

Assessment Function

Relevant Definitions

Curriculum generally refers to the books and exercises used by the teacher to further the student's knowledge. In Moodle, the curriculum is a Moodle Course. Any class may be taught with multiple curriculum, or different text books, and so there are multiple Moodle courses that may be used to teach a Class.

The Assessment Function

An **assessment** checks how a student is performing academically. Assessment in PEMS are used to track how the school's academic program is delivering results. Where many schools simply track the performance level of a student, PEMS tracks performance improvements. PEMS is a system that monitors how the school is functioning in such a way that the school can constantly improve.

Three Contributors to Student Performance

- **Curriculum** - did the curriculum, or Moodle course, provide a net improvement in academic scores.
- **Engagement** - did the student complete the course as planned.
- **Program** - does one set of courses provide better or worse outcomes than another set.

PEMS makes no assumptions about how the three factors above contribute to student academic performance. Certainly these factors are interrelated, a student that engages more in the course will most definitely show greater improvement.

Programs are created in the PEMS as a set of classes the student takes over a few years. Program placement, or the readiness of a student to complete the program is critical to the school's ability to tailor a program to a desired outcome. For example, it is generally believed that taking art classes may stimulate learning in broad areas of study. If this is true, then students will have better program-level outcomes if they are also taking art. Another example is the idea of writing-thought-the-curriculum, which is an idea that if a student has writing assignments in every single class, learning outcomes will be superior. If this is true, then a program that focuses on copious writing assignments will produce better results.

Curriculum is created in Moodle and courses may differ in their level of intensity, once course may require more writing, another may only provide auto-graded quizzes. Some classes may have weekly teacher lectures, or weekly teacher check-in sessions. Other classes may require printout and hand writing, or proctored exams. There are a great many differences in curriculum.

Engagement is multifaceted, it includes the grade the student achieved in the course, the total time spent on the course, and how much of the course was completed on time. The environment a student studies in will also affect engagement, does the student do their work largely on campus or

at home?

Every school will want to select what assessments matter to their own academic vision. In one school, they may only care about reading comprehension and math levels, in a different school they may prefer to test for spatial reasoning or artistic competence. In selecting what a school tests for, the school is setting the goals that their program will be trying to reach.

Two Assessment Type Metrics

Level Equivalent

Students are assessed for their progress towards acquiring the knowledge and skills of a high school graduate, a student who completed 13 years of schooling. Given enough time and effort, all students can reach this standard. **Level equivalent** is an approach that assesses if a student is progressing faster or slower towards their graduation. If the student is progressing slower, they are behind their grade level, if they are progressing faster, they are above their grade level. PEMS allows users to define the grade level equivalent for each score. *As I understand it, this means that each school head can determine personally what it means to say be at a 6th grade level. Normally, how is the national grade level competency determined. Would most school heads go off a national standard determined by the Department of Education?*

PEMS uses hundreds/tens place pattern for its Level Equivalent scoring. The grade level is in the hundred's place, and the month is in the tens place. For example 840 is eight grade 4th month. Within a grade year, this is a quick visual reference for improvement, 800 compared to 860 represents 6 months of academic progress. Parents and students readily understand this system and it is easy to explain. A student starts a grade at 800, then increased by ten for every month in school. After the ninth month, the student has achieved 890. Then the student takes summer off and starts 9th grade at 900. 890 is the same as 900 under this system. This issue becomes important when calculating grade level differences in grade level achievement in some cases.

Percentile Ranking

Percentile ranking is another method of assessing student performance. With this method, students are ranked against their peers in a larger population, either state-wide or nationally. Traditionally, a student's grade in a course can be considered percentile ranked, for example only 10% of students should receive an A in the class. Percentile Ranked assessments are similar but across a larger population of students. For these types of assessments, PEMS stores a raw score and a percentile rank in the assessment result record.

Competency-Based Standards

Competency based tracking allows students to demonstrate mastery or competency in what they can do. The completion of an end of year essay with a passing grade of an B demonstrates the student can competently write an essay. Competencies may also be used to verify domain knowledge. A student may have a very high level of reading but very little domain knowledge of history for example.

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 achieve 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.

When a school develops a competency list, the school is in fact developing their own, independent assessment system. Level Equivalent and Percentile ranking methods of assessment inherently compare the student to the greater world. Competencies are authored by the school itself and reflect the school's own academic standards. When well structured, competency tracking can reduce endless assessment. When a teacher grades an essay at A+, the writing competency is achieved and students do not need to take a writing exam. Regular day-to-day schooling reducing constant testing.

Competency tracking in PEMS is tightly integrated with Moodle. The school will develop a check list of competencies the student should be demonstrating at each grade level or grade span. In order for competency tracking to be effective, the school faces a rather intensive task of tagging activities across all the courses with the competency checklist. When a student passes the activity, they earn the competency.

This whole section is pretty straight-forward and makes sense.

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