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1. Installation and Configuration: exabis Competence Grid

1.1. Basic-Installation (without Apps)

- Download the code from: https://github.com/gtn/exacomp or Moodle.org (development is done in the experimental branch on git, stable versions are merged to the master which is checked in on Moodle.org.).
- Copy the folder exacomp into the /blocks directory of the Moodle installation.
- Login as Admin to start the installation. More information for further settings under chapter 1.2.
- Before starting the plugin, competencies should be made available. For this register at http://edustandards.org/ search, edit and export competencies or create your own.
- The competencies can now be imported into Moodle. Add the block on the dashboard or inside a course and click on the menu item “Import/Export” and choose “Import outcomes/standards”.
- Follow the given steps and finish with the standards pre-selections by selecting the main standards for your competencies.

At this point teachers and students can use the plugin with data for their courses.
1.2. Administrator Settings

Basic settings for the plugin can be configured in the block settings of exacomp in the admin section.

1.2.1. Basic Settings

**Exabis Competence Grid**

- **Automatic gain of competences through quizzes**
  - If passing a test should automatically grant students certain competencies, this option is recommended. The competencies which are associated with a positive test are granted through the next run of the Moodle cron-job.

- **Quiz-percentage needed to gain competence**
  - Here the percentage which has to be reached to gain the competence can be defined. The default value is 50%.

- **Using Badges**
  - Exabis Competence Grid can connect to the Moodle badges-system. For this, the option has to be chosen.
  - The basic idea of this concept is to earn badges for competencies gained within the educational organization. Using a backpack-feature, users can transfer their data to any other system – a registration at http://backpack.openbadges.org/backpack/login is required for this.

- **Notifications and Messages**
  - Users are being notified after actions like submitting learning materials or assessments done.

- **Using basic and extended competencies**
  - When working with basic (obligatory) and extended (specialization) competencies, this option can be enabled. This option produces an additional tab in the exacomp-block with a new view. To get appropriate data displayed basic and extended competencies must have been defined in the xml-tool of edustandards.org
1.2.2. Assessment options
Optional settings for assessments:

**Evaluation**

- **Global grading level**
  Every item, whether of learning materials distributed, child competencies, competencies, topics or subjects can be assessed. If no grading level is chosen this function is idle.
  - Scales are: 
    - G/M/E (G=general, M=medium, E=extended)
    - A/B/C
    - */**/***
  - The chosen level is also shown in the profile.

- **Course-specific (adapted) grading**
  If a check mark is set here, the grading can be set specifically for every course. Therefore a numeric value within the course settings has to be set by the trainer or the administrator.
  - Students are then evaluated from 0 up to the specific value and can evaluate themselves from 1 up to the chosen value. If the value 1 is chosen for the rubric, check marks are displayed instead of values.
  - If the option is chosen teachers can evaluate their students by subjects, topics, competencies or child competencies with grades from 1.0 up to 6.0. Child competencies and learning material can be evaluated with: “not gained” “partially gained” “mostly gained” “fully gained”. Students can evaluate themselves with three different emojis from happy to unhappy. These settings relate to all courses. Trainers cannot change the evaluation system inside the course.

- **Enable topic grading**
  By default, topics cannot be graded. Otherwise this checkmark has to be set.
Enable subject grading
By default, subjects cannot be graded. Otherwise this checkmark has to be set.

1.2.3. Display

Display

Enable automatic numbering in the competence grid
If this checkmark is set, topics, competencies and child competencies are numbered automatically.

Use learning development as title in competence profile
By default the learning development is used as a title within the competence profile of a student. If not used this option should be deactivated.

Use timeline in profile
With this option the timeline of the gain of competences is displayed in the student profile.

1.2.4. Weekly schedule

Weekly schedule

<table>
<thead>
<tr>
<th>Unit duration</th>
<th>50</th>
<th>Default: 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of the units in the schedule</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amount of units</th>
<th>8</th>
<th>Default: 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of units in the schedule</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Schedule begin</th>
<th>07:45</th>
<th>Default: 07:45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin time for the first unit in the schedule. Format hh:mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timetable entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:45 - 08:35</td>
</tr>
<tr>
<td>08:40 - 09:30</td>
</tr>
<tr>
<td>09:45 - 10:35</td>
</tr>
<tr>
<td>10:40 - 11:30</td>
</tr>
<tr>
<td>11:35 - 12:26</td>
</tr>
<tr>
<td>13:05 - 13:55</td>
</tr>
<tr>
<td>14:00 - 14:50</td>
</tr>
<tr>
<td>14:55 - 15:45</td>
</tr>
</tbody>
</table>

Default: Empty
Weekly schedule can be adapted to any timetable. Use one row in the text area for each time entry. You can use any format you like, e.g. "1st hour" or "07.30 - 09.00".
Unit duration
By default, the duration of a unit is 50 minutes. To adjust this, the value has to be changed.

This has an effect on the weekly view of students as well as the view within the Dakora app.

Amount of units in the schedule
Depending on the number of units, the length of the weekly schedule is adjusted. By default there are 8 units in the schedule.

Schedule begin
Starting time of the first unit within the schedule. Format hh:mm

Timetable entries
The weekly schedule can be adapted to any timetable, also breaks can be considered here. For each time entry in the text area, one row has to be used. The format does not matter.

1.2.5. Technical Settings

Logging
To record user actions, relevant actions will get logged.

OPTIONAL: Allow assigning external trainers for students
For using the eLOve app, this option is required. Only assigned trainers, external trainers and their students have access using the app for earning and documenting competencies.

Background: the eLOVE app is often used as an app to document on-the-job-work (i.e. apprenticeships). Therefore an external trainer is needed (in this case the person in charge for apprentices within a company) to assess the examples that students solve. The external trainer can give feedback related
to solved examples and competences gained. For this the external trainer has to be associated with his/her students. In case no external trainer is involved it is still obligatory to associate students with the teacher to use the app. In this case the trainer of the course has to be associated with the students of the course.

Only trainers and external trainers associated with students can use the app. Exception: the admin account can not use the app due to security reasons.

OPTIONAL: Allow self-assessment for students in the elove app
Students can assess themselves within the elove app. If this option is chosen the process is turned around: students can self-assess their solving of examples and gain of knowledge (competences). This is useful for a more reflected target group (i.e. preparation for exams).

Source ID
Automatically generated ID of this Exacomp installation. This ID can not be changed. This ID refers to where the xml-data of the competence grids comes from (i.e. edustandards.org).

Server-URL
Url to a xml file, which is used for keeping the database entries up to date. Competence grids can be hosted outside of a Moodle installation and will be imported by the Moodle-cronjob if a link to the file is entered here.

1.3. Import / Export
If competencies should be changed or new ones added, they can be imported via the tab “import/export”. To use the competencies in other Moodle installations they can be exported as a whole or selectively by the admin.

1.4. Optional use of eLove/Dakora
For using one of the apps the following steps have to be taken within the admin settings:

- Enable web services (also find via: site administration/advanced features)
- Enable protocols: (also find via site administration/plugins/webservices/manage protocols)
- Enable web services for mobile devices: (also find via site administration/plugins/webservices/mobile)
- Roles with webservice access: (also find via site administration/users/permissions/define roles/authenticated user
- Additionally the block Exabis eportfolio has to be installed to store data course-independently

1.4.1. Additional settings for using the eLove app
For using the elove app additional configuration has to be done within the admin settings related to the webservices of Moodle:
Assign external trainers!
This option is necessary because the app was originally developed for use with external trainers (i.e. persons in charge for apprentices), where teachers are not automatically class teachers. Settings concerning assessment do not have impact on eLove. For the relevant courses the grading has to be set to “1” because the app just offers checkmarks for assessment.

1.4.2. Additional settings for using Dakora
In order for the app Dakora to work properly, it is important, to adjust the settings for grading within the exacomp admin settings.

1.4.3. Hand in learning material
If students should be able to hand in their results for the learning material, the exabis eportfolio block has to be installed.
2. Installation and Configuration: exabis e-Portfolio

2.1. Basic-Installation

1. Download the code from: https://github.com/gtn/exacport or Moodle.org
2. Copy the folder exaport into the /blocks directory of the Moodle installation
3. Optional: to use exaport with the eportfolio-function of Moodle the folder /portfolio has to be copied to the Moodle-folder /portfolio as well.
4. Login as admin and start the installation. More information for further settings in chapter 2.2

At this point teachers and students can use the block in their course after activation.

2.2. Administrator Settings

Basic settings for the plugin can be done at site administration/plugins/blocks/Exabis ePortfolio.

Basic Settings

- **Allow login as block_eportfolio_allow_logins**
  - Default: No

- **Interaction exabis ePortfolio - Exabis Competence Grid**
  - Default: Yes
  - Interaction with block Exabis Competence Grid, in case it is installed

- **Disable sharing with all users**
  - Default: No
  - Click here, to remove all global shares

- **Disable sharing of comments in external view**
  - Default: No

- **Save files to mahara if checked, save to exaport if not checked**
  - Default: No
  - For App

- **Maximum uploaded file size in Exabis ePortfolio**
  - Default: Site upload limit (100MB)
  - This specifies a maximum size that uploaded files can be throughout the Exabis ePortfolio.

- **User quota for Exabis ePortfolio**
  - Default: 10485760
  - The maximum number of bytes that a user can store in their own Exabis ePortfolio.

- **Students are allowed to edit and delete items after teacher review**
  - Default: Yes
  - Only useful in combination with Exabis Competence Grid and dakora
1. **Allow login as**
   Admins can login with every other active user within the course if this option is chosen.

2. **Interaction exabis ePortfolio – Exabis Competence Grid**
   In case that the exabis competence grid block is installed, it can be used in combination with the exabis ePortfolio block. Handed in material for example can be directly imported into the ePortfolio view. Additionally artifacts within the ePortfolio can be associated with competencies.

3. **Disable sharing with all users**
   It is possible to share the portfolios with all users within the Moodle installation. To disable this function a checkmark has to be set here.

4. **Disable sharing of comments in external view**
   All people can look at external views. To avoid sharing all the comments, a checkmark has to be set here.

5. **Save files to Mahara if checked, save to exaport if not checked**
   Using the elove app, data will be saved in Mahara. Otherwise the data will be saved in the exabis ePortfolio block.

6. **Maximum uploaded file size in exabis ePortfolio**
   Value for whole site: Site upload limit 100MB. The maximum size of files that can be uploaded is set here.

7. **User quota for Exabis ePortfolio**
   Standard: 104857600. The maximum number of bytes that students can store in their own Exabis ePortfolio can be set here.

8. **Students are allowed to edit and delete items after teacher reviews**
   Students can be allowed to edit items or delete them although the teacher has already assessed it. This just makes sense if the ePortfolio block is used in combination with exabis competence grid or the app dakora.
3. Installation and Configuration: exabis
Student Review

3.1 Basic Installation

1. Download the code from: https://github.com/gtn/exastud or Moodle.org
2. Copy the folder exastud to the /blocks directory of the Moodle installation
3. Define periods: exabis student review assesses students period-based. This means that the administrator has to define the period of assessment. After defining a new period, all former assessments are moved to the archived period
4. Assign head-teachers of a class: here the head teacher is defined. This person is in charge of all assessments and can print them out in report card format for students.

At this point teachers and students can use the plugin in their course

3.2 Administrator Settings

Basic Settings
Basic settings for the plugin can be done at site administration/plugins/blocks/Exabis Student Review.

Data related to the educational institution where students are assessed can be specified. Assessment criteria can be defined.

Tab „Head teacher“
Within this tab the administrator can add head teachers. These teachers can add new classes, add students and teachers, fill in educational plans or export them.

Tab „Settings“

Periods:
Teachers can fill in data into the student review after the admin has set the period.

Competencies:
Interdisciplinary competencies for assessments can be defined here. These competences relate to topics that all teachers can assess independently of their subject.

Grading:
The grading scale for students is defined here.
3. Installation and Configuration: eLove app

Students and teachers can install the eLove app on their mobile phones or tablets.

App at Apple/iPhone:
https://itunes.apple.com/at/app/elove/id1007094149

App for Android:

a. Quizzes & acquisition of competences

From Moodle version on 3.1 webservice for using tests/quizzes are available. These can be used for the eLove (electronical Lifelong Outcome-oriented Vocational Education) app. eLove enables competence-based documentation of learning processes with ePortfolios. It is also possible to associate Moodle quizzes with competences. These quizzes are then available for the app as well.

Therefore, the following steps must be considered:

- Automatically gain of competence through quizzes (Admin settings competence grid) has to be activated.
- Quizzes are just shown in the eLove app, if they are associated with competencies.
- It is recommended that the creator of a quiz should use multiple/single choice questions, one page per question and randomly repeatable.
4. Installation and Configuration: Dakora

Students and teachers can install the Dakora app on any mobile phone or tablet.

Source for Apple/iPhone:
https://itunes.apple.com/at/app/dakora/id1148508410

Source for Android:

To get Dakora work within the chosen course the following steps on “Site administration” and “Webservice status” have to be activated.

Therefore every step has to be clicked and a checkmark has to be set.

5. Installation and Configuration: 2-factor-auth

a. Basic-Installation
   - Download the code from: https://github.com/gtn/exa2fa
   - Copy the folder exa2fa into the /blocks directory of the Moodle installation
   - Move the subfolders moodle/blocks/exa2fa/auth/a2fa_email, a2fa_ldap, a2fa_manual into the folder moodle/auth
   - Login as admin and start the installation process
   - After the installation process was successful, the a2fa auth plugins have to be activated. Therefore go to site administration/plugins/authentication/manage authentication and activate the plugins: “A2FA: Email”, “A2FA: LDAP” and “A2FA: Manual Accounts”

At this point teachers and students can use the plugin in their course and the users can activate a2fa in the profile

b. Activate a2fa for users

First of all a a2fa app has to be downloaded on a mobile phone. For example the FreeOTP app or the Google Authenticator can be used.

Source for Android:

Source for iPhone:

The user has to activate A2fa in the Moodle profile.
6. Installation of the Gamification-Plugin

Using the gamification plugin for Dakora the plugin has to be installed as follows:

- Unzip the `localGamification.zip` file within the "local" directory of the Moodle installation (C:\xampp\htdocs\moodle\local or /var/www/htdocs/moodle/local).
- Login as admin in the Moodle installation.
- Moodle should show an invitation to install the new plugin.
- Click "Update database" and install Dakora plugin.
- Dakora will be available by default in the final version.
- For testing purposes unzip the `dakoraGamified.zip` file in the document root of the webserver (C:\xampp\htdocs oder /var/www/htdocs).
- A altered version of Dakora is now accessible on the webserver among /dakoraGamified (http://localhost/dakoraGamified).
- There are just a few possibilities for configure the plugin.
- Set the plugin via the Moodle config file `config.php` into one of 4 modes by setting the variable `$CFG->gamificationmode`:
  - 0: Dakora behaves as the plugin is not installed
  - 1: The point functions are activated
  - 2: The badge functions are activated
  - 3: The point and badge functions are activated

The gamification plugin is installing the badges in Moodle by default, which are also shown in Dakora. Further configuration is not necessary.