Choosing the Right Solutions for Your Redesign

Making an informed choice

Choosing the right elearning courseware and instructional products for your redesign can help focus pedagogy, course structure, and organization. This should be considered early in the planning process.

Prior to making a courseware selection, your team should consider inviting various vendors to demonstrate products and discuss institutional, departmental, and course needs to determine how well their solutions will meet those needs.

This guide contains recommendations developed by Phoebe Rouse, director of precalculus mathematics at Louisiana State University, and provides a structure for teams to use as they consider which elearning courseware would work best with their pedagogy requirements and interactive learning goals.

Know your “must haves”

There will likely be a variety of features you’d like your elearning and course solutions to have, but only a handful will be “must haves.” These are the features, functions, and capabilities that courseware or course materials absolutely have to have in order to be considered. In Phoebe Rouse’s experience, these “must haves” fall into three main categories: courseware reliability, pedagogy and content quality, and courseware usability.
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**COURSEWARE RELIABILITY**

It may sound basic, but an elearning courseware program can't engage students in interactive learning and improve learning outcomes if it can't be used consistently. Students and faculty need to know that the courseware will operate with reasonable consistency—and without frequent or lengthy downtimes.

No technology is infallible, though, so ask if your courseware provider offers technical support. Any courseware package should come with adequate technical support, dedicated for students, faculty, and campus IT administrators.

In most cases, students will access courseware both on and off campus, so it's also important to consider performance across these learning environments. Will the courseware perform well on campus computers as well as on students' home computers? Will it be fully supported by your campus technology department? Any software adopted for student use should be fully compatible with multiple platforms so that students can use both on-campus and home computers.

**PEDAGOGY AND CONTENT QUALITY**

**Access to multiple authors and philosophies**

Faculty must feel confident that the pedagogy of the elearning courseware is sound and that the content included is comprehensive, current, and well explained. The philosophy, writing style, and approach of the authors should closely align with that of the instructors. If not, their teaching methods will always be in conflict with what students will experience.

The courseware that you choose should be available with multiple authors’ textbooks, expressing multiple philosophies, writing styles, and approaches. Be cautious of courseware packages that are limited to one author or have no author.

**A strong evidence base**

Access to high-quality materials with a strong evidence base better positions faculty to engage in effective pedagogical practices, so it's important to consider the research and support data behind any courseware program. Has research been done to support the use of the courseware? Does the collected data reflect an improved experience for a significant number of users, including multiple institutions, instructors, and students?
Courseware providers should be able to provide you with user statistics and contact information for instructors who have successfully used their courseware in a classroom setting that is similar to yours. The best way to determine if the courseware is a good fit for your institution is to read and discuss the experience of users at other institutions. Your campus needs may vary greatly from other campuses, so it's best to learn the perspectives of multiple users under multiple circumstances: two-year schools vs. four-year schools; large labs vs. small labs or limited lab settings; online classes, face-to-face, or hybrid classes; and required vs. optional usage by students.

**Sensitivity to multiple learning styles and needs**

Individual learning is enhanced when the pedagogy is sensitive to a range of learning styles and needs. Students need courseware that delivers an interactive learning experience with audio, video, animations, and interactive practice with automatic feedback that helps them when they have difficulty.

The courseware should also address the needs of students with disabilities, including visual and hearing impairments. Therefore, closed-captioning and screen-reading are very important.

In addition, an instructor needs to be able to control the settings of assignments per student because many students with disabilities, such as learning disabilities, ADHD, or dyscalculia, may need extended time on assignments.

**Student performance measurement**

Finally, the appropriate pedagogy for all teaching includes the measuring of student performance against a predetermined set of objectives. Courseware should make it possible for both students and instructors to determine whether or not course objectives are being met. Once students know where weaknesses exist, they need software that will allow them to get help with these weaknesses, and instructors need the courseware to do this automatically by having the ability to produce a customized (personalized) assignment based on those individual weaknesses.

Instructors must be able to access data concerning student performance on objectives so that adjustments can be made to teaching methods and/or assignments. Data like item analysis and time spent on each question are invaluable.
Choosing the Right Solutions for Your Redesign

COURSEWARE USABILITY

The courseware must be easy to use for faculty and students alike. Explanations to faculty for setting up the software with the appropriate learning resources, homework, and assessments should be clear. The type of course in which the courseware will be used is an important factor to consider. Some courseware packages that work with face-to-face classes can be problematic for online classes. In an online class, you will not only need quality content, but also easily navigable course management tools that allow you to manage your class.

Software should be easy for students to use so that they can focus on learning the course content, not learning the software. In order to compare two software programs, it may be beneficial to create assignments of equivalent length and content and complete those assignments from a student perspective. Note any significant differences between the entry of answers and the time it takes to move from question to question. Your students will be spending hours completing assignments, so the time it takes for exercises to load must be minimal.

Additional courseware considerations

The recommendations provided above will guide you and your redesign planning team through some of the most crucial considerations in selecting your courseware. The list below outlines some other features that may be worth considering and discussing with your planning team:

- Ease of installation
- Cost to student
- Cost to institution
- Quality and accessibility of technical support
- Vendor willingness to provide training
- Browser restrictions
- Platform restrictions
- Capability for faculty to communicate with students
- Tutorial features
- Textbook included
- Videos
- Partial credit for multipart questions
- Pooling for tests
Choosing the Right Solutions for Your Redesign

- Sophistication of testing mechanism
- Coordinator/master course capability
- Gradebook sorting features
- Ease of ability to export grades
- Feedback after submission
- Ability to print student work
- Multiple attempts allowed on assignments
- Settings for individual students
- Software compatibility with Americans with Disabilities Act

Taking the next steps

Our Acceleration, Redesign, and Readiness website offers a variety of resources and information to help you begin filling in the gaps you may have identified using this guide, including full redesign toolkits for math and English. We encourage you to explore the site and to contact us for any additional support you may need as you embark on your redesign journey.