

Problem Based Learning Package

The Problem Based Learning Package was developed by learn@wu, <http://learn.wu-wien.ac.at> adapted for dotLRN by Knowledge Markets, <http://www.km.co.at>

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Introduction

The concept of problem based learning (PBL) is based on the learn theoretical principles of constructivism. PBL was originally developed in the 1950's in the area of health care science. In PBL systems, learning is always based on a real or constructed problem. Starting from this problem, learners acquire independently the knowledge needed to finally develop a solution. The teacher has in this connection the role of a coach, who helps answering subject-specific questions and on the other hand controls the learning process.

The main characteristics of PBL are:

- In the center of PBL is always a real or a possible real problem.
- There are various possible and valid solutions.
- Working and learning takes place in groups.
- The students acquire the needed information self-dependently.
- The previous knowledge of the students is included in the problem solution.
- The teacher accompanies, supports and contributes to the problem solution. He/she does not direct or instruct nor contribute complete solutions.
- The solution is assessed authentically, preferably by criteria that would be applied for solutions in the real world.

The PBL Package supports this process in two ways:

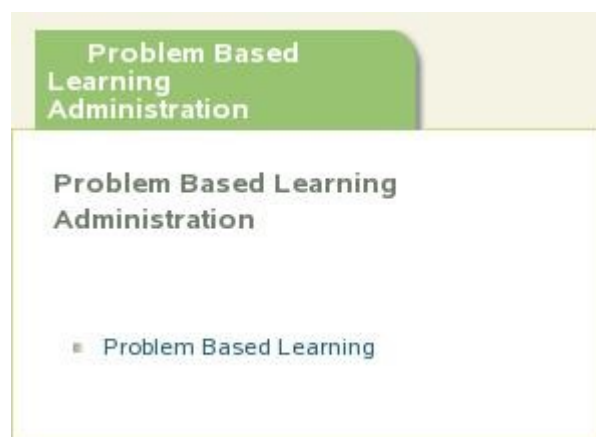
1. Supplying a portal as working and communication platform.
2. Support for planing, controlling and documentation of the learning process with special tools.

Installation

The TLF-PBL module consists of four packages that need to be installed : tlf-pbl, dotlrn-tlf-pbl and tlf-pbl-portlet. Copy these packages to your OpenACS packages directory (service/packages) and open the package manager in your browser (http://.../acs-admin/apm/). Select „install packages“ and mark „TLF Problem Based Learning“ for installation. Click „Next“ to start the installation. The other required packages will be added to the installation list automatically.

Add Problem Based Learning Support to a Class

Select the control panel of the class and choose „Manage Applets“ from the „Group Administration“ menu. If PBL is installed, the list of „Applets to add“ should contain the item „Problem Based Learning“. Click „add“ to add the applet to the class. If you go back to the control panel, a new portlet „Problem Based Learning Administration“ should be available.



PBL Administration: Class Level

At the class level, administrators can create and manage different PBL learning groups. The PBL administration page can be accessed via the „Problem Based Learning“ - link at the „Problem Based Learning Administration“ portlet.

Name	Process item	Due date	Coach
PBL Group 11	Project Start	-162 Day(s)	Görllich Gerhard

This page

allows to create new groups, to manage existing groups and to remove groups that are no longer needed. It also gives an overview of the progress of each group.

New Groups can be created by clicking the „Add group“ button. First a name for the group has to be specified. After the „Save“ button has been clicked, the administrator can add a coach and some members to a group:

1. Properties

Name

2. Coaches

Name	Competence
No data.	

3. Members

Name
No data.

By clicking the „Define process“ button, administrators can manage tasks (objectives, working steps) for **all** PBL groups in the current class:

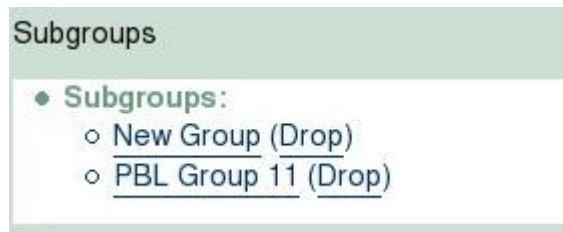
Date	Type	Title
13.09.2006	■	Class Task 1

■ ... Target for the Course
 ○ ... Target for the Group, Defined by the Coach
 ◇ ... Target for the Group, Defined by Members

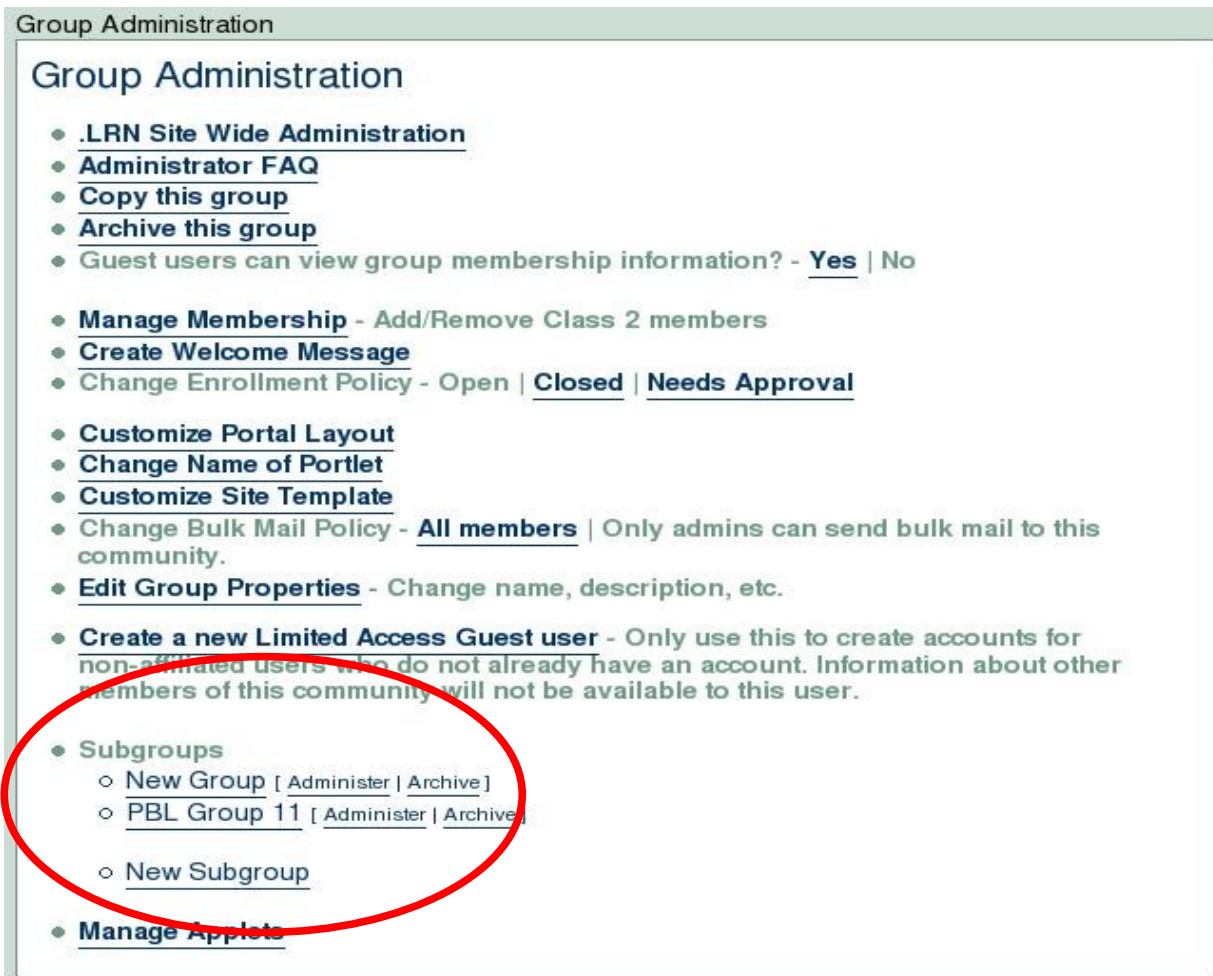
With the „Add item“ button, administrators can add new class-level targets. By clicking the „Edit“ symbol, data for existing targets can be modified (title, (end) date, description, objectives and coach). With the „Delete“ symbol, administrators can delete targets.

PBL-Administration: Group Level

PBL-Groups are created as sub-groups within classes (courses). To enter a PBL-Group page, select the group at the „Subgroups“ portlet at the „Class Home“ page:



It is also possible select the group from subgroups menu at the „Group Administration“ portlet on the classes control panel:



The PBL-Group page can also be reached through the PBL-Administration page by clicking the name of the group in the PBL-Group list:

Name	Process item	Due date	Coach	
PBL Group 11	Project Start	-166 Day(s)	Görlich Gerhard	
New Group	New task	-106 Day(s)		

The PBL-Group's start page contains three portlets:

- Calendar (scheduled events)
- News
- Problem Based Learning (PBL specific functions)

Main Site » dotLRN » Subjects » departmentA » A Test Subject » Class 2 » PBL Group 11

PBL Group 11

My Space | Class Home | Calendar | File Storage | Control Panel

PBL Group 11

News

This is a PBL Test Group - 2006-07-13 00:00:00+02
 Use PBL to learn project orientated.
 Contributed by [Gerhard Görlich](#)

[Add a News Item](#)

Schedule

Items from July 17, 2006 to September 15, 2006 Events over a 60 day rolling period [go](#)

No items

Problem Based Learning

Coaches
[Gerhard Görlich](#)

Members
[Gerhard g.](#)
[gerhard2.gg](#)

Process

01.02.2006 **Project Start**

02.04.2006 **New task**

01.08.2006 **Task 2**

Process administration
[Click here if you would like to add, edit or delete a process item.](#)

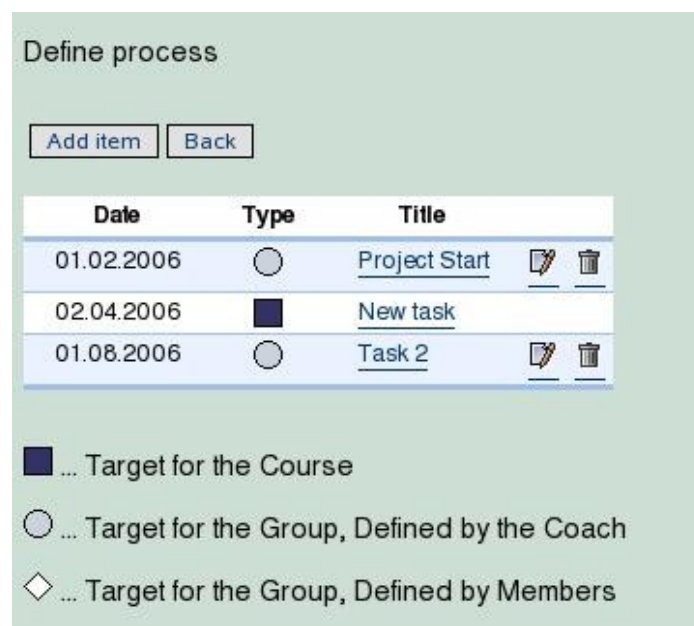
To edit group specific properties, select the PBL-Groups control panel. The control panel contains portlets for the administration of all applications installed for the group (e.g. File Storage, Calendar, News,..). It does not contain a „Group Administration“ portlet since not all group administration features will make sense in the PBL-context. Instead, the control

panel contains a portlet for the administration of the current PBL-Group:

By following the „Problem Based Learning“ Link, the administrator can modify the groups properties (name, coach, members):

PBL-Administration: Process Administration

Group Processes can be managed by clicking the link „Click here“, at the process administration section from the PBL-portlet on the PBL-Group's start („Class Home“) page. The process administration within the PBL-Group is equal to the process administration on the class level. Only the type of targets created and it's visual symbol is different:



The screenshot shows a web interface titled "Define process". At the top, there are two buttons: "Add item" and "Back". Below these is a table with three columns: "Date", "Type", and "Title". The table contains three rows of data. Each row has a date, a type symbol (circle, square, or diamond), a title, and two small icons (a pencil and a trash can). Below the table is a legend with three entries: a solid square for "Target for the Course", an open circle for "Target for the Group, Defined by the Coach", and an open diamond for "Target for the Group, Defined by Members".

Date	Type	Title		
01.02.2006	○	<u>Project Start</u>		
02.04.2006	■	<u>New task</u>		
01.08.2006	○	<u>Task 2</u>		

■ ... Target for the Course
○ ... Target for the Group, Defined by the Coach
◇ ... Target for the Group, Defined by Members

By clicking an items title, or by going back and selecting the process from the process overview in the PBL-Portlet, users and administrators can enter the process specific management page.

Process Management Page

The process management page contains information and tools for the group to help them finishing a task:

Main Site » doLRN » Subjects » departmentA » A Test Subject » Class 2 » PBL Group 11 » TLF Problem Based Learning

My Space | Class Home | Calendar | File Storage | Control Panel

Process item

Selection
 Project Start ← 1

Deadline
 02/01/06

Coaches
 Görlich Gerhard - leader ← 2

Description
 asdf

Objectives
 asdf ← 3

Status
 Open (Change status)

Communication

Mail
 Email Members ← 4
 EMail History

Forum
 Post a New Message | Administer | Subscribe others

Files

File | Create a URL | New Folder | Upload Compressed Folder | Delete this folder
 Edit Folder | Modify permissions on this folder

Type	Name	Size	Last Modified
No data.			

Work Log

Date	Name	Title	Hours worked
07/13/06	Gerhard g.	I did something	01:15

Subject	Author	Replies	First Post	Last Post
Message 2	Gerhard Görlich	0	07/13/06 11:45 AM	07/13/06 11:45 AM
A new Message	Gerhard Görlich	0	07/13/06 11:44 AM	07/13/06 11:44 AM

1. A pull-down menu where the user can select a process step.
2. Coach - The coach/coaches for the current process step.
3. Objectives - The objectives specified in the group properties (group administration).
4. Bulk Mail – Members can send e-mail to all other members.
5. File Storage – A new file storage is created for each process step. Group members can exchange files or upload results.
6. Work Log – A work log to monitor the group activities. Group members can enter how many hours they worked on specific tasks.
7. Forum - A forum is created for each process step. Group members can discuss tasks and share relevant information. The forum properties can be managed with the forum's portlet at the groups control panel.

Students Perspective

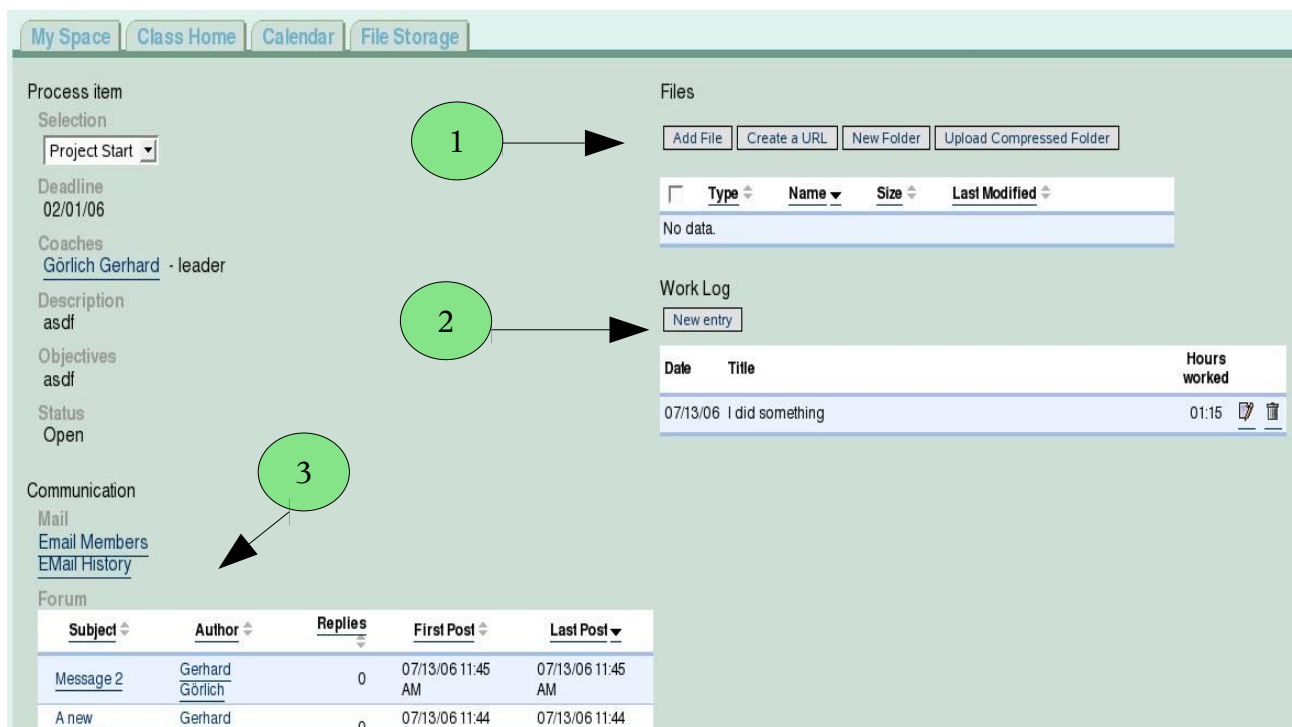
Students can see the PBL-Groups in which they are member as sub-groups of a classes:



Students can enter the PBL-Group page either directly by clicking the link in the „Groups“ portlet, or via the „Sub-Groups“ portlet at the home page of the class.

Students can only be member of one PBL-Group per class (Administrators can add them to one group only!). They can not see or edit groups they are not member in.

The PBL-Group page looks the same for students and for administrators, only in the process view are some differences:



1. Students have no administrative options for the file storage (e.g. set permissions, edit, delete folders,...).
2. Students have the option to create new „Work Log“ entries.
3. Students have no administrative options for forums. They are also in default not allowed to create new threads (only reply to administrators postings). This setting can be changed by administrators via the forums administration at the groups control panel.