Top 10 Reasons Faculty Fail When Using Blackboard CMS

Dr. Penny Johnson
Computer Science
Carroll College
johnsonp@cc.edu

Abstract

In today's ever increasing world of information technology it is not enough to say you have mastered the technology. It is just as important to know how to properly apply the technology. Using web development tools such as Blackboard, which allow us to quickly master online course materials, also standardize our learning materials and can be damaging to the learning process.

This paper will cover, in part, the way in which materials on Blackboard should be designed as appropriate learning models, and how tools such as Blackboard can be used to benefit or impair our materials. We will cover specific learning styles and how they are best fitted with the variation of online design. Also, we will learn how to determine the proper design of our own materials for optimal learning and how to measure outcomes. Finally, we will examine specific steps needed in order to ensure proper design.

Introduction

The adoption of Blackboard Course Management Software (CMS) across the nation by college, universities and even K-12 schools has brought many instructors to a greater awareness of what it takes to present course materials via the World Wide Web effectively. For years, instructors have researched, wrote and shared their thoughts on the proper methods for effectively using course materials on the Web, and it is time we extend those ideas to the use of Blackboard. Of course, Blackboard is a unique system which requires many specific criteria and does not allow for some of the freedom an instructor might otherwise encounter so it is important to adjust previous ideas for optimal affect.

There are many advantages and disadvantages that come with using the World Wide Web to present classroom materials to students. For example, the Web allows us to have greater flexibility than paper materials. We can have interactive forms, sound files, and movies clips as a part of an assignment. In addition, when students use materials on the Web they can go at their own pace, and explore the materials, rather than proceeding in a straight forward motion as required by textbooks. Some disadvantages to using the Web for learning is that it can be a barrier to student with little or no technical skills. It can be cumbersome for some students to find and use a computer with Internet access. Many instructors also find it daunting to create and support materials via the Web.

The use of Blackboard CMS has many similar advantages and disadvantages, and in order to set the playing field it is important for every instructor to consider these points. Learning via the Web with Blackboard can for many of today's students reduce their travel time. Instead of driving to school they can simply log-on from home. In addition lessons can be provided at the time and place needed, not solely when the class is offered. One of the unique advantages of the Web is that is can received an a multitude of formats. Students can use Netscape, Internet Explorer, Windows, or Macintosh. This will allow the students to use the system that they are comfortable with. Having Blackboard materials available reduces the cost of duplicating, packaging, and possibly mailing. Learners world wide have access to the information at the same time as learners on campus. Making revisions and updates are done from a centrals locations and this ensures changes will be uniform and current for all students.

There are several problems that you should be aware of when planning to use Web materials via Blackboard. Inadequate resources at the school end or student end it a clear red alert. Instructors to know before using Blackboard who is available to help when troubles arise. Instructors should also understand the amount of network traffic that their systems can handle, how quickly data will be transferred, how stable the network and internet connection is, what programming will be required, what software and hardware will be needed, and how often will the materials need to be updated. In terms of the students' resources one would need to make sure that students have acceptable access to

the hardware and software required, adequate skills to complete the lessons, or that they are provided with the training needed to adapt to new methods.

Once an instructor has assessed the situation, considered the advantages and disadvantages the decision to use Blackboard may become clearer. In other cases the order to use Blackboard may be issued to faculty, but from either point the next stage of creating and preparing documents can be entered.

Creating/Preparing Blackboard Materials

After an instructor has made the decision to use Blackboard, s/he is may be tempted to take existing materials and simply "transfer" them to Blackboard. Although existing courses can be a good starting point for developing Web materials, an instructor will need to evaluate (1) The learning objectives your materials look to achieve (2) The skills you want the students to use and develop (3) if group work is required, and what is the nature of that work (4) if the materials are in a current form that can be converted to the Web.

Let's first consider what skills we want our students to develop and use. Psychomotor skills are those that require a complex combination of physical movement and thought, such as learning how to drive a golf ball. These skills are difficult to teach in a Blackboard lesson, as they require an environment with coaching and detailed feedback. However, given adequate funding and time, it is possible to design such lessons. Attitudinal skills are those where learners are taught to change their opinions and in turn change their behavior. An example would be teaching learners to care about the environment and hence choose to recycle. This can be challenging in a Blackboard lesson because it is difficult to include reinforcement strategies available in a traditional classroom (such as head nodes, facial expressions, etc.) however, by including simulations, discussions, and group relationships this learning style can be addressed via Blackboard.

When building Blackboard materials you will want to avoid using the same tool for every lesson. Distinct applications and tools are available fore creating text-intensive learning, live instructional video, audio broadcast program, and animation among others. Each offers a wonderful training possibility but no single tool will be equally effective for solving all training problems.

Blackboard is unique medium is not the best for every situation. No single tool will be equally effective for solving all learning problems. In some cases, it is appropriate to deliver the entire class via the Web. In others it is more appropriate to use the Web to complement instructor-led classes, Learn the advantages of each medium available to you, and select the appropriate combination best suited to your students. In addition, it is advantageous to ask your students what media they are comfortable with.

Teaching via the Blackboard requires more than instructing learners to execute steps. It requires opportunities for practice that brings together the mental and physical knowledge

and skills needed to act. A successes learning lesson will include high quality activities, coaching, review, and assessment. In the next section we will explore some common mistakes made by instructors when putting their materials on Blackboard

Mistakes with Blackboard Materials

Blackboard materials are not simply a new format for instructor led or self paced lesson. Merely changing the format creates passive programs that end up frustrating learners. Well designed Blackboard training takes new or existing content and uses the power of Blackboard to increase student learning. They are learner centered, designed to engage the learners, draw on their experiences and meet their needs.

Reason 1: Lack of Well Designed Materials

Many instructor are faced with problems such as simply getting their materials to work, having them ready in time for the class, etc. There is a much more basic, but just as important need that has to be addressed. Every instructor who presents material to his/her students should consider the *design* of their materials. That is, do the materials follow good design principles for enhanced learning?

To assess the design of Blackboard materials, ask users how they feel about them. Must they wade through nested menus? Are they distracted by busy screens with needless animation, flashing text or graphics that do not contribute to anything? Is the structure clear? Can learners easily proceed through the lessons? Can they tell what to do first? Is it easy to find help or additional resources? Is the lesson effective?

Below is a quick layout of the important design issues when creating Blackboard materials for effective learning. Each of these six points, *interactivity, ease of use, structure, attention to educational details use of multimedia, and learner control,* are all related to good design.

Making materials *interactive* is essential on Blackboard as that is the basis for any materials being on the Web. Having passive materials such as large bodies of reading materials is problematic in terms of effective learning in itself but there are a whole host of issues when it is required via the Web. Eye strain, internet disconnects, poor retention, the inability to make direct notes, and others, make the use of passive materials un-advantageous.

Learning on Blackboard may be a new experience for some of your students. Even for those who are Blackboard savvy, making your materials *easy to use* will help students focus on the purpose of the lesson instead of using the Web.

Structured lessons are critical in the Blackboard environment. Students are likely to use materials in an independent learning situation. It is critical that students to not become

confused with the purpose, sequence or outcome of the lesson. It will also be helpful if it is clear to students how they can get help if they have a problem with the materials.

Paying attention to details also ensures good design. Educational details are items such as clear objectives, opportunities to practice, and meaningful feedback. Technical details simply mean that your Blackboard materials are free of any bugs. Attention to all of these details are the hallmarks of a well constructed lesson.

Multimedia include things like animation, sound, video, applets, and plug-ins. While the use of multimedia itself does not constitute good design, it can enhance the design of existing materials. Use of multimedia may provide a means to increase interactivity, excitement and engagement.

Including *learner control* over materials will give the students a sense of ownership, the ability to customize their experience, and achieve effective outcomes. With this last element, an instructor will greatly enhance their materials and pay heed to good design.

After reviewing and thinking about how one may capture good design in his/her Blackboard materials, that person might start to think of him or herself less as an instructor and more as an instructional designer. This is a good thing!

Reason 2: Materials Do Not Facilitate Learning

As you start to consider yourself as the instructional designer of your Blackboard materials, you will need to view the materials in the context of facilitating learning. As such you will want to develop materials which include the principles of facilitation, as listed here.

Using student experiences, in online discussions or chats, will develop a foundation on which to build new knowledge. Materials that help learners solve problems are motivational. Use materials that feature menus organized by task and exercises that feature transferable skills.

Empower students to become self directed learners. Ask them to help create exercises and evaluate their progress. Blackboard is well suited for collaboration between learners and the instructor because there is ample opportunity to communicate. Students can tell the instructor what they want to learn, and what kind or resources they need. Email links, discussion boards, chat session all facilitate two-way communication.

Interactive learning experiences can take the form of activities in which learners make menu choices, enter responses, select modes of instruction, send communications, etc. Sometimes the interaction will not require the learner to do anything observable but just to think.
Graphics, videos, images, hypertext, and audio can help learners understand concepts more easily. Multimedia provide learners with an alternative way to examine problems

and learn new skills. However, you will want to avoid gratuitous multimedia that can be distracting.

As with any learning environment you need to create a setting in which learners are valued as individuals and feel comfortable participating. This is especially important on Blackboard as users may feel anonymous and unconnected to their counterparts. Keep this in mind as you develop online forums, group exercises, and feedback loops.

Encouraging learners to explore new ideas and alternative ways of solving problems will also add in their sense of ownership and self directed learning. Invite students to reflect on what they have learned by applying these ideas. Experiment with exercises that promote critical reflections. Design some individual and some group exercises.

Have students assume responsibility for continuing their education. Help them develop and apply skills for managing and assessing their own learning. Nurture the abilities and attitudes learns need to question their assumptions and to explore alternative way of thinking. This will be a critical when students are on their own using the web materials out of the classroom.

One of the best experiences for me as a teacher is when I know the students are engaged. In the classroom I can usually gage this by the amount of talking going on and the expressions on students' faces. In my Web materials I can judge the level of engagement by evaluating the number of student responses and the quality of the responses. To enhance student engagement I used things like open-ended questions, pro and con debates, short answer responses with peer feedback, and having the students provide examples from their own experience to summarize points.

Now that we are prepared to make our Blackboard materials encapsulate good design principles, we are ready to actually begin the design process. In the next section, we will explore how following a complete design process can help instructors create materials for highly successful learning.

Reason 3: Skipping the Design Process

One of the inherent flaws in Blackboard, that seems obvious to me, is that Blackboard is presented as a system which instructors can easily use to quickly get materials online. While this ease of use may be a great selling point, it is exactly what can lead to the downfall of instructional materials. Rather than hastily putting materials on Blackboard, instructors should be following a thoughtful, and complete design process. What should the process look like? We'll look at that next.

The first stage of the design process is will assessing the learner and class needs. Are students at different levels of ability in your subject matter and their computer/internet skills? What are the instructors needs? Can they be synthesized?

Based on the results of the needs analysis the instructional designer selects the most appropriate method for delivery. A general plan is created that will guide the developments of a detailed plan at the blueprint stage. During the design stage you define interactions that assist in the transfer of skills and knowledge, plan feedback loops that correct, direct and affirm, and structure and sequence resources.

Based on the lesson design, detailed blueprints are created to document each step. Blueprints may seem cumbersome, but consider this. Many contractors and construction workers spend years building houses. Yet, I have never seen a construction worker even build a shed without blueprints.

After the design is complete a series of evaluations are to be conducted to test for accuracy, effectiveness and clarity. These are done by the instructor, students, and any other required personnel. The purpose is to identify possible enhancements. These may include multimedia, additional or specialize codes.

After the proper enhancements are made, the prototype is created. Again evaluations are completed, identifying technical problems, educational weaknesses, and areas of improvement. When the needed changes are complete, another round of evaluation is made and the materials are made ready for implementation.

The steps used to develop Blackboard materials are very similar to those used to develop traditional classroom lessons. As with any set of learning materials we assess the goal, the audience and the environment to find the best way to achieve our outcomes.

Reason 4: Lack of Needs Assessment

A needs assessment is a process whereby data is gathered to establish whether training is required and what type. Here it is important to define what kind of students you will have in your class, and what their background will be. Are there variable levels of knowledge in the subject matter, or do most student have the same level of knowledge? If there are gaps you can provide customized training to bring all students to the same level of ability. If there are no gaps but students have the same needs for learning a certain topic, that area can be address with Blackboard materials. Finally, you will need to assess the students computer and internet skills. Will students need computer literacy training on things such as keyboard and mouse skills? Will students know how to use a browser and maneuver comfortable among web pages? Will your web materials included any specialized applications such as forms or online games that students will need special skills to complete? Before implementing Blackboard materials in your course, make sure students have the proper training or access to the proper training so they can use your materials effectively.

To define the goals of your Blackboard materials, first write a brief statement that describes what learners will be able to do after their instructions. The goal statement should describe how the gap in skills and knowledge identified will be remedied. Be clear about what learners will be able to do. You will use the goal statement later during the

evaluation stage to measure the success of the program. Ask the following: Why are Blackboard materials being offered? What should learns be able to do after using the Blackboard materials? Under what conditions will learns be expected to demonstrate their new skills?

To identify the audience, gather information regarding how much learners already know about the specific topic presented in the Blackboard materials. Be careful not to train the students to do things they already know how to do. On the other hand do not assume they know the basics. Material that is too basic will bore, material that is to advanced will discourage. New classes will present more of a challenge in this area than classes that you have taught for a time. In either case it will be to your advantage to do your homework. Prepare questions that will help you probe for a detailed description of the learns' proficiency level. For example, ask questions such as:

Have you ever installed a plug-in to your web browser? Of yes, what challenges did you face and how did you deal with them?

Which of the settings in the Windows control panel do you feel confident in your ability to adjust?

Have you ever change the default settings on your Web browser?

Have you ever sent an email from Blackboard?

Reason 5: Instructors Don't Address the Variety of Purposes

There are many different reasons that we would want to have materials available on Blackboard. Each of the reasons speaks to the purpose of the materials. For simplicity and clarification I will discuss four purposes:

- Whole learning materials
- Support materials
- Asynchronous materials
- Synchronous materials

As you decide the purpose you are trying to address with your materials, it may be helpful to ask yourself the following questions to help define the instructional needs of your course and find the most appropriate type of materials:

- Are the instructional goals and objectives measurable
- Will the learners benefit from working alone, in groups or pairs?
- Is there a single right answer to the problem/s?
- Will the learners' experience be a resources for the lesson?
- Do the learners need to interact with one another?

What I have labeled as "Whole learning materials" are those materials that engage learners in self-paced lessons. Interactions take the form of branching decisions that are either controlled by the learner or by the materials, based on responses. These lesson are most frequently used to meet structured learning goals related to transferable knowledge, building comprehension and practicing the application of skills.

Support materials are those that provide step-by-step instructions. Learners can access instructions just-in-time, avoiding what they do not need. Well designed materials can link learners to experts, colleagues, threaded discussions step by step instructions, training modules and reference materials.

Asynchronous materials also called a virtual classroom brings learners and instructors together to learn new skills and knowledge. The learns and the instructor log on the the Web at various times to work on assignments, read and work on projects. The learners share a group learning experience but do not meet in real time. This blends a variety of Web technologies such as hypertext, online quizzes, multimedia, note-files, and email to produce lessons. The complexity and sophistication of the lesson are largely determined by the design and the hardware limitations of the learners.

The most technically sophisticated Web materials are those related to the Synchronous classroom. Here the instructor and class are online at the same time. Synchronous classroom materials include tools such as Whiteboards, shared applications, videoconferencing, audio conferencing, and chat rooms. Online whiteboards enable the entire class to write on them in turn. Shared applications such as a spreadsheet allow learners to work in groups to complete a worksheet or file, tracking each person's work along the way. Videoconferencing and audio-conferencing are similar to their traditional counterparts. Both allow learners to interact in real time and to hear and see the instructor and other class members. Chat rooms are a structured way for learners to carry on a dialogue by typing comments into a running discussion.

The design of Blackboard materials is dependent on the purpose of the learning. Like conventional classroom learning, a range of exercises, assignments, and roles are used to achieve specific goals. Use the information collected during the needs assessment to guide the design. Frequently review who the learns are and what they will be able to do after completing the instructions. Use an iterative process so that the design can be adjusted if there is new information about learners, a change in the goals, or a new context for training.

Reason 6: Financial and Resource Limitations

The financial and resource constraints are the same as those that exist with conventional classroom materials, but the limitations are magnified because the tools can be expensive and time consuming to learn. In addition, developing materials is a resource-intensive effort, involving graphics, databases, programming, instructional design and system support. Instructors should not underestimate the restraint that these limitations can have on the affect of their materials. Facing the obstacles up-front will only benefit the student in the end. Instructors may want to consider asking for sabbatical time, course compensation, financial support or other means to ensure they can properly support the development and continuation of the Blackboard materials.

Reason 7: Technical Limitations

Technical limitations such as small bandwidth, limited availability and functionality of tools, incompatibility of programs, and differences among browsers also constrain the instructional designer's ability to create programs. Bandwidth, that is, the capacity of a network to carry files from one place to another, is a major design consideration. IF a network has limited bandwidth, sending large files such as video clips may be a problem.

Any given tool or software package has limited features. No one software program will do everything, so one or more may be required. Your organization will likely have limits on what they will purchase due to budgets and standardization issues. In additions, using more software programs means more time needed for training.

Once the materials have been produced the instructional designer must make sure the materials are viewable and usable across all platforms (PC Macintosh, Unix). For example, it you expect your students to view a Microsoft Word document via Blackboard you will want to show them the different ways in which this is handled by PC and Macs. Not to mentions the different ways in which Web browsers will display a Word document. Netscape Navigator, Internet Explorer, and America Online are some of the most popular browsers and each have different versions which makes matters more complicated. Materials should be designed for the lowest common denominator, the oldest and least functional browsers.

Reason 8: Organizational Considerations

Every organization, whether it be a college, high school, or technical school will have its own considerations to keep in mind. Corporate branding, organizational culture, contractual obligations, copy write issues and other considerations will have an effect on the design decisions of instructors. Materials connected to the organization's Website often require adherence to certain standards, such as representation of the school's logo, the size and color of text, and restrictions on links to other resources. The instructor should also be aware of future curricular changes that may affect the materials used. Contractual obligations may affect the decision as to who owns the materials, and copy-write issues such as selling the materials to a third party, or whether or not to provide public access to the materials can also complicate matters.

Reason 9: Lack of Consideration for Interactivity

When incorporating Blackboard materials into your classroom you will need to sit down an assess what type of interactivity you will require of your students. Interactivity as applied to Blackboard materials is still an evolving concept. There are as many definitions as there are authors. Given this variety, it is more useful for our purposes to identify the hallmarks of a interactive web materials.

Traditional classrooms encourage reflection by asking students to keep journals critique the work of others and consider alternative solutions. Blackboard materials can encourage learners to reflect on their experiences and question their assumptions. Plan a brainstorming session that requires learners to consider a wide range of solutions to a problem. Encourage learners to draw on their life experiences and not discount any possible solutions. Such interactions with course content and peers can create meaningful learning experiences.

In traditional classroom activities, learners have vary degrees of control. Learners may have had the ability to control the order in which they study the lessons, or influence the topics to be covered. Blackboard materials can offer learners a range of opportunities to control the learning experience as well. To do this, develop interactions that enable learners to control the path, rate and depth of content.

Directing attention and motivating learners in a traditional classroom is done by making content relevant and meaningful. This strategy is also pertinent for Blackboard materials, but the tools used by the instructor are different. In Blackboard materials you will create interactive programs that engage learners in topics that are important to them. Develop materials that are learner-centered rather than content centered. Use tools such as email, chat rooms, and discussion boards to tailor lesson to learners' interests.

To enhance interactivity in the traditional classroom, instructors show videos, invite guest speakers, or take field trips. Blackboard offers a range of tools to assist in the dimension as well. Give your learners the opportunities to interact with multiple forms of media and add a new level of depth to their learning.

Reason 10: Lack of Consideration for the Instructors Role

Next I'd like to address the role of the instructor. The term instructor refers to two roles. First, the system itself has a role: it provides feedback, recommends the order in which to complete lessons, assesses learner progress, and directs learners to additional resources. Second, the instructor him or herself will play the role of online facilitator, available to provide answers and resources. The instructor as facilitator emails messages, reviews online scores, assesses participation and proactively engages learners.

In terms of controlling the environment, the instructor determines the amount of control learners will have of their environment and what kind of stimuli and feedback they will receive. The instructor will create a safe environment for the learner to practice new skills by providing structured menus that lead learners from one lesson to another only after prerequisites skills have been mastered. Instructors can simplify and structure materials to make it easier for learners by adding a site map of index of terms.

The instructor predicts what learners need to know and determines the content, sequences, and depth of information. This is important because in an asynchronous environment there is little opportunity to make dynamic changes. The instructor must

anticipate learners' needs during the assessment phase. Learner needs can be reflected in the design of menu titles, and the sequencing of topics can be problem centered. Other strategies include layering and sequencing the content to reflect learners' interests.

When the instructor takes the role of online facilitator, he or she will use the system to assess the learners' outcomes in two ways (1) The system can judge a response and send feedback, or (2) the online facilitator can judge a response and send feedback. In either case the instructor provides assessment interactions. If the system provides feedback, the design team must decide how many attempts to permit and what type of feedback will be given after each. If the online facilitator provides feedback, the tools must be given to track scores and communicate via email.

Directed learning refers to activities that guide the learner through the program. They can be as simple as queuing or as complicated as competency assessment. With queuing the system provides a recommended path through the lesson modules, and menu items are grayed out when completed. For competency assessment, the online instructor administers a pretest, then creates a customized path.

Communication is key to building a learning community among the learners and instructor. Learners have a continual link to the instructor, through icons for sending email, or use of threaded discussions. The instructor can also contact learners and check on their progress. More sophisticated programs have built-in features to track learner progress and alert instructors to the learners' scores and attendance.

All of these roles are critical to having successful materials on Blackboard. It is imperative that each instructor consider the variety of roles they will play, and how their materials should be used in that role.

Conclusion

In fact, there are more than ten reasons why instructors fail at presenting materials successfully via Blackboard CMS. It was the purpose of this paper to encourage instructors to think about some of the bigger traps they may fall in to, and help to prepare them to avoid those traps and others.

This paper included an overview of how the proper consideration of material preparation can enhance student learning via Blackboard. It included a discussion of the advantages and disadvantages of using a system such as Blackboard Course Management Software. Next, the paper discussed how an instructor might start to consider principles of good design. Instructors should incorporate a good design process as well as successful implementation planning and good evaluation methods. The body of the paper walked through a discussion of ten individual reasons instructors fail when presenting materials via Blackboard. Each section included a description of the pitfall, and offered suggestions for avoid it.

All of this work toward developing better materials will serve to help each instructor achieve successful student learning with his or her Blackboard materials. After all, successful learning is the reason we teach.