relevant
- Is properly contextualised
- Has a clear focus
- Is written in precise language, formulated in a few lines
- Is an open question (not calling for a simple 'yes' or 'no' answer)
- Is possible to answer
- Is properly reflecting what is actually in the project report and, eventually, the conclusion.

The table above (from Thomsen & Zhukova Klausen, 2012, p. 6) sets out some important criteria for students to judge what a good problem formulation could be.

3.1.3 Planning project work

Having defined the problem at the core of the project, the next steps are to develop a strategy to illuminate it. This involves three types of considerations (similar to steps 5-6 in the Wien model):

- to identify a conceptual/theoretical framing suitable for the problem at hand, and agreeable to the participating students
- to develop a method through which the problem can be illuminated (what data should be collected, and how)
- searching for studies of similar problems in the academic literature



This is a phase where reading and discussions between students about what they have read take up a lot of time. Looking at the existing literature often provides positive or negative inspiration for both conceptualisation and methods, because students identify strengths and weaknesses of what has been done in similar situation – and become aware of how their case is different from what has been studied so far. But students also bring to the project their knowledge from previous courses and projects: concepts they have felt worked well, methods they feel competent about, and so this is still a creative phase of the project.

The role of the supervisor is to respond to ideas of students and provide concrete comments on draft sections of the project, not to provide ready-made cook-book solutions. Ready-made solutions would also be difficult to apply to individually designed projects with unique problem formulations, so the role of the supervisor is primarily to provide Socratic dialogue and questioning, rather than knowing all the answers.

3.1.4 Illuminating the problem

Midway in the project process, attention will turn to illuminating the problem, something which involves two types of activities:

- gathering data on the basis of the chosen methods in order to improve the understanding of the problem: text, interviews, photos, official reports, business accounts, ...
- analyse the data on the basis of the conceptual framework identified as most suitable for the problem

This phase is typically characterised by increasing time pressure, as students become increasingly aware of the deadline for handing in the finished project report.

The role of the supervisor is primarily to comment on draft sections of the analysis in a detailed and constructive manner.

3.1.5 Finalising the project report

The last couple of weeks students will spend on bringing together and editing the project into a coherent text, bearing in mind formal requirements about style, formatting etc. The role of the supervisor is here primarily to read drafts, specially of concluding sections, to comment on the coherence of the argument put forward.

Introduction	Purpose, problem formulation: - What is the problem that this project seeks to explore? - Why is this a relevant/topical/interesting problem?
Method	Method(s) of analysis/approach: - How will you approach and explore this problem? - Why did you choose this particular research design (incl. particular kinds of sources/data)?
Theory	Presentation and critical discussion of theories relevant to the identified problem.
Analysis	Critical use/discussion of data and sources. Make sure to apply theory actively in your analysis. You may choose to include discussion in your analysis or separate these into different chapters.
Conclusion	Summary of findings, answering questions posed in the introduction.
List of references	Works cited.

The table above (from Thomsen & Zhukova Klausen, 2012, p. 4) sets out the sections typically found in project reports, and the function they have in relation to addressing the problem.

3.1.6 Assessment

Assessment of written projects takes the form of an oral exam where students present and discuss their work with two assessors: their supervisor on the one hand, and an academic colleague or graduate practitioner on the other hand. The students get individual marks, but these relate to the text and the oral performance, not the preceding process of writing the text. Marks reflect the degree to which academic standards are met, but discussions will also revolve around the practical implications of the work in terms of development of tourism activities.

Students also have the possibility of assessing the supervision process, so that all parties involved are prompted to reflect on what might be improved next time around.

4 IMPLEMENTATION OF PBL IN RUSSIA

The transition of the Russian educational system from one-stage to two-stage (Bachelor's and Master's Degree) was officially launched nationwide in 2011. Moreover, the new Federal National Educational Standard for Higher Professional Education decreed that education should be oriented towards skills as the key learning outcomes, and that skills rather than knowledge should be tested in final assessments.

Launching a new Master's Degree Program in Tourism in Siberian universities brought two major challenges: Teaching a program in an applied and practice-oriented major (compared to more academic and theoretical majors) and teaching a new type of students who already had their first degree as well as working experience, and thus were more interested in learning practical skills rather than being lectured. Thus, the faculty staff realized that they needed a new teaching methodology with PBL appearing to be the perfect solution.

4.1 Motivation

Siberian universities launched PBL because it offers an improvement in training in accordance with the modern requirements of the tourism market. The PBL method provides for students to actively participate in seminars and allows digestion of trained material thereby helping to make studies more profound as well as to analyse problem situations. Research in the context of different approaches has shown that it is beneficial to learn both theoretical and practical aspects, which together provide a more comprehensive understanding. Knowledge which is used in the context of problems is more valuable than knowledge that simply satisfies structures of individual disciplines. Participating in the TEMPUS TOULL Project offered academic staff a possibility to improve their work and results, as well as increasing their motivation for life long learning and personal teaching quality. .

4.2 Implementation steps

After visiting Aalborg (March 2013) and Vienna (March 2014), teaching staff from different departments within Russian universities participating in the TOULL project conducted methodological seminars at their departments as well as at the faculty level. In these theoretical trainings a detailed study of general requirements for cases compilation was conducted. Furthermore the methodology of cases compilation and implementation in the educational process were discussed.

Staff acknowledged the advantages – and also the challenges - of the PBL approach and started working on adjusting courses to include PBL-oriented modules and tasks. In this stage, companies for cases compilation were selected and an agreement concerning participation in joint cases - providing necessary information, materials and interviews - was concluded.

As an initial step in implementing PBL, mostly practice-oriented classes were chosen. In the process of revising their curricula, several departments were encouraged to contemplate ways of merging PBL into their syllabi. In this phase it was important to develop a number

of different cases, to familiarize students with PBL and to conclude agreements on invited experts' participation as representatives of business.

Moreover, the new Federal State Educational Standard for Higher Professional Education requires at least 5% of the contact hours to be taught by industry representatives, who in turn should also make up at least 30% of the State Examination Board. This Board has the authority to decide on awarding the degree upon the defense of the final thesis. Due to the introduction of PBL, the Tourism programs participating in the TOULL project were among the pioneers to meet these requirements.

4.3 Change in learning environment

PBL classes represent a shift from the methodology Russian students are generally used to from their first degree. Teachers have reported an increase in student interest and learning motivation since – after working on a few PBL cases – students realise how subjects can actually be applied in practice and at the workplace. Students learn much more than just the theory; in addition they build skills such as teamwork and responsiveness towards the final outcomes of their activity, since they are given freedom to work independently on their cases.

Thereby, from the students' perspective, motivation has grown and analytical skills are enhanced. Students obtain practical skills that can be applied in solving problem situations in business. Furthermore, they learn to master situations with their personal skills in realistic situations. This has led to a change in student behavior, with them being generally more attentive and more serious about tasks. In some cases there was even rivalry as to the complexity of the chosen problem and how to defend it. All in all students have become more active and creative.

On the other hand, teachers have become coaches and advisors and have thereby increased their work motivation as well as the possibility to increase their professional and career potential. Furthermore PBL has radically influenced lecturers' understanding of the practical orientation of training.

Employers have come to find that the graduates who have been introduced to the PBL method are equipped with practical skills, and thus can get down to work immediately after hiring with minimal in-job pre-training. This is a stark contrast to the majority of Russian university graduates who have very profound theoretical knowledge but may have no experience of using it in practice. In conclusion PBL relies on and enforces a change in academic culture.

4.4 PBL cases and assessment

The PBL method is used both in regular classes for the assessment of the knowledge and skills that the students have acquired upon completing separate modules of the course, as well as for final assessments in some classes (most suitably in those that end without a grade ie. pass or fail).

PBL cases that are used for module assessment are usually assigned to be solved and presented for the next class; the presentation is followed by discussion of the results. In

some classes students are required to solve the case directly in class (with 15-20min preparation).

When cases are used for the final assessment, they are usually presented at the very beginning of the course or after the introductory module and before the key practice-oriented module. Students present their solutions to the case in one of the final classes where industry representatives are normally invited, and sometimes other teachers from the department and/or students from some other groups attend the presentation as well.

Students are provided with guidelines and a list of reference for work on the case, may seek advice and assistance from the staff involved in teaching the course (in consultations or via e-mail).

As far as the involvement of industry representatives is concerned, some of the courses are taught completely by industry representatives; in other courses lectures are delivered by university staff while seminars are delivered by industry representatives. Furthermore, there are a number of courses where the industry (or the region's administration) representatives are not employed, but are invited to give lead-in classes, and/or present the PBL cases, and/or participate in discussions.

4.5 Problems & challenges

While Russian educational standards are quite flexible in allowing teachers to use any method they find appropriate for the teaching process, the final assessment regulations are much more rigid. Although PBL can be used relatively autonomously in classes, within the current standards of higher education it is hardly possible to use PBL for assessments, especially for courses with summative assessment in the form of a final exam. Therefore, the rigidity and degree of standardization of Russian curricula has so far been an obstacle to the general use of PBL in higher education (though it should be noted that Master's Degree standards are much more flexible than those of Bachelor's Degree programs). Due to these reasons it has been easier to implement PBL during summer school because here a less academic or more creative design is more accepted.

Furthermore, Russian academic culture has certain traditions. On the one hand in many subjects and for some lecturers this means that students "are taught" rather than "are learning" and thus the new methodology could be problematic until there is a change in teaching culture. This in turn will probably call for a whole generation of teachers and might thereby solve the problem of teacher's lack of motivation to develop cases, too. On the other hand analyzing the cases is difficult for students, who are not used to thinking independently, e.g., to identify the problem. Therefore students often wait for lecturer's instructions on which material should be studied or which is the correct decision. Russian students describe PBL as "overwhelming" and "difficult" because they were unsure of what to do or whether their doing was correct. It will presumably take time to achieve a shift in attitude from being the recipient of relevant knowledge from teachers to acquiring necessary competences as a result of one's own actions and decisions.

A further challenge is that some teachers believe that students' PBL results are not important for industry representatives. There seems to be a lack of regional tourism and service companies who are interested in participating in the academic educational process. Only a small number of business representatives show a real interest in this

method and student's solutions of cases. It is important that everybody accepts PBL beyond a laboratory setting or an artificially constructed situation. Moreover Russian contracts for lecturers include almost only teaching hours but no preparation time. Therefore professors experience an "additional workload" that so far is not compensated which leads to a lack of time spent systematically organizing and developing PBL classes and cases. Less teaching obligation would provide more freedom and flexibility to prepare PBL and share experiences with colleagues.

4.6 Future steps

For the programs where PBL is already in use, one goal is to find companies that will not only provide cases for PBL classes but also expect some solutions or ideas that they will be willing to apply in their practice, as well as cooperate on in terms of further analysis and discussion of results and outcomes. Another goal is to improve interaction with business partners and offer more contacts to the companies and experts.

One of the participants, KemSU, is currently considering a thorough revision of curricula of a Bachelor's Degree program (Document Management) that is having problems enrolling students despite excellent job opportunities. By emphasising PBL and thereby practical learning methods, the management hopes to revive the program.

PBL is considered an effective tool for organizing qualification updating and professional retraining programs. Both will be expanded to make programs more competitive in regional markets, e.g. in the cluster project "tourism and recreation cluster of project", an organisation that is responsible for training and retraining of tourism industry staff.

4.7 Cases

4.7.1 English for Professional Communication in Tourism

This course comprises 4 modules, each involving training various communicative activities in combination. **The purpose** of the course is to develop communicative skills necessary to solve professional problems in professional communication (the sphere of tourism) in English.

Module 1 . How to succeed in business and build a career in the field of tourism

Topics: Professions in the tourism sector. Types of companies in tourism. Russian and international tourism organizations. Own business in tourism.

Module 2: How to choose the services that meet customer expectations best

Topics: Services in the field of tourism. Types of hotels. Service at the hotel. Types of restaurants. Service in the restaurant. National cuisine. Transport (transfers).

Module 3: How to solve problems with payment

Topics: Financial transactions in the tourism sector. Basic types of transactions. Means and forms of payment. Features of banking services in different countries. The security problem in modern means of payment. Currency transactions.

Module 4: How to promote Kuzbass in the tourist market

Topics: Historical, cultural, and tourist and recreational potential of Kuzbass. Kuzbass: the history of discovery, geography, population, religion, transportation, economy. Prospects for the development of tourism in areas of Kuzbass. Tourist destinations.

The syllabus was originally designed for the short-term programme “English for Professional Communication (Tourism)” within the TOULL Project and is now the core of the course in the English Language within the Master’s Degree program in Tourism at Kemerovo State University. The example below is a case designed for current progress assessment purposes and intended to be solved upon completing module 3 (international payment issues):

While staying at a resort in the Caribbean your customer Yevgeny Sidorov transferred \$500 to the account of a foreign company Beettwin, which provides virtual platform for gambling. According to the terms and conditions posted on the website of the company, the money is to be transferred to a virtual online account of the user. Transaction was performed by means of an electronic payment system using customer’s credit card. After crediting the account it turned out that a company incorporated in the Cayman Islands, does not work with clients from Russia. Mr. Sidorov was not able to withdraw his funds from the virtual account back to the card. He has not good enough command of English and asked a representative of tourism company (actually, the only his compatriot in this hotel) for help in conducting telephone conversations about the possibility of returning his cash.

To solve the problem of the client, you need to figure out how it is possible to return the transferred funds, what the conditions for a reverse transaction are, what information must be submitted by Mr. Sidorov to the company Beettwin etc.

Russian travel company representative agreed to help his client, because he understood at this moment the prestige and reputation of the tour company and customer confidence in the qualifications of its staff were in his hands!

4.7.2 CASE Irkutsk

<p>Мнение Ю.А. Перельгина (Президент Национальной гильдии градостроителей, директор Фонда «Иркутская слобода») таково : «... инвестиционная эффективность таких проектов достаточно высока – на 1 руб., вложенный государством, мы можем получить до 10 руб. частных инвестиций.</p> <p>Стоимость объектов зависит от квадратных метров, в среднем – около 20 млн. руб. 90% затрат на строительство внутри квартала покроят вложения инвесторов, а за 10% вложенных государственных средств муниципалитет получит 40% нового качественного городского пространства и недвижимости.</p> <p>Порядка 60% территории может изначально застраиваться частными инвесторами. В целом объекты должны окупиться за 10 лет. Наиболее короткий срок окупаемости предполагается у стилизованных объектов нового строительства – примерно 5-6 лет. Окупаемость объектов исторической застройки варьируется от 7 до 10 лет в зависимости от типа арендной ставки. Коммерческая эксплуатация подземной части может окупить вложения в ее строительство за 7–10 лет. Объекты, строящиеся инвесторами «для себя», будут ориентированы на обслуживание горожан и повышение статуса владельца. Многие объекты будут коммерческими (торговля, гостиничная деятельность, развлечения и досуг) и будут на постоянной основе платить налоги в городской бюджет. Бюджетная окупаемость проекта высока. По эффективности «130 квартал» в несколько раз превышает создание любого производства»¹.</p> <p>Вопросы к кейсу:</p> <ol style="list-style-type: none"> 1. Сложилось ли в России более или менее общее представление о творческих кластерах? 2. Какое разнообразие представлений сложилось в урбанистике? 3. Расчёты, которые здесь приведены – являются ли они адекватными? 4. Характеризуют ли они только 	<p>Case "Irkutsk Sloboda" (130 kvartal)</p> <p>The opinion of Y.A. Perelygin (the President of the National Guild of Urban Planners, the director of the Fund "Irkutsk Sloboda") is the following: "...the investment efficiency of such projects is quite high as for each 1 rub., invested by the government, we can get up to 10 rubles of private investments.</p> <p>The cost of facilities depends on the number of square meters that is, on average, about 20 million rubles. 90% of the construction costs inside the kvartal could cover all the private investments, and for 10% of the invested public funds the municipality could receive 40% of the new high quality urban space and real estate.</p> <p>About 60% of the territory may be initially developed by private investors. In general, the construction objects could be paid off in 10 years. The shortest payback is assumed to be of the new stylized constructions which takes usually about 5-6 years. The payback on the historic buildings is ranging from 7 to 10 years depending on the type of rental rates. The commercial exploitation of the underground part can pay off its construction investment in 7-10 years. The objects constructed by investors "for their personal aims" will focus on the services for citizens and improving the status of the owner. Many of the objects are commercial ones (trade, hotel business, entertainment and leisure) and will be regular taxpayers to the city budget. The budget payoff of the project is also quite high. In general the project "130 kvartal" is much more effective than the creation of any other type of production."</p> <p>Questions to the case:</p> <ol style="list-style-type: none"> 1. Has there any more or less general idea of creative clusters been formed in Russia? 2. What variety of ideas has been developed in the urban planning? 3. Are the calculations presented here
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¹ Перельгин Ю.А. Городская среда и общество / Ю.А. Перельгин [Электронный ресурс]. –

Режим доступа : <http://www.gisa.ru/74190.html>. – Загл. с экрана. – Дата обращения: 4.12.2014.

<p>региональные особенности или это процесс – сугубо российский?</p> <ol style="list-style-type: none"> 5. Каковы варианты трансфера этой технологии? 6. Какова региональная специфика? 7. Сильные и слабые стороны региональных проектов? 8. Успешность иркутского проекта (в том числе финансово-экономическая)? 9. Экспертные оценки проекта «130 квартал»? 10. Может ли реализация этого проекта стать типичной для городов Сибири? 	<p>adequate enough?</p> <ol style="list-style-type: none"> 4. Do they characterize only regional peculiarities or is this process purely Russian? 5. What are the options for the transfer of this technology? 6. What are the regional characteristics? 7. What are the strengths and weaknesses of the regional projects? 8. Is the Irkutsk project successful (regarding financial and economic benefits)? 9. What is the expert assessment "130 kvartal" project? 10. Can this project be typical for other Siberian cities?
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5 PBL CHALLENGES IN GENERAL

In an ideal world where learning is the only thing that matters for everyone, PBL would be widespread throughout the education system. In the world we live in, PBL to some extent challenges existing traditions, practices, and world views. In order to progress PBL, a series of issues need to be borne in mind and addressed:

- If *students* have grown up in an educational culture where they are the passive recipients of the wisdom of teachers, then taking active responsibility for their own learning will be difficult. This suggests that it is important to
 - structure PBL activities so that students start by following a script (e.g. the seven steps) so that expectations are made explicit and clear
 - persevere in the face of student reluctance, on the expectation that once they experience added learning benefits, they will appreciate the new approach
- If *teachers* have worked in an environment where knowing about the substance of the field of specialism was central, then becoming a process manager and dialogue partner for students could be difficult. This suggests that it is important to
 - ensure structured training for teachers so that they feel more comfortable with their new role
 - to have ongoing dialogues with colleagues to ensure that experiences, good or bad, are shared
- PBL needs to be integrated in the *curriculum* of the study programmes, otherwise students and teachers may see it as result of the individual whims of teachers or something extra that are only for particularly interested ones
- Before starting PBL projects it is important to inform the students about the process, the advantages and the challenges of PBL.
- *Resources* need to be made available for PBL activities. It is more difficult to motivate teachers to supervise, if these activities are not seen as part of their workload by the department/university. And it is more difficult for students to engage in PBL activities, if facilities in terms of meeting rooms and library resources are insufficient.
- *External networking* with industry partners is crucial for the success of PBL activities, because it helps provide a ready flow of problems and issues to deal with for the students, and also helps convincing them at PBL is not just good for their learning, but also for their future career.
- It is useful to reflect on the learning process on an ongoing basis and at the end of the project.

All in all, for departments and universities, PBL is an investment in the future. But, speaking on the basis of experience from Vienna, Aalborg, and many other PBL-oriented institutions around the world – it is an investment in better education that pays off for students and universities alike.

6 LINKS

6.1 Problem-Based Learning Networks

<http://edineb.org/> (Educational Innovation in Economics and Business)

<http://www.ucpbl.net/> (Aalborg University)

<http://www.facilitate.ie/> (A PBL Network)

<http://feedback.bton.ac.uk/pbl/pbldirectory/index.php> (PBL Directory)

<http://ctlit.ubc.ca/programs/communities-of-practice/problem-based-learning-network/>
British Columbia

<http://pbln.imsa.edu/> (The Illinois Mathematics and Science Academy (IMSA))

6.2 Problem-Based Learning Examples

<http://www.siumed.edu/dme/> (Problem Based Learning Initiative-Southern Illinois University School of Medicine)

<http://www.udel.edu/inst/> (University of Delaware)

http://www.hku.hk/speech/pbl/Guided_Tour/guidedtour.htm (University of Hong Kong)

<http://www.materials.qmul.ac.uk/pbl/> (Queen Mary, University of London)

[http://www.en.aau.dk/About+Aalborg+University/The+Aalborg+model+for+problem+based+learning+\(PBL\)/](http://www.en.aau.dk/About+Aalborg+University/The+Aalborg+model+for+problem+based+learning+(PBL)/) (Aalborg University official PBL guide)

6.3 PBL in Life-Long Learning Examples

<http://coventryuniversity.podbean.com/2007/06/25/problem-based-learning-maggi-savin-baden/> (Coventry, UK)

<http://fhs.mcmaster.ca/globalhealthoffice/video.html> (West Indies)

www.wifi.at/lernen (WIFI, Austria)

6.4 Journal

<http://docs.lib.purdue.edu/ijpbl/> (The Interdisciplinary Journal of Problem-based Learning)

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