

Competency Assessment Integration

Relevant Topics

Please review: [Assessment Function](#)

Tracking Competencies allow schools to ensure students meet all their objectives. A student may score very high in reading competency, achieve a B in an English class, but has never turned in a reasonably well written essay. Alternatively, a student may archive a B in History with excellent knowledge of the Roman Empire, but with no domain knowledge of World War II. Good grades may not catch a lack of competency or domain knowledge in areas important the philosophy of the school requires.

[Moodle competencies](#) are specified in the activity settings, internal to a Moodle course by the course creator. Each activity may be tagged with pre-defined competencies. When the student completes the activity, they earn the competency. The competency list is created in the admin panel.

In Moodle, a student can be assigned a [learning plan](#), which is a group of competencies that may span multiple courses. The student can view their progress towards the learning plan in their profile.

Moodle allows the admin to define Learning Plans, which are sets of competencies. Learning Plan templates are use to assign learning plans in bulk to students. Templates may be assigned to a Cohort of students.

In real life, a **cohort** is a set of students at a specific grade level. All ninth graders in 2023 form a set of students, as they move through the various grade levels, we refer to those 2024 ninth graders as a cohort. In Moodle a **cohort** is a set of students and a teacher(s). Cohorts are primarily used in Moodle for batch enrollment. For the use case that all students in 4th grade should be enrolled in 4th grade math. In this case a Moodle user would define a cohort of 4th graders, then assign the cohort to a specific course. However, using cohorts for enrollment is not useful in PEMS because each student is following a unique program. The unique program is managed in the SIS. In PEMS, all fourth graders are *not* enrolled in fourth grade math. However, cohorts are still useful for reporting. So in PEMS, Moodle Cohorts are used to identify a set of students under the supervision of a particular teacher (proctor). In this use case, students can be at any grade level since PEMS is designed for mixed grade-level student management. *Unfortunately*, Moodle Cohorts can ***not*** be used to block a teacher from seeing other student's work who are not in their own cohort. **In summary 1)** Moodle Cohorts are a set of students and their teachers (proctors) **2)** the students in the set can be any grade level **3)** Cohorts are useful for reporting **4)** All teachers can

see all students in any cohort.

Proposed Integration of Competencies and Assessment Codes

In the SIS, assessment codes may be defined with type = competency. This information is entirely driven by students completing activities (assignments) in Moodle. Competency tracking requires tight synchronization between PEMS and Moodle and is not useful unless Moodle has been configured to use competencies and Learning plans, as students may only demonstrate they meet the competencies through completing certain assignments in various Moodle courses.

Competencies are defined in Moodle in the admin panel. All Moodle competencies have an **ID Number** field, which is unique. For synchronization between SIS and Moodle, the admin must define a corresponding Assessment Code record and set the **Code** field to the exact value as the Moodle Competency **ID Number**. This is similar to how the curriculum table is used to reflect Moodle courses in the SIS.

The **Assessment Code** records in PEMS must have the exact same text string as the **Competency Code** field in Moodle.

When a Moodle Activity is configured to demonstrate a competency, Moodle marks this competency complete in Moodle. Moodle makes a yes/no determination on competency, there is no score. A set of Moodle activities can also be configured to complete one competency.

Update workflow

The event trigger for Moodle to update the SIS takes place whenever a student earns a competency. Moodle completes the competency for a student, an assessment result record need to be created, linking the assessment code record in SIS to the student, and recording the date the competency was earned and the yes/no outcome from Moodle.

- In SIS, the list of competencies are stored as Assessment Code records with "Code" set equal to Moodle Competency "ID number"
- In Moodle the exact same list of competencies are stored as competency records.
 - In Moodle activities are linked to competencies.
 - In Moodle Students are assigned a set of competencies, which may be assigned based on cohort.
- Moodle determines if the competency has been achieved
- When achieved, an **assessment result record** is created for the student with date of achievement
 - no records are created in SIS if the student has failed the competency in Moodle

Hierarchy of Competencies

Moodle offers unlimited hierarchies in competencies, when all sub competencies are completed, Moodle checks off the higher level competency as completed. PEMS does not duplicate the hierarchy and has only a flat file of competency records. If the school wants to reflect the

hierarchy in Moodle in PEMS, the best approach is to use an agreed convention in the name field of the Assessment Code record. Regardless of how Moodle checks of a competency when it is checked off an Assessment Result record is created in PEMS.

Assessment Code records may be linked to subject and grade level.

Learning Plans In Moodle and Programs of Study

In Moodle, a student can be assigned a learning plan, which is a group of competencies that may span multiple courses. The student can view their progress towards the learning plan in their Moodle profile.

Learning plan templates, the set of competencies that comprise the student's assigned learning plan, have a unique **ID number** field.

All learning plans should be developed to support the objectives of the program of study. Each plan in PEMS should be linked to the learning plan in Moodle. The learning plan in Moodle tracks the competencies required by that plan.

Proposed Integration of Learning Plan and Programs of Study

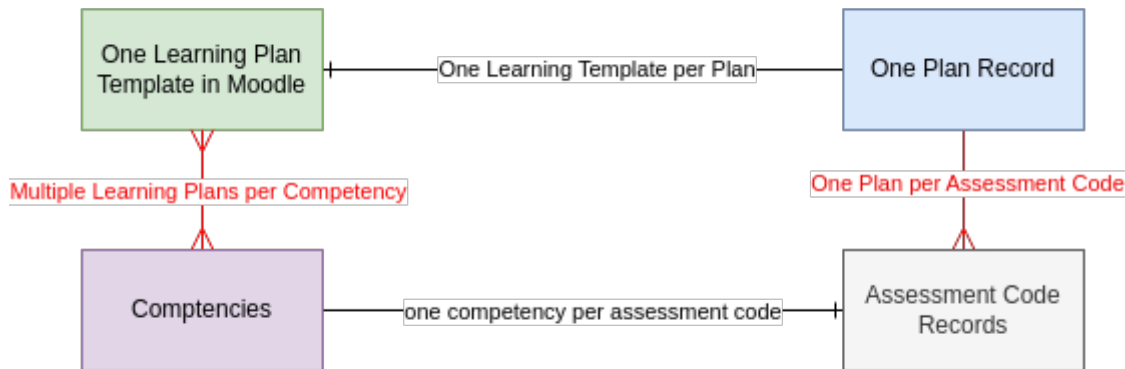
The SIS's Program of Study table should add a field called "Moodle Learning Plan". The Moodle learning plan field value in the plan record stores the exact match of the learning plan template ID number in Moodle that reflects the objectives of the plan.

When the plan is assigned to the student, this will also trigger Moodle assigning the learning plan to that student based since the plan is linked to the Moodle learning plan template ID number. As the student completes the Moodle courses in the plan, the student will earn the competencies, and Moodle will then create assessment result record to demonstrate the competencies.

Data Structure Conflict

When assessment code records are linked to Plans, they may see the learning plan template ID number. An assessment code record may only be associated with one plan. This differs from Moodle where the same competency may be linked to multiple learning plans. Consequently, multiple assessment code records must be created in SIS where there is only one competency ID in Moodle. The name of the competency should roughly be the same for the same competency in Moodle.

The Plan must 'know' the set of assessment codes the learning plan template requires in order to track progress in SIS and report on problem areas.



Every time a competency is assigned to multiple learning plans, the user must create a duplicate assessment code record in SIS

The assessment codes do not need to be linked to the plans to 1) make records of completed Moodle competencies or 2) auto-enroll a cohort with the program of study's specified learning plan. However if SIS is to track and report of student progress towards the competencies, then the total set of competencies must be known, and the gaps between completed and incomplete reported on.

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