

## Resources And References

<http://www.dlrn.org/>

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## Dealing With Educational Inequities:

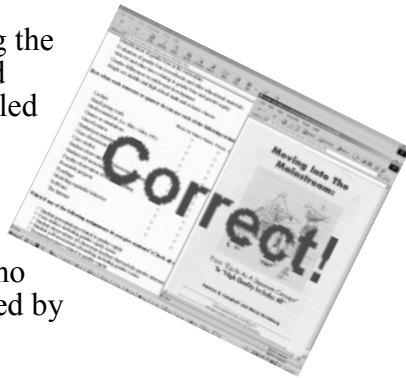
### Are Web-Based Courses An Answer?

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## An Overview Of Web-Based Courses

There is increasing interest in using the web to deliver courses. Web-based courses are a form of education called distance learning, which also includes courses by mail, videotape, CD, DVD, television, satellite broadcast and videoconferencing. In distance learning there is either no instructor or one who can be reached by mail or electronically.



Some distance learning is done in “real time” and called *synchronous*. Here students and an instructor, who are connected by web, satellite or video conferencing, simultaneously participate in the same or similar activities. Other distance learning is *asynchronous*, where students progress through courses at their own pace. In asynchronous distance learning, there may be e-mail or snail mail contact with an instructor, or the feedback may be totally computer generated.

The web is the primary source of information, activities and interaction for web-based courses. Web-based courses can also have e-teachers who interact with students electronically, on-site teachers and supplemental materials such as textbooks and CDs.

Over the past few years there has been great interest in web-based courses at the high school level. Currently web-based courses are offered at every skill level from Basic Math to Advanced Placement Calculus and for subjects from Personal Finance to Advanced Japanese.

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## So Are Web-Based Courses An Answer?

First several other questions need to be asked.

### Do web-based courses increase student achievement?

A meta analysis of studies of distance learning found few differences between the achievement of distance learning students and students in conventional classrooms (Cavanaugh, 1999). However dropout rates can be a problem. More needs to be learned about completion rates and achievement test scores of students taking web-based courses and comparable students in conventional classes.

### Do web-based courses decrease the digital divide?

While the in-school digital divide is closing, there are still major differences by race/ethnicity and socio-economic status in the amount of computer and web access students have out of school. To decrease the divide, schools may need to provide students with before-school and after-school access to computers and the web and not assume they can work on the courses at home.

### Are web-based courses cost effective?

If schools already have the hardware, software and web access needed for students to effectively use web-based courses and to ensure the security of student data, courses can be cost effective, depending on the cost of the courses and of the off-site and on-site supports.

### Are web-based courses sustainable?

Web-based courses will need to reflect state and local standards and to be tied to state testing and graduation requirements if they are to survive. In addition, students and schools need some insurance that courses will continue and will be maintained.

## What's Needed To Make Web-Based Courses Work?

Technical and financial resources are key. Schools need to have enough technology and web access to make web-based courses a viable alternative. They may also need money to pay not only for the courses but for student instructional materials, necessary instructional and technical support and even on-site teacher training.

In addition the courses have to be good. Good web-based courses have:

- ◇ accurate content at the appropriate level of difficulty
- ◇ activities and assessments that are accurate and tied to the content and the course goals
- ◇ certified e-teachers who are qualified in the content area
- ◇ e-teacher and computer generated feedback that is timely and helpful
- ◇ met state and/or local standards
- ◇ the potential to keep students interested and motivated.

If schools choose to use web-based courses, they need to be aware that:

- ◇ students need out-of-class computer and web access
- ◇ e-teacher response to student questions is not immediate and can take a day or more
- ◇ e-teachers tend to have more limited knowledge of students than on-site teachers
- ◇ hands-on activities, especially science labs, can be difficult to do in web-based courses
- ◇ on-site instructional support may be needed including:
  - on-site teachers/facilitators with technical and subject area knowledge
  - tutors
  - books and other instructional materials.

Web-based courses can meet a number of school and student needs including:

- ◇ increasing the variety of courses available to students
- ◇ increasing school scheduling options
- ◇ providing alternatives for home schooled students
- ◇ providing an alternative way for students to retake failed courses

As more attention is being paid to educational inequalities, web-based courses are also being explored as a way of dealing with inequities in course access and student achievement.

Access to web-based courses is provided through:

**Virtual schools** where students enroll on a per course basis and pay tuition which costs around \$300 per course. Examples include: Virtual Greenbush (<http://www.virtualgreenbush.org/>) and CompuHigh (<http://www.compuhigh.com>).

**Statewide schools** where state residents can enroll in courses for free or a nominal cost. Examples include: Florida Virtual School (<http://www.flvs.net>) and Kentucky Virtual High School (<http://www.kvhs.org/>).

**Cross state consortiums** where partner schools develop courses for their students and others. An example is the Virtual High School (<http://www.govhs.org/website.nsf>).

**School- or district-wide contracts** where course providers such as Apex Learning (<http://apexlearning.com>) and class.com (<http://www.class.com/>) are contracted to deliver courses for students from that school or district.

## Unequal Access To Advanced Courses

*Having a high quality academic high school curriculum is one of the strongest predictors of college completion, especially for African American and Hispanic students (Adelman, 1999).*

*High schools serving predominantly low income and minority students typically offer far fewer advanced, Honors and Advanced Placement (AP) courses than do other schools (Oakes et al, 2001).*

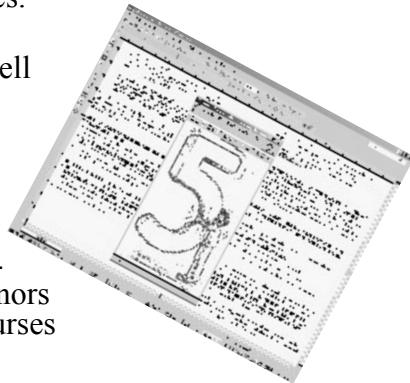
To deal with this inequity states like Michigan (<http://www.mivu.org/mivhs/Apex/Apex1.htm>) and California (<http://uccp.org/>) are providing their students access to web-based advanced courses.

Using web-based courses to fill curricular “holes” has a number of advantages including:

- ◇ making it cost effective to offer AP or other advanced courses to individuals or to small groups of students
- ◇ allowing advanced courses to be offered in schools where there are no teachers qualified to teach the course
- ◇ allowing students to take advanced courses at their high schools rather than at local colleges.

There can be some disadvantages as well including:

- ◇ the need to provide students with computer access and broadband web access before, during and after school
- ◇ the little data on the relative effectiveness of web-based AP and Honors courses compared to in-school courses
- ◇ lower course completion rates.



## Low Student Academic Performance

*Having qualified teachers with strong content knowledge is related to higher student achievement; however, these teachers are less apt to be found in schools with larger numbers of poor and minority students (Wenglinsky, 2002).*

There is no substitute for qualified, available teachers. However, many schools don't have these qualified teachers especially in mathematics and science. In these cases, the availability of remedial and basic level web-based courses and the ability of these courses to make use of graphics, audio, video, diagrams and photographs have helped make web-based courses an attractive way to improve student performance.

Supporting this belief, states such as Florida, provide their students from low performing schools with preferential free access to web-based courses.

There are a number of possible advantages to using web-based courses with low performing students:

- ◇ students progress at their own pace
- ◇ a variety of instructional modes can be used
- ◇ tests and activities can be done more than once
- ◇ students may feel more comfortable in an on-line environment.

The major disadvantage of using web-based courses with low performing students is that studies have found that distance learning works better with students who are eager to learn than for those who may need motivation. It appears to be less suitable for lower performing students, particularly when remedial work is needed (Campion, 1991; Campbell & Storo, 1996).

However, teachers have suggested that web-based courses can be effectively used with at-risk, low literacy students if they are used in small groups with a good on-site facilitator.