U.S. Department of Education
Fund for the Improvement of Postsecondary Education

Grant: P116Y090002

Mobile Learning Initiative
Project Narrative
Problem Addressed: Colleges and Universities are faced with the challenge of making higher education more accessible to students who are increasingly mobile and require flexible options for accessing course materials. Today, most institutions of higher education utilize the Internet for instruction. Thomas Edison State College is a leader in distance education and online instruction. Online courses enable students to study anywhere and at any time. Students are not required to attend face-to-face classes at a fixed time and location. These online courses are offered in asynchronous mode, allowing the students to log on to the course site and complete the courses at their convenience.

In today’s increasingly wireless world, students are connected and digitally communicating with one another. Mobile technology has become fully engrained as a part of their social practice. Students take it for granted that being tethered to a desktop computer, or even a laptop computer with a wired Internet connection, is no longer the only option for online study. Technology has developed to the point where Smartphones can integrate telephone, computing, messaging, and multimedia. To meet students’ needs in today’s wireless society, Thomas Edison State College is developing a course delivery platform that utilizes these new technologies to deliver on-line course content.

However, at the same time, there exists a large group of current and potential students unable to access the Internet on a regular basis or who lack high-speed Internet access.

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1 Wagner, Ellen D. *Enabling Mobile Learning*, *EDUCAUSE Review*, vol. 40, n0. 3 (May/June 2005), 40-53.
Internet access nationwide is not as ubiquitous everywhere as it is in the densely populated areas. Rural areas often face significant gaps where Internet access and satellite access may be limited.\(^2\) A 2009 study conducted by the Pew Internet and American Life Project found that over one quarter of adults in the United States are not Internet users\(^3\) and home broadband has been adopted by only 63% of Americans.\(^4\) One-third of dial-up users cite price as a barrier to high-speed Internet access\(^5\) and 16% of non-internet users are unable to get access where they live.\(^6\)

Many other students are unable to access the Internet for long periods of time because of job-related travel or other life issues. Commute time for American workers has steadily increased, with nearly two million Americans now logging over ninety minutes in commute time each way to work, in many cases utilizing mass transit.\(^7\) For many people, frequent business travel is a way of life. If the appropriate platform were available, these individuals could utilize the downtime spent traveling or commuting to access higher education, without the requirement of Internet access or a laptop computer.

\(^3\) Reisinger, Brian, County explores providing high-speed Internet access to rural areas, Wausau Daily Herald, July 1, 2009.
\(^5\) id.
\(^6\) id.
\(^7\) MSN Money \url{http://articles.moneycenral.msn.com/Investing/HomeMortgageSavings/AmericasKillerCommute.aspx} \url{http://www.time.com/time/2007/america_numbers/commuting.html}
Other students are members of the military deployed in remote regions of the world or stationed in secure environments that do not permit individual internet access. Based on student and reports from mentors (course instructors), the Office of Military Affairs at Thomas Edison State College estimates that over 4,000 of their almost 10,000 military students have limited access to the Internet because of their branch of service or forward-deployed status. These military students often are deployed at sea or in combat positions, without reliable access to a dedicated computer.

In response to the concerns of the students and their mentors and to expand access to higher education both within the military and civilian populations, the College has developed the Mobile Learning Initiative. The Mobile Learning Initiative will provide an innovative model for facilitation of access to online course materials in an offline environment, thus providing a greater number of learners with higher education opportunities in the 21st Century. This problem is not unique to Thomas Edison State College; students at other institutions of higher education that provide online learning face similar limitations. The ability to deliver online course content in an offline environment in a cost effective manner while meeting the needs of those learners will expand the learners’ educational opportunities, resulting in an increase in their capability to find high-level employment positions. The students will pay a modest rental fee to defray costs of software and media licenses. The project will utilize current technology and cloud computing to recreate the online experience for students with limited internet access, by providing them with fully self-contained course delivery via small flash drives.
with large memory capabilities that simulate the online experience and provide cloud computing in an offline environment.

**Significance of the Mobile Learning Initiative**

**National Significance:** The Mobile learning Initiative developed is an innovative project that will change the way students access higher education by providing individuals unable to access online learning with the appropriate tools that will allow them to access online course materials and online instruction even when they are offline. This project will revolutionize higher education by making higher education readily accessible to a greater number of students in densely populated urban centers, in remote rural areas and in forward deployed military zones, thereby increasing student retention rates. Once the project is fully launched, it will enable large numbers of students who have restricted, unreliable, or expensive Internet access to participate in online courses offline via the use of USB flash drives and flash drive compatible devices. Ultimately, the mobile learning platform will recreate the online learning experience in a totally offline environment that may or may not require sporadic online connectivity in short bursts.

This new method of course delivery will make higher education an attractive and affordable option for students who are juggling their other life responsibilities. It will provide them with the ability to access course materials without necessarily being tethered to a fixed-location computer with Internet connectivity, or even to a laptop with wireless connectivity. Students in all branches of the military, students who spend hours traveling for their job or family-related responsibilities, and students for whom high
speed internet access is cost prohibitive or unavailable will have an inexpensive tool to increase the productive use of their time and enable them to access their course materials wherever they may be located.

New tools such as PDAs change learners’ and workers’ everyday practices. Mobile technologies are changing people’s lifestyles. Portable devices have been used in the past to support teaching and learning – from the graphing calculator to the use of laptop computers. Institutions of higher education are beginning to deliver course content via a platform that will be easily accessible for all students, utilizing new cell phone technology, including the expanded 3G networks and the increasing availability of smartphones. Colleges and universities have made select course content available for download via iTunes. Users are able to utilize their smartphones to meet their broadband connectivity and their communication and computing needs, all on one device. The new technologies provide expanded opportunities for higher education to meet the needs of its students.

Thomas Edison State College seeks a two year grant from FIPSE for a total of $250,000 to support the development of the Mobile Learning Initiative, which will utilize these new technologies to provide expanded access to course materials for its students.

Expanding access to course materials also expands access to higher education, placing

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8 Scalon, Eileen, and Jones, Ann, Mobility, collaboration and research into practice, Learning, Media, and Technology, Vol. 30, No. 2, July 2005, pp. 101-105
9 Wagner, Ellen D. Enablisn Mobile Learning, EDUCASUE Review, Vol 40, no. 3 (May/June 2005); 40-53
within reach of those segments of the population that otherwise would have to forgo the
opportunity to further their education. This program at Thomas Edison State College, a
leader in distance and online education, will provide an innovative model for colleges and
universities across the nation in the use of new technologies and cloud computing to
expand student access to online course materials in an offline environment.

Innovation: The Mobile Learning Initiative involves the development of an innovative
strategy to expand the accessibility of higher education by making online course
materials more accessible and affordable for students who have limited or no access to
the Internet. This delivery platform widens the options for students by providing access
for students who cannot be tethered to a laptop or desktop computer for long periods of
time or who are unable to reliably and inexpensively access the internet. The delivery
platform will allow greater numbers of students with career or family related
responsibilities to continue working while pursuing higher education.

The increase in possibilities for mobile learning can be attributed to a number of factors:
the increase in the computing power and capacity of cell phones and PDAs, the fact that
the use of mobile telephones is already fully ingrained and integrated as a part of social
practice,\textsuperscript{11} and the development of cloud computing technology. This project incorporates
cloud computing technology to further expand the application of technology to higher
education and provide a course delivery platform that meets the needs of current and
future learners who have integrated these technologies into their lives in ways that

\textsuperscript{11} id.
heretofore have not been possible. This innovative project provides a new strategy to engage students in higher education through the use of portable technology.

The Mobile Learning Initiative will cater to different learning styles. In many ways, Mobile Learning will replicate the online learning experience in an offline environment by enabling the learner to access the course materials, participate at all levels required by the content and presentation, engage in the media presented and integrated with the course, and complete all assignments as required. Then, when the learner is able to log on to the online course space, the completed work assignments can be uploaded and new information downloaded.

This Mobile Learning Initiative will make learning a more personal experience for each student by offering a new dimension of choice previously not available; students will be able to do the work of the courses even when they have no Internet connectivity or regular access to a laptop or desktop computer. For the student, the content of these courses will be indistinguishable from online courses requiring long periods of Internet connectivity. Online courses are available in a variety of “flavors” to cater to different learning styles. They are offered on a continuum: ranging from those that are highly structured and include a discussion board where students can interact with each other and the mentor, through courses with no interaction with other students and limited input from mentors to challenge exams where students study entirely on their own before taking the final, high-stakes test. Some courses offer a variety of media for learners with learning styles that are predominantly auditory or visual; other courses contain limited or
no media, relying almost entirely on the printed word. For the student, the courses available via the Mobile Learning Initiative platform will be indistinguishable from truly online courses, except that they will not require long periods of Internet connectivity.

The Mobile Learning Initiative is an innovative extension of online learning that builds on existing strategies, resulting in an enhanced learning experience for the student. It does not replace any existing delivery mode; it is integrated with current delivery modes and offers flexibility of choices and options not available in a strictly online-only course delivery.

**Replicability:** The Mobile Learning Initiative will result in a course delivery platform that will be replicable and can be implemented in a variety of settings. The platform can be replicated to accommodate different learning modes, including guided study, online, TECEP (Thomas Edison State College Examination Program) \(^{12}\) and e-Pack ®\(^{13}\) courses and secure online testing. Other institutions of higher education currently utilize some form of mobile learning as an adjunct to classroom teaching, or as an alternative delivery mode in selected courses and course components, depending more on the preferences of the professor presenting the course than on the students’ preferences. Thomas Edison State College has a centralized course development and delivery philosophy whereby

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\(^{12}\) Thomas Edison State College Examination Program (TECEP) offers students an opportunity to earn college credit for college-level knowledge gained through work, hobbies, independent reading or other activities. Sixty different examinations, covering a wide range of liberal arts, business, and professional areas are offered through this program.

\(^{13}\) E-Pack ® courses provide a method of independent learning in which the student studies at his or her own pace, preparing for a comprehensive final exam by taking a series of short, un-graded diagnostic quizzes delivered online.
courses are designed as independent study courses built around students’ preferred learning styles. Mobile Learning courses can be developed as totally self-contained courses delivered on removable storage media like USB memory sticks or standard and micro SD cards that contain all materials the student needs to complete the course, including texts, media, required applications like word processing and other programs and secure testing. The storage device leaves no footprint behind on the host computer and can be used on any device that accepts USB connections or SD cards. Students are therefore truly capable of carrying their entire course and all the tools needed to do the work of the course in a device that can be as small as a micro SD card but no larger than a stick of gum. A modest rental fee, paid by enrolled students, will cover the cost of media and licenses belonging to a third party provider. Much of what is contained on the storage device is available as free, open source applications and, therefore, can be replicated by other institutions. What is unique about the way it is used by Thomas Edison State College is the constellation and combination of the various elements into a free-standing, totally portable learning experience.

Other institutions throughout the country have expressed interest in the Mobile Learning Initiative. As a direct result of this project, the Vice Provost for DIAL at Thomas Edison State College was invited to participate in several conferences this year, presenting a workshop on Mobile Learning and participating on expert panels to present the project and to respond to audience questions, while also submitting proposals and presenting at
national and international conferences. Several more conference presentations are planned for the rest of the year. In addition, he has presented the Mobile Learning Initiative to the Thomas Edison State College Board of Trustees, the Thomas Edison State College Foundation Board, the President’s Council, the Academic Council and the College staff. Presentations elicited enthusiastic responses and extended conversations with other academics seeking to implement similar methodologies.

**Design of the Mobile Learning Initiative:** The Mobile Learning Initiative will enable large numbers of students with unreliable or restricted computer or Internet access to participate fully in the large number of online degree programs and online courses offered by Thomas Edison State College either through the use of cell phone technology or in a totally offline environment. The advent of ultra-portable devices, ranging from ultra-thin laptops like the MacBook Air to Smartphones (G1, iPhones, BlackBerry, and more), gaming devices like PSP, and even Web-enabled cell-phones offer the student the ability to be online and engage in online activities wherever the individual is located. The Mobile Learning Initiative will allow students with restricted, unreliable, or expensive

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14 “How Do We Know Our Students Are Who They Say They Are?” Association for the Advancement of Computing in Education/Ed-Media World Conference, Vienna, Austria, July 2008.
Internet connectivity to access online course content and materials in an offline environment.

As a part of the Mobile Learning Initiative, the team began to develop a plan to deliver selected course content via cell phones, PDAs, smartphones, and other portable devices. This mobile learning option allows the student to access course material with any cell phone or mobile device with Web capabilities. Devices include those listed above, as well as netbooks and ultra-portable computers. Students will be able to access course content, interact with media\textsuperscript{15} (like streaming video and flash content), and take quizzes and even tests with near instantaneous feedback. Thomas Edison State College provides the student utilizing this mobile learning option with a link that will connect to a dedicated server that transmits quizzes to the student’s cell phone or PDA. Students have the option of taking the quizzes at their convenience, at any time and in any location they wish. The quizzes may be a graded portion of the class, in which case the students utilizing this option will receive grades for the quizzes instantaneously. Cell phone delivery of selected modules in ten courses is now available and is being beta-tested. This delivery allows students to read course content and take instantly scored quizzes interactively via their Web-enabled handheld devices. When fully implemented, the Mobile Learning Initiative will simulate this mobile learning online delivery platform in an offline environment.

\textsuperscript{15} The cost of licensing and utility media produced by a third-party vendor will be defrayed by a modest rental charge to the student.
The College has begun limited development of the mobile learning option and has already converted fourteen courses to be delivered on USB flash drives. Follow-up surveys are planned. Initial student responses indicate that the use of this technology to permit easy access to course materials is welcomed as another flexible option to take courses and complete coursework.

With funding from FIPSE, the College will develop and expand this Mobile Learning Initiative in order to offer entire online courses in an offline environment, utilizing USB memory sticks and micro SD drives containing all course materials and relevant software applications. The College currently offers more than 400 disparate courses in other delivery modes that will have to be adapted for delivery via this platform. First, the courses will have to be screened for their suitability for the new delivery methods. Then, the courses will be redesigned by a team of experts consisting of instructional designers, subject matter experts, educational technology experts and media specialists, so that students on the receiving end will be able to receive course content in a format compatible with the device they have chosen to use. Challenges include formatting course content for a wide variety of devices, including cell phones to PDAs, smartphones, netbooks, each with a different screen size and resolution. There are other factors that must be considered, including storage capacity of the portable device, bandwidth available for downloads and the pricing structure imposed by the network carrier of the student’s choice, the ability to handle streaming media, and the course content itself. Text-intensive content will have to be redesigned to enable reading on a small screen, or to present alternatives to reading on small screens. There will be different challenges
posed by content like science and math notation. Illustrations, charts, diagrams, and science and math notation have to be designed as gif files to be displayed on a computer screen. They require specialized software in the design phase and can display in a manner that is very difficult to read on a small cell phone screen unless design specifications take into account the size and resolution of the display screen.

When implemented, the Mobile Learning Initiative will provide an innovative delivery platform for course content and related instructional materials, utilizing current technology and cloud computing. Cloud computing has rendered obsolete applications like word processing programs installed on a single device. This technology offers the user the ability to access cloud-based versions of applications and to store and tap into personal data in a “cloud” or personal Web space that is always available and highly secure. Cloud computing is independent of large servers to which students log on and which impose bandwidth limitations that typically could negatively impact the speed of the downstream or the ability to interact with course content. Cloud computing uses virtualization technology and typically networks a large array of servers and low-cost PC technology that pushes information to a secure defined space to which only the individual subscriber has access. Amazon, Dell and Microsoft represent commercial use of this technology. Through cloud computing students are able to operate in a virtual environment using virtual computing technologies where expensive and resource-intensive software like Photoshop, Microsoft Office, AutoCAD, SPSS and other specialized software are available independent of the student’s own computer. It can be accessed from any computer and at any time, for as long as the student is enrolled in the
course. Cloud computing also allows secure storage of data and retrieval of the data, again independent of a particular computer in a fixed location using a specific operating system. An example of this is Google Docs. Microsoft is planning on implementing a similar approach in the near future.

When the Mobile Learning Initiative is fully implemented, the College will provide its students with courses that will be available on self-contained flash drives that only require a USB port and a compatible device. The students will be able to access these course materials on a variety of electronic devices beyond computers and laptops, including Smartphones, PDAs, PSPs, and compatible cell phones. The flash drives will contain a fully featured suite of open office software, an e-mail client and a Web browser. Students will utilize these applications to complete course assignments. The computer or other portable electronic device provides the operating system. The office applications operate independently from the host computer or other electronic device. The course content will be displayed on the host device in a simulation of the online experience, as if the student were online. All of the course materials and the students’ work will be contained on the flashdrive; nothing will be left on the host computer or PDA. From the student’s perspective, the learning experience will be a near-perfect offline replication of the regular online experience in other courses, but with the advantages of being independent of a specific Internet-connected computer in a fixed location. From the perspective of the mentor, there will be practically no difference, since courses are designed as independent study courses, requiring limited or no mentor interaction beyond grading and commenting on student work.
And, ultimately, this flash drive will contain an on-board operating system that will make the user totally independent of the host computer’s operating system. It will even operate in the total absence of a functioning hard drive on the host computer and will afford the student the total online experience including key aspects of cloud computing, but in an offline environment that may require only occasional brief periods of connectivity to upload assignments, download graded assignments, and to update course content. This delivery platform will facilitate learning among students who do not have access to a dedicated computer or whose responsibilities require them to be mobile. A grant from FIPSE will allow Thomas Edison State College to complete development, testing, and implementation of this innovative project. The grant will pay for the hiring of experts in the field of instructional design, instructional technology and media development, as well as for the required hardware and software. External, independent evaluators also will be hired using grant funds to determine the level of success of the project and to shape and guide the project by providing a feedback loop that will inform the development process.

Current project planning is aimed at phased development and implementation. The first phase of the project is now in the final stages, with 14 courses available for students. The 14 courses are based on the e-Pack® approach where students work independently through a prescribed syllabus and then take diagnostic quizzes to test their mastery of the content. The final exam is a comprehensive, high-stakes test.

The second phase of the project calls for the development of offline courses that replicate the online experience in all respects, allowing students to upload completed assignments
and download new information in short bursts at sporadic intervals when Internet connectivity is available. The advantage to students in the military, deployed in remote areas, is immediately obvious. A grant from FIPSE will fund this phase of the project.

The third phase of the project will be focused on the development of an operating system that will take over the host computer without leaving any tracks behind. Once completed, this phase of the project will enable the operating-system-independent, cross-platform delivery of courses. Once complete, the Mobile Learning Initiative will give students the flexibility to access their online courses within a self-contained offline environment. The final phase will be the development of a virtual learning environment that is based on cloud computing technology.

The College currently has a team of instructional designers that includes one instructional technology specialist but no media designers. Research and development is limited by the lack of personnel and resources, resulting in a very slow pace of development and production at a time when student need is increasing. To speed up development and to ensure a rapid time to market delivery, a project team will have to be assembled including a project planner/leader, instructional technology specialists, media and graphics design specialists and an IT professional.

The project planner/leader function will be fulfilled by current personnel. This individual will be responsible for planning the entire project, allocating resources and setting up timelines. The instructional technology specialist will work with subject matter experts
supplied by the College to design and format courses for the specific delivery method – i.e., FlashTrack, cell phone, PDA, etc. The media and graphics design staff will select and create media including graphics, illustrations, charts, audio and video clips, flash animations and more, as required by the content of the course. The IT professional will advise the team on the technological requirements for each development phase up to delivery to the student. The College’s current staff will provide administrative support. The project will require the purchase of dedicated computers equipped with appropriate software for the design, development and production of the required course components, including media such as audio and video clips, animation, and flash presentations.

Open source and freeware are now widely used for applications such as e-mail clients, file transfer protocols, word-processing and other office applications, Web browsers and file-handling applications. The utilization of this open source and freeware drastically cuts the cost of this delivery platform for the student. The College owns course content, and media are distributed under licenses purchased by the College. These costs and the cost of the USB flash drives will be partially absorbed by the College and partially included as a rental fee in the course enrollment price.

The FIPSE grant will be used to fund the second phase of the Mobile Learning Initiative. The first phase was funded by a grant from the Thomas Edison State College Foundation Board, Inc., and is now being consolidated and brought into the mainstream of course delivery on a limited scale. Phase two (funded by the FIPSE grant) will take the project to the next level of developing free-standing, cross-platform and operating-system-
independent courses delivered via the FlashTrack platform and designed to replicate the cloud computing experience in an offline mode.

If the project is successful in meeting the objectives outlined above (see also the chart in the Appendix) within the designated lifetime of the grant, it will become the mainstream method for delivering courses to students, replacing or adding to current delivery methods. Funding will come in part from the College’s operating funds and from student fees. If additional funds are required when grant funding expires, further grant funding may be sought, although one objective will be that the project becomes self-sufficient, through tuition and student fees.

**Project Evaluation:** At least 10% of a grant from FIPSE will be set aside to pay for the services of an independent consulting firm with experience in program evaluation. This independent consultant will have no connection to the College, to any personnel working on the project, or to any providers of software or hardware, ensuring the greatest degree of impartiality possible. The evaluator also will be a member of the American Evaluation Association.

During the first year that FIPSE funds the project, twenty additional courses will be selected from the existing course inventory to be redesigned for FlashTrack delivery on a flashdrive or mini SD card. The courses will be marketed and deployed to students. At the same time, research and development for next phase of the project will be initiated.
The research and development during this phase will focus on the implementation of a platform-independent operating system.

During the first year, the course selection will be reviewed to determine appropriateness for the medium. The redesigned courses will be evaluated using pedagogical and academic rubrics. Surveys of student and mentor experience will be performed through various methods including focus group interviews and evaluation surveys. The results will be analyzed and used to inform changes and amendments to the course development and deployment models.

During the second year of the project funding, an additional 20 courses will be selected and designed to replicate the online experience in an offline environment, through the use of a platform-independent operating system delivered via FlashTrack. This phase represents a radical departure from conventional course delivery and has the potential to revolutionize course delivery methodology. Research and development for a cloud computing model to be implemented in the final phase of the project also will be initiated at this stage of the project.

The evaluation phase of the second year of project funding will follow the broad outline established during the first year. In both years, evaluation will be both formative and summative. A feedback loop will ensure that future development is guided and informed by the outcome of the evaluation process.
Resources: Thomas Edison State College is the logical choice for establishing the project. The College has more than 30 years of experience delivering highly flexible, academically rigorous learning opportunities in a variety of delivery modes to students studying entirely at a distance. The College was founded in 1972 as one of New Jersey’s senior public institutions of higher learning and is regionally accredited by the Middle States Association of Colleges and Schools. In this spirit of Thomas Alva Edison, the College was chartered specifically to provide diverse alternate methods of achieving a collegiate education of the highest quality for self-directed adults.

As one of the largest education providers to the military, including students deployed in remote war zones, the College has refined its methods of online delivery so that it now meets the needs of students in a very efficient and effective manner. The Mobile Learning Initiative is the next logical step in the evolution of the processes the College has been developing for more than three decades. The Thomas Edison State College Foundation, Inc committed to providing $42,500 for the initial phase of this project. A grant from FIPSE would permit the Mobile Learning Initiative to extend beyond the initial limited beta testing of the new delivery platforms to continue to develop the platform and adapt select courses to utilize this delivery platform, enabling students to access the full content of online course materials in an offline environment.
## MAJOR GOALS AND OBJECTIVES

### YEAR ONE

- Select 20 additional courses from existing course inventory to redesign for deployment via the mobile learning platform.
- Develop standards to determine if course selection is appropriate
- Redesign selected courses for delivery via the Mobile Learning Platform, using steps outlined below.
  - Create course outline to be approved by curriculum committee, if required.
  - Ensure course objectives align with program objectives and institutional learning outcomes.
  - Select assessment methodology.
  - Restructure content, including, for example, modular content presentation, topical structuring, and assignment types.
  - Design rubric to evaluate the redesigned course to ensure it meets criteria, including academic rigor, clear presentation, unambiguous statement of objectives, achievement of objectives, appropriate assessment approach and implementation.
  - Deploy the redesigned courses utilizing the mobile learning platform.
  - Develop marketing efforts to promote student access of courses through the Mobile Learning Platform.
  - Initiate research and development for the third phase of the Mobile Learning Initiative, which will be based on the implementation of a platform-independent operating system.

### EVALUATION MEASURES **

### YEAR ONE

- Review course selection for redesign to the Mobile Learning Platform.
- Evaluate courses chosen utilizing these standards to determine if course selection was appropriate
- Evaluate the redesigned courses using various evaluation methodologies, including focus groups, surveys, and interviews.
- Curriculum committee scrutinizes and approves the course outline.
- Examine objectives to ensure correct cognitive level and alignment with cross-cut objectives and learning outcomes.
- Subject matter expert justifies assessment methodology.
- Evaluate structure to ensure balanced content division and workload.
- Evaluate redesigned course by an objective outside evaluator using rubric structured around select criteria, including academic rigor, clear presentation, unambiguous statement of objectives, achievement of objectives, appropriate assessment approach and implementation.
- Evaluate if deployment was effective, as measured by student feedback.
- Evaluate if the operating system was appropriate in different environments.
- Design survey and evaluate through this survey whether courses were marketed to correct audience - to individuals with access to cell phone technology.
- Develop standards and evaluate based on these standards whether the research performed was applicable to the full implementation of the Mobile Learning Initiative at Thomas Edison State College.
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<tr>
<th>MAJOR GOALS AND OBJECTIVES YEAR TWO</th>
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<tr>
<td>• Utilizing the lessons learned from year one of the project, select an additional 20 courses from existing course inventory to redesign for deployment via the Mobile Learning Platform, for a total of 40 courses over the two years.</td>
<td>• Review course selection for redesign to the Mobile Learning Platform. • Evaluate courses chosen utilizing these standards to determine if course selection was appropriate.</td>
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<td>• Redesign selected courses for delivery via the Mobile Learning Platform, utilizing lessons learned from the redesign of courses during the first year of the project.</td>
<td>• Evaluate the redesigned courses using various evaluation methodologies, including focus groups, surveys, and interviews to determine if the operating system worked appropriately in different environments.</td>
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<tr>
<td>• Redesign selected courses for delivery via the Mobile Learning Platform, using steps outlined below. • Create course outline to be approved by curriculum committee, if required. • Ensure course objectives align with program objectives and institutional learning outcomes. • Select assessment methodology. • Restructure content, including, for example, modular content presentation, topical structuring, assignment types etc. • Evaluate the redesigned course to ensure it meets criteria, including academic rigor, clear presentation, unambiguous statement of objectives, achievement of objectives, appropriate assessment approach and implementation.</td>
<td>• Evaluate the redesigned courses using various evaluation methodologies, including focus groups, surveys, and interviews. • Curriculum committee scrutinizes and approves the course outline. • Examine objectives to ensure correct cognitive level and alignment with cross-cut objectives and learning outcomes. • Subject matter expert justifies assessment methodology. • Evaluate structure to ensure balanced content division and workload. • Evaluate redesigned course by an objective outside evaluator using rubric structured around select criteria, including academic rigor, clear presentation, unambiguous statement of objectives, achievement of objectives, appropriate assessment approach and implementation.</td>
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<td>• Adjust marketing plan as needed based upon the evaluation of the marketing during the first year of the project. • Continue and extend marketing efforts to promote student access of courses through the Mobile Learning Platform.</td>
<td>• Evaluate whether marketing plan was appropriately modified, if necessary, and if continued marketing efforts are targeted to correct audience - to individuals with access to cell phone technology.</td>
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<td>• Continue to further the research and development for the third phase of the Mobile Learning Initiative, which will be based on the implementation of a platform-independent operating system.</td>
<td>• Evaluate standards, and utilize these adjusted standards to examine and evaluate whether appropriate research output was produced.</td>
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“How Do We Know Our Students are Who They Say They Are?”. Association for the Advancement of Computing in Education. Jul. 2008.


Yanjie, Song. “Dynamic-PDA-Use for Learning: An Undergraduate Student Experience”. The University of Hong Kong, China.
Dr. Henry van Zyl, D. Ed.

Henry van Zyl has been actively engaged in distance learning in higher education for over 25 years, both in South Africa and in the United States. He is a graduate of the University of South Africa, where he earned a doctorate in Education with a dissertation entitled “An Didactical Model for Electronic Distance Learning” in 1992. He earned a Bachelor’s degree, a Teacher’s Diploma (post-graduate) and a post-graduate Bachelor’s degree in Education before going on to earn a Master’s degree in Education *cum laude* from the University of Port Elizabeth, South Africa.

Before moving to the United States, Dr. van Zyl was the Director of Instructional Design at the University of South Africa in Pretoria, South Africa. He has been a frequent presenter at national and international conferences on distance learning for most of that time. Dr. van Zyl has traveled extensively to study distance and open learning systems and methodologies in the U.K. the U.S.A and in South Africa. His current position is that of Vice Provost for Directed Independent Adult Learning at Thomas Edison State College in Trenton, New Jersey. In that capacity he oversees, manages and supervises the offices for instructional design and course development, test administration, learning assessment (including Prior Learning Assessment), and instructional services. Most recently, he has been spearheading the Mobile Learning Initiative at the College.

In addition to presentations listed in the proposal, he also presented at the following international conferences. Participating in international conferences is limited due to budget restrictions on international travel.
Ed-Media 2008 (Vienna, Austria): How do we know our students are who they say they are? A case study of how one school deals with the issue of authenticating students at a distance.

IADIS 2007: (Chamonix, France) E-Learning for Adult Learners: A case study

Quality Control in Distance Education Advanced Forum (Beijing, China) Providing for Diverse Student Learning Styles: A Case Study of a 21st Century Model

IADIS 2006 (Dublin, Ireland) An E-Learning Organization for Adult Learners