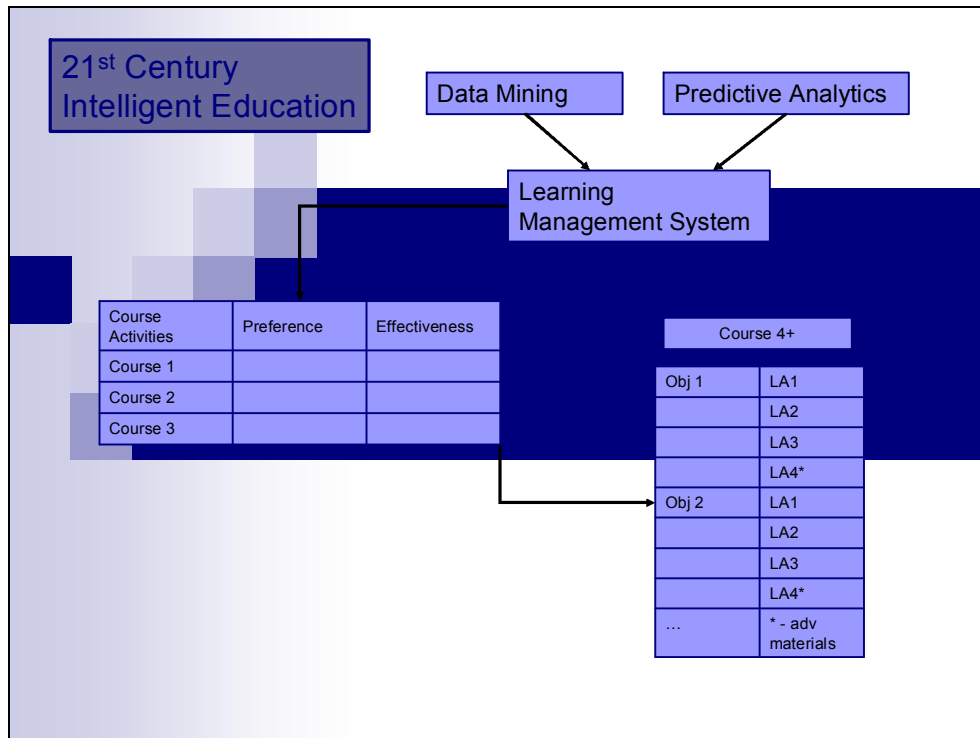


## Customized Intelligent Education System

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This educational delivery system is proposed to combine and overlay data mining and the use of predictive analytics on an electronic (likely web based) Learning Management System to create a 100% customized educational experience for the student. Data will be collected regarding both the student's preferences and effectiveness in different learning activities early in the system and will be used to create branching curriculum choices in later activities and courses hopefully such that the student is more engaged and more successful.

Sample System Layout.



Essentially, in the system above, student data is gathered from a student administrative system and includes such information as major, personality type/profile, learning style and personal data such as hometown, home state, and extra-curricular interests. This data is combined with data gathered from activities and potentially surveys from their first semester of courses. All of this information is overlaid as a recommendation filter on learning activities in courses in their second semester and onward. This means that several options in terms of learning activities are provided to the student along with recommendations on which activity the student might prefer to complete. However, the student would be given the ability to see all the activities and choose whichever activity he/she wanted to complete. This means the curriculum provides recommendations and guidance based on past preference and performance but still allows freedom and choice in learning. Each subsequent activity chosen by the student and success rate provide additional data to database of student learning preferences.

What this means:

- Curriculum is 100% customizable to the individual student down to the activity level in an automated way.
- Curriculum is layered and has branching with content in an online form versus the single learning activity choice offering that is common in all curriculum levels.

- Curriculum can be designed with a set of activities that are designed for “advanced” learning in the topic that continues to cover the objective but adds rigor and increased expectation for advanced learners (built in “gifted” or “advanced” curriculum).
- Activities can be intelligently customized through “smart fields” in the content with personal relevance to the student by tying the activity into their major/industry, their extra-curricular interests, their past experiences (hometown etc).
- From a broader education perspective, this system could replace the Individual Education Plan (IEP) on the K-12 level and provide a customized experience for all students in an automated way.
- This system could also completely customize the student experience in higher education and would be effective in an on campus and online environment.

**Next steps:**

I would like to work within the University to develop curriculum and surveys, as well as mine our databases and run a sample pilot course using this model. The sample may look similar to this model:

