

Proposal for New* Academic Program: **Doctorate of Philosophy in Educational Technology**

EXECUTIVE SUMMARY

* This application is to create a new degree, Doctor of Philosophy in Educational Technology; it continues an established PhD specialization unchanged except to separate it administratively and in name from a current UHM College of Education (COE) college-wide "PhD in Education" degree program.

The proposed change will establish a new degree name for the program, the "PhD in Educational Technology," and turn the current doctoral "Specialization in ETEC" over to departmental-level and disciplinary management to parallel the doctoral programs in other UHM departments.

The content of this proposal describes an existing doctoral specialization. Except for future projections required by the proposal guidelines (E5.201), no changes have been made to current practice. The new degree program will require no additional resources from those currently committed. In addition to a full description of the program, the application details the reasons for this proposed change beginning on page 3.

- **Name of current degree granted to program graduates:** Doctorate of Philosophy in Education.
- **Area of Focus:** Specialization in Educational Technology - *the specialization is an internal administrative name approved by the College and Graduate Division to reflect the existing program's disciplinary content and advising faculty. It is currently not reflected in the UHM program roster nor on graduates' transcripts.*
- **Proposed Degree name:** Doctorate of Philosophy in Educational Technology
- **ATP Process:** August 21, 2012 – CCAO determines approval not required for existing program
- **Proposing School/College and Department/Unit:**
College of Education, Department of Educational Technology, University of Hawai'i at Mānoa
- **Number of Current Students:** 47 (as of Fall 2012)
- **Contact for Proposal**
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- **Program Web Site:** <https://coe.hawaii.edu/academics/educational-technology/phd>

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Program Goals and Objectives

1. What are the objectives of the Program? (Objectives should be stated in terms of meeting student, community or State needs, and should devote considerable attention to student learning objectives.)

(Note: The following purpose is taken directly from the current specialization description approved in 2007 by the College of Education and the Graduate Division when the specialization was established).

The [PhD in Education specialization in Educational Technology] is designed to prepare influential professionals in the field of educational technology (ETEC) and the learning sciences. The program is research focused, designed to prepare future faculty and education leaders. Scholars in the field explore the uses of innovative media and technologies for education, studying aspects from student learning and cognition to impacts on individuals and institutions. The field provides the research base for effective utilization of new media in education and by default is interdisciplinary in its approaches and theories. From the beginning, students are expected to actively engage and contribute to the field through publication, conference presentations, and applied instructional projects. The PhD program is designed to enhance and facilitate educational, social, and economic growth locally, nationally, and internationally with a pool of highly qualified educational scholars and leaders.

The field is delineated by the definition developed by our professional association, the Association for Educational Communications and Technology (AECT) in 2008, and this guides the program goals and design:

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources.

As an established program since spring 2008, although currently classified as a specialization, the ETEC doctorate has well established goals, objectives, courses, processes, and markers of success which are detailed in this proposal. More information on the existing program may be found at the ETEC web site: <https://coe.hawaii.edu/academics/educational-technology/phd>

Context for the Change Request

Background of the Specialization: To understand this request requires some background on the current specialization and the history of the PhD in Education. When the ETEC specialization was created in 2007 by approval of the COE and Graduate Division, it was added to the existing college-wide "Doctorate of Philosophy in Education" program, a successful program which has been in place for over 15 years. At the time, this was the agreed upon process for adding new doctoral disciplines within the College. Only the earlier established PhD in Educational Psychology stands as a separate, departmentally-based degree in the College of Education; all other PhD programs are part of the college-wide doctorate.

While initially smaller, the COE doctorate has grown in the past five years as new specializations were added making it the largest doctorate at UHM. The Education PhD has seven different disciplinary programs with a small set of common research course requirements, while required disciplinary courses are both determined and offered at the department level. As one of the larger and most rapidly growing of these education PhD specializations, we have determined that it is an appropriate time to reevaluate the ETEC doctorate in the context of student needs specific to the discipline and the differing design of top rated programs within the educational technology field.

Reasons for the change: Several major concerns are motivating this request to separate the ETEC specialization from the larger Education PhD, with a particular emphasis on the impact and needs of our students. Underlying the proposal is the nature of our discipline which typically offers degrees only at the graduate level; doctoral programs are most frequently located at major research universities world-wide.

1. Indications from the Graduate Division that separate programs with direct departmental and disciplinary links would be more easily managed than the current large Education PhD, corresponding with the more traditional organization of doctoral education.
2. A recognition as our program has grown that the objectives are different from the larger COE program and not easily accommodated within the existing structures. This includes the fact that educational technology is not primarily a K-12 focus, and its research traditions encompass fields not typically found in education. Further, a number of students entering educational technology do not come from education, indicating the multidisciplinary scope of our field.
3. A need for our students who seek academic jobs to have a degree within our discipline rather than a general education PhD. In fact, this is something we seek in our own searches for new ETEC faculty, as do other top-ranked departments.
4. Benchmarking our program with those traditionally considered among the top five educational technology programs nationally shows that there are some unique doctoral program designs typical of highly ranked programs in our field, suggesting changes that are easily made within our specialization but not necessarily appropriate within the larger college-wide PhD program. While already viewed as among the leading programs in our field (see section on "Program Quality"), the change will make it possible for our program to be well established among the top ten.
5. The expectation of accommodating the needs of and recruiting for a student body that is more diverse, including a large number of international students who are less prevalent in many education fields, as well as our commitment to expand to reach a broader population throughout the state.
6. The need to be more localized in decision-making to rapidly innovate and shift as the technology base that is our foundation changes.

Support for the Change: The decision to separate the ETEC specialization has been discussed within the ETEC department and more broadly in the College of Education. The ETEC Department voted unanimously to support this proposal at the department meeting on August 15, 2012.

It should be noted that this will *not* lead to a proliferation of new PhD programs in the College, as the PhD in Education administrative committee reviewed the issues of dividing, with the discussion resulting in strong support for the other six specializations remaining as a single doctoral program. ETEC is recognized as having some unique needs by our students and discipline that do not face the other programs.

An *Authorization to Plan* (ATP) was initiated in late April 2012 detailing the change, and received strong support from COE Dean Donald Young and Graduate Division Dean Patricia Cooper. It was submitted for approval to the Council for Chief Academic Officers by OVCAA Reed Dasenbrock at their August 2012 meeting, where it was decided this did not need approval since it was an EXISTING program and could proceed with program plan approval.

In addition, the proposed change was discussed with students in the ETEC doctoral seminar and was universally supported. The reasons given by the students for support parallel those presented above. They were particularly concerned about the issues of seeking future employment without the status provided by a degree labeled "educational technology" and a program strongly aligned with the field. None indicated this would slow their progress but they would like to see it established as soon as possible.

Program Goals and Learning Outcomes

As a doctoral program in education, the program goals match those described by the Carnegie Initiative on the Doctorate (CID). As described by Richardson (2003) in her essay on the PhD in educational fields,

As stewards of the field of study, PhDs in education generate new knowledge, understand the intellectual history of the field, use the best ideas and practices in current work, and represent that knowledge to others both within and outside the field. Stewards have a respectful sense of the broader intellectual landscape, including paradigms and questions, and are able to speak about how the field can contribute important understanding to these larger questions. They have a sense of obligation to their field in helping preserve the best while promoting change and improvement. As they work within the enterprise of education, stewards of education have duties related to communicating and engaging in decisions concerning the practice of education. In particular, they communicate normative as well as epistemic theory, research, and analyses to very different audiences so that decisions about the enterprise are made within strong analytic and morally defensible frameworks. (p. 3)

The overriding goal of the ETEC PhD is to prepare excellent educational scholars and leaders who will enhance and facilitate educational, social, and economic growth locally, nationally, and internationally through the ethical application of the knowledge and theory of the discipline. We expect students to actively participate in the educational technology community, produce new knowledge, generate solutions to problems, disseminate information through teaching, research, and service, and become life-long learners who strive to continually improve their practice and their communities.

Learning Outcomes: To achieve the program's goals, the PhD has established learning outcomes for students. The learning outcomes for the ETEC PhD specialization are grounded in three arenas: knowledge, research, and professional ethics. An assessment system for these top-level outcomes was described in the COE's unit report for the successful National Council for the Accreditation of Teacher Education (NCATE) review in 2009. The culminating assessment is production and defense of a high quality dissertation reporting an original research study that contributes to the knowledge base of the field. The three primary learning outcomes are amplified by discipline-based program standards developed by the field's professional organization, AECT, which are more specific to the content and practices of the field of educational technology.

Students will:

- **(Knowledge)** Demonstrate theoretical and conceptual knowledge in the broad issues of education and in the skills, knowledge and problems within the field of educational technology.
 - Demonstrate foundational knowledge of the contribution of research to the past and current theory of educational communications and technology.
 - Demonstrate the knowledge necessary to create, use, assess, and manage theoretical and practical applications of educational technologies and processes.
 - Design, develop, implement, and evaluate technology-rich learning environments within a supportive community of practice.
- **(Research)** Apply an inquiring and critical approach to issues and possible solutions to problems in education.
 - Apply appropriate research methodologies to address problems, enhance practice, and contribute to the knowledge base of the field.
 - Evaluate, synthesize, and apply methods of inquiry to enhance learning and improve performance.

- Communicate the results of inquiry in a clear and effective manner to multiple audiences, including scholars, practitioners, policy makers, and the general public.
- **(Professional Ethics)** Develop a deep respect for the public trust that is invested in them as future intellectual and social leaders in the field of education.
 - Conduct research and practice using accepted professional and institutional guidelines and procedures.
 - Demonstrate the contemporary professional ethics of the field as defined and developed by the Association for Educational Communications and Technology (AECT).

Relation to University and Campus Mission

2. Are the program objectives appropriate functions of the college and University? (Relationship to University and campus mission and development plans, evidence of continuing need for the program, projections of career opportunities for graduates, etc.)

Justification for the Existing Program

In terms of needs and rationale for the program, the current specialization was created with the following statement in our specialization application from 2007:

Technology for technology's sake, just because we want to use the newest latest thing, is an expensive, time-consuming add-on that does little to enhance learning. Without the proper knowledge of theory, strategies, thoughtful research and evaluation, and appropriate application, educators and administrators often make costly errors. As educators, ETEC Doctoral Specialization graduates will have the skills to access, design and manage technology resources, ask pertinent questions, draw logical conclusions and make important decisions about learning resources and learning environments. As potential faculty members, ETEC doctoral graduates will bring not only disciplinary expertise but unique abilities to contribute through service and research relating to technology in education to their future institutions. Technology offers a wider variety of learning and communication styles than traditional education and allows students to use tools relevant to the modern workplace. All students must be prepared to communicate and present information in a variety of ways.

The need for advanced professionals in this field is growing at an exponential rate as new technologies are invented. This demand can be seen in part through the numerous advertisements in *The Chronicle of Higher Education*, which regularly has over a hundred positions each year in the field within post-secondary education alone. Additional support comes from such serials as *Education Week* seeking technology administrators for K-12 school districts and state departments of education. UHM faculty have heard from colleagues at other universities about the difficulty of finding qualified instructional personnel in the field and the many failed searches as good candidates have multiple offers. This and the increased local, national and international interest in Educational Technology doctoral programs have prompted this proposal. We regularly have numerous inquiries about a PhD program, especially from our Master's students desiring to continue their education. (from ETEC specialization application, 2007)

Position Openings

The need for leaders and faculty in this area have held steady and jobs remain unfilled, unlike in many other disciplines. The explosive growth of distance education, the rapid introduction of new technologies with the prospect to enhance learning environments, the potential for technology to be used to collect data for educational decision-making (learner analytics), and the need for researchers and educational leaders who seek to understand and appropriately deploy these technologies argue strongly for the kind of program we currently offer. In particular, we expect all our graduates to find placements that meet their career aspirations, even in the current weakened economy. Educational technology has recovered more rapidly than other fields in higher education and remains a growth area. For example, at the beginning of October 2012, the *Chronicle of Higher Education* listed 36 faculty/research jobs in educational technology/instructional design.

International Connections

The need for the knowledge and skills of these leaders is not simply a national one. Students in the program come from multiple countries where there is a demand for individuals who will become faculty and educational leaders with backgrounds in educational technology. One example of this is a new cooperative program by the US Department of State and the government of Brunei to enhance the skills of promising junior faculty in their higher education institutions. Working with the East-West Center, the partnership has placed the first student who was selected for this prestigious fellowship in the ETEC PhD program beginning in fall 2012. UHM has proven to be a welcoming home for students from Asia and the Pacific, with both a unique sense of place as the gateway between the East and West, and within a department that has already developed a positive reputation outside of the country as measured by the number of highly qualified international applicants to the specialization. Another indication of growing links globally is a recently signed Mānoa International Exchange Agreement between the ETEC Department and the Norwegian University of Science and Technology (NTNU) allowing scholarly exchanges for faculty and graduate students.

Serving Local Needs

At the same time, ETEC has long been a source for new faculty and technology support within Hawaii educational settings, including DOE schools, the UH system, independent schools, and private colleges. Students are also in demand for leadership in non-educational settings, including organizations such as the military, health care, or industry with professional development programs, or in informal learning organizations such as museums. These latter areas are reflected in program enrollment in the ETEC PhD by those with Master's degrees in other disciplines. A newer area is leadership in high technology companies developing educational games and simulations. In the context of major state and UH goals to increase the technology industry base and to improve the implementation of technology in educational settings within the state, this doctoral program is already a keystone to the establishment of a much-needed skilled workforce for the coming century that is committed to local development. Approximately 70 percent of current students are Hawaii residents. In particular, the program has been able to recruit and retain a core of Native Hawaiian students who are seeking advanced degrees to make a difference in educational settings for their communities and to become leaders in education throughout the state. As evidence, our first graduate in the ETEC specialization in spring 2012 is a Native Hawaiian who did her dissertation on technology in the Hawaiian Language Immersion Program in the Hawaii Public Schools, and part of the dissertation is in Hawaiian. To date, 12% of our admitted students are Native Hawaiian, and we continue with an emphasis on growing such admissions.

Relation to Mission and Strategic Plan

The program directly relates to the UHM mission and Strategic Plan in the following ways:

- a) striving for scholarly excellence and community
- b) recognition of the importance of technology in society and education
- c) links to local, national and international communities
- d) strong diversity among faculty and students
- e) recognition of the importance of place, and successful recruiting and engagement of Native Hawaiian students.

As noted in the Mānoa Strategic Plan, “Smart technologies will allow us to emerge as a stronger and more organizationally sustainable campus and will expand our connections locally and globally.” The ETEC PhD program is a key component at UHM in making the goal a reality by educating the future leaders and researchers who will carry this out. We are the only program of our kind in the state, and as a result we not only meet critical national needs but those of the state.

Program Structure and Administration

3. How is the program organized to meet its objectives? (Description of curriculum organization, requirements, admission policies, advising and counseling, and other aspects of the program, with reference to its objectives.)

Curriculum

All courses currently exist, and are offered and successfully completed by the students enrolled in the ETEC PhD specialization. No new courses are anticipated, nor will the change impact courses elsewhere in the COE as the student enrollment count will be maintained and not increased. Student end-of-class evaluations for the ETEC courses rate them highly, and in surveys, students indicate these prepare them well to be inquiring scholars within the discipline and more generally knowledgeable of education.

The curriculum follows that of the larger college-wide PhD program, although ETEC has internally developed a range of inquiry courses that reflect the wider range of methods in and inter-disciplinarity of educational technology (for example, drawing from computer science on human-computer interaction or communication on discourse analysis of online discussions). Students are required to complete a minimum of 45 credits prior to candidacy, with a focus on classes that cover inquiry and theory. All core and research courses are campus based; some electives are offered in hybrid formats or completely online.

Inquiry Courses (4 courses, 12 credits)

ETEC has developed a foundational set of doctoral level research courses that focus on multi-disciplinary methods and current practice in the discipline, where emerging technologies continually open opportunities for new ways to examine the world. It should be noted that ETEC research methods courses serve not only students in the ETEC specialization but those in other doctoral programs from the College of Education; qualitative courses serve doctoral students from outside the COE as well.

- Multiple Perspectives on Educational Research. ETEC 611: ET Research & Evaluation.
- Individual Paradigms (One each, qualitative and quantitative)
 - Qualitative Methods. ETEC 667: Qualitative Research in Educational Technology.
 - Quantitative Methods. ETEC 668: Quantitative Research in Educational Technology.

- Advanced Methods for Dissertation Research: Course to be selected in consultation with advisor to support dissertation research, may be within or external to the department. Options include ETEC 780: Mixed Methods Research Design; or ETEC 781: Technology in Qualitative Analysis.

ETEC Specialization Core (3 courses, 9 credits minimum)

The required specialization seminars are intended to establish crucial elements of scholarly inquiry so that students have substantive knowledge of the field, think theoretically and critically, frame fruitful research problems, see research as socially situated, join research to appropriate methods of inquiry, collect and analyze data, and communicate with various audiences about research. Students are required to take a seminar in the fall and winter semester of their first year, and take the third seminar after completing all other coursework.*

- ETEC 750B - Seminar in Educational Technology Issues: Instructional Development
- ETEC 750C - Seminar in Educational Technology Issues: Online Communities
- ETEC 750D - Seminar in Educational Technology Issues: The Future
- ETEC 750E - Seminar in Educational Technology Issues: Research
- ETEC 760 - Advanced Seminar in Educational Technology Theory

*Note: students are required to enroll each fall/winter in the advanced seminar from the time they complete required coursework until they enroll in EDUC 800, dissertation credits. This provides continual contact with faculty and students in the program, support in preparing for the comprehensive examination and dissertation proposal, and maintains currency in what is often a rapidly evolving field. For many students this involves a year of seminar.

ETEC Area of Emphasis (5 courses/15 credits)

Area of emphasis courses are selected from graduate-level offerings (600 level and above) within the ETEC department. This course work supports the ETEC specialization, providing all students with a solid foundation in educational technology theory and practice while advancing their knowledge in an area of emphasis, such as online learning or multimedia design. All students who do not have a Master's degree in Educational Technology from UHM are required to take the following courses as a part of their 15-credit ETEC Area of Emphasis.

- ETEC 600 - Theory and Practice in Educational Technology
- ETEC 613 - Instructional Design and Development

Breadth Courses (2 courses/6 credits)

Upon consultation with and approval of the faculty advisor, students select two additional courses that will further their individual research agenda. The purpose is to support the interdisciplinary vision of the PhD program and to strengthen and broaden the student's expertise in education and/or in an area related to Educational Technology, or in the field in which they will conduct research and work. Cognate fields are frequently inter- or multi-disciplinary. Courses must be at a graduate level.

Field Study or Internship (1 course/3 credits)

Students select one of the following in consultation with their interim advisor. This course is typically completed near the end of formal coursework. Although these courses are in the general education area of the COE, each is an individually mentored experience in either teaching or research. The course is similar to an independent study and always with a single ETEC faculty member. Once the new degree is approved, these courses will be replaced by one in the department: ETEC 689 – Practicum in Educational Technology.

- EDUC 740 - Field Project
- EDUC 799 - Internship in College Teaching

Dissertation credits (1 course minimum)

Upon completion of coursework and achievement of candidacy (Graduate Division Form 2 required for enrollment), students maintain enrollment by taking EDUC 800 (will become ETEC 800 if proposal approved) for a minimum of 1 credit per semester until program completion while finishing dissertation research and working with a dissertation committee.

Scholarly Community

ETEC prides itself on establishing 'ohana that creates a special island feeling to relationships among faculty, students and staff. We are known in the COE for our collegiality and strong sense of belonging. The ETEC PhD specialty has been designed to encourage intellectual excellence and participation in a scholarly community. This can be seen through the organization of courses, the methods we use in them for teaching and learning, the relationships that develop among faculty and students outside of classes, and our active participation in the larger networks of community and discipline.

Cohort Structure. To achieve a strong sense of professional community and provide a high level of support for ETEC students, all ETEC graduate programs are based on a **cohort model**. Students who enter together take a minimum of two classes together in the fall and spring of their first year. The cohort model ensures peer support throughout the program as a way to improve scholarship and provide continual feedback. This model was adopted based on examination of best practices and research showing it as a means of increasing retention and graduation rates in graduate programs. Given feedback by current students, it is one of the most appreciated aspects of program design.

The cohort experience begins with a mandatory orientation in mid-August. New students not only have the opportunity to meet their new doctoral classmates and faculty, but also continuing students and those entering the other ETEC programs. The required course sequence for the first year is shown in the table below. Students typically take their required qualitative course together in the second year.

ETEC Doctoral Cohort First-Year Course Sequence

	Research Methods Course	Specialization Course (doctoral seminar)	Emphasis Course (ETEC elective)
Fall semester	ETEC 611 (design)	ETEC 750n	Individual selection in consultation with advisor
Spring semester	ETEC 668 (quantitative)	ETEC 750E	

Although advanced courses are determined on an individual basis related to a student's interests and research goals, continuation in the ETEC seminars provides ongoing support from peers and faculty. Community also involves faculty-student relationships. Students intern with faculty on research projects and college teaching. Faculty are regular participants in seminar activities.

Professional Community. Doctoral students are directly involved in the departmental student and alumni organization, AECT-HI, the local chapter of the discipline's international professional association, AECT. As part of this local involvement, they are required to become members of the larger international organization. This active involvement from the first year promotes service, professional networking beyond the state, and participation in scholarly conferences and publishing. In addition, each doctoral student is invited to participate in the College of Education Doctoral Student Association (COEDSA), an organization whose purpose is to provide professional development, collegial support among students, and the development of a doctoral student "voice" and presence within the College.

Admissions Policy

Students must meet all requirements of the UHM Graduate Division for admissions. In addition, the program requires students to submit scores for the Graduate Record Examination (GRE), an academic writing sample, a statement of objectives, a curriculum vita, and three letters of recommendation. The statement of objectives plays an important role in determining that students have an interest in research and knowledge building rather than solely in applying technology to teaching practice. It also ensures student interests can be accommodated by the research specializations of the ETEC faculty. A committee of senior ETEC faculty serves as the selection committee, reviewing all applications.

Meeting minimum requirements does not ensure admission to the ETEC specialization. In the past two years, approximately half of qualified applicants were admitted ensuring excellence in the student population. A Master's degree in educational technology is not required although students without one may have to complete remedial work; about a third of incoming students have come from other disciplines, including law, computer science, public health, communications, English as a second language, and business administration.

Advising

All entering students are initially assigned to a single interim advisor who is the coordinator of the ETEC specialization. This has been Dr. Ellen Hoffman since the program began, and it is expected that she will be the coordinator for the new PhD if it is approved. However, the program structure allows multiple opportunities for students to work with other faculty including through courses and the formal practicum experience, and the community structures ensure that students have multiple opportunities to learn about faculty research specializations and interests. Most students do not enter the program with a set research agenda in mind, and tend to develop this as they go through required and elective courses.

At the point students have completed coursework, each identifies a senior ETEC faculty member to serve as a dissertation chair who is most appropriate for the planned research topic. The chair works with the student through the comprehensive examination, proposal process, dissertation writing and defense. Until candidacy, students receive additional support through ongoing enrollment in the advanced seminar class from the faculty teaching the class and peers; most students continue to participate in seminar until dissertation completion because it provides support for their research and writing. This process has been a key to retention and continued progress for current students. All students are actively progressing towards dissertation at present.

The existing faculty bring strong records in research, teaching and service to doctoral advising as well as teaching in the ETEC PhD. All but one specialist in the department are approved doctoral graduate faculty by the Graduate Division. More information on faculty is included in Appendix C. Full curriculum vitae can be found online at <https://sites.google.com/a/hawaii.edu/etec-vitae/>

Financial Support

As a relatively new program created when UH was experiencing budget cuts, no funding was provided for the department to support incoming students when the specialization formed. Students entering the program tend to fall into two groups: the first are those who have financial support from other sources, including Native Hawaiian scholarships, East-West Center grants, faculty tuition waivers, or individuals who work, attend part-time and self-fund. The second group includes full-time students who seek graduate assistantships after entering the program. Because of the technical skills of the ETEC students, they are in demand throughout campus and we have never had a student who was not able to find a GA

position who wanted one. These students are a vital resource to units throughout campus, particularly in the area of online course design and support for faculty deploying technology for teaching, as well as support in research and evaluation. To date, financial support has not been a major issue in recruitment or retention.

Enrollment, Retention and Diversity

4. Who will enroll in the program? (Special target groups, if any; number of majors expected by year; expected service to non-majors; evidence of student interest.)

Current Student Enrollment

Since the ETEC doctoral specialization began, we have had more applications than we could accept, and we have consistently turned down good candidates to bring in the top students. We currently have 47 students in the specialization as of fall 2012, with a goal of bringing in one new student per faculty member each year, replacing rather than growing enrollment. While this ratio may be more than in some departments, it is not uncommon in those that offer degrees only at the graduate level. We have capped enrollment at 50 students although we have never attained this number. When enrollment grew more rapidly than planned, we decided not to admit a cohort in fall 2010. We expect enrollment to remain stable while applications will increase. The current program is campus-based and therefore requires residency on Oahu.

ETEC PhD Specialization Student Demographics

	Sp 2008	F 2008	2009	2010	2011	2012
Students joining program per year	10	11	10	1	12	6
International	1	2	2	1	4	1
Native Hawaiian		1	1		3	1
Other (African-American, Hispanic)	1	1	1			

Diversity

We have made diversity a high priority, and currently have admitted 12% Native Hawaiian, and 22% international students, most from the Asia-Pacific region but also from Europe and South America. Other minorities (African-American, Hispanic, Native American) make up slightly less than 1% of the students. Seventy percent are Hawaii residents. Unlike other areas of education, we have a balance of male and female students. In addition, the program currently includes four East-West Center scholars, a program which includes a rigorous screening process to bring top quality applicants to UHM from Asia and the Pacific and promote international relations. We believe the choice by these students in selecting the ETEC specialization is both a mark of our quality and high reputation as well as the need for bringing the kinds of skills and knowledge offered by the program to meet their respective countries needs. The table above shows the increase of diversity for each admitted class, a trend that we expect to maintain as the program's reputation grows both locally and internationally.

Demand

The number of applications for the ETEC specialization has continued from the initial year, despite the economic downturn that has impacted other higher education programs; for the past two years it has been the largest pool in the College of Education PhD. Our acceptance rate has varied from 80% initially to 50% as the program has become more established, all of whom were highly qualified. Applications have continued although we do no active recruiting; most students indicate they have found our program through the Internet, recommendations from faculty in other educational technology programs where they may have done their Master's, and in the case of many, word-of-mouth about the excellence of the program. A degree with the name of the field, "educational technology," will make it easier to find with an Internet search given this is a common way of locating the program. The largest unmet demand remains Hawaii students from outside of Oahu who have completed a Master's degree and would like the opportunity to pursue a doctorate. This need would require a different delivery approach, something we will consider in the future.

Retention and Advising Support

Our program has some unique characteristics by intention that apply best practices to advising and structure that ensure retention and active movement towards graduation as described in the section above. We have admitted five cohorts since the first class. To date, only one student has left the program since the specialization began. Her family moved to the mainland and we facilitated her transfer to another educational technology doctoral program in that state. We pride ourselves on retention and believe we are relatively unique in our record. Further, all current students are actively progressing through the program; even those officially on leave stay in touch, attend seminar online, and are engaged in research towards dissertation. Our goal is 100% retention and graduation, and so far, we are as close as possible to reaching this.

Completion Rates

With the first class admitted in spring 2008, we are just now reaching the first of these students to graduate. Our first PhD graduate was in spring 2012, a second in August, and we have had six additional graduates by summer 2013. An additional ten are expected to complete by spring 2014. This matches our goal of one graduate per faculty member per year as we reach the point at which the initial cohort should be completing. With intensive coursework in the first 2.5 years in the program, the expected time-to-graduation average is approximately five years but the program is too new to have adequate data to establish such rates. The National Research Council 2010 assessment of US doctoral programs, although not including professional programs such as those in education, showed average completion rates of 37-58% depending on discipline, and average times to completion of 4.8-7.1 years, suggesting that our program design is highly effective and efficient compared to national averages.

Resource Requirements

5. What resources are required for program implementation and first cycle operation? (Number, source, and cost of faculty; library requirements; support personnel; estimated cost of supplies, equipment and CIP; facilities to be utilized; total funds required for program implementation and operation; expected sources of funds, including sources of reallocated funds.)

There are no additional cost implications for this program. It already exists and is fully funded. The application is for a modification of name of degree and a shift in the officially recognized locus of administrative control to the departmental level. All funds shown in the cost template (Appendix A) are estimates of those currently applied to the existing specialization and will continue to be expended even in the absence of this proposed change.

Current Resources

1. Faculty – *No new faculty are required* as the current faculty support the existing program. The department currently has 10 FTE graduate faculty. In addition, the department has regularly employed several lecturers each semester who bring specialized knowledge and skills to their teaching from their current employment in the field. Two additional associate faculty are qualified doctoral advisors in our program; these do not have students in their regular tenure/tenure track positions which are primarily research focused so are available for our students as committee members. They periodically teach graduate courses in ETEC. The projected costs are based on current estimates of 1.75 FTE efforts applied to instruction and advising. The estimate assumes a standard teaching load of five courses per academic year.
2. Library resources – *No new resources are required*. The current collection is adequately supporting the existing program, and in fact, this area has expanded in the past three years in recognition of the increasing role of technology in education and society more broadly, which has been immensely useful and appreciated. The estimate does not assume any additional costs for this area. A letter from Gregg Geary, Interim University Librarian, is attached (See Appendix D).
3. Physical resources – *The current program is adequately supported*, including a departmental technology laboratory that has been developed through grant funding. No additional funds are required.
4. Other resources required. The change will have one small impact as the processing of student applications will move from the COE to the department. However, the change will be **accommodated within the existing support staff** who now process the much larger Master's program applications. All advising is currently handled within the department, with only signatory authorization shifting. The estimates for "other staff" in the table are based on office support; no new staff will be added.
 - a. **Student support**. It should be noted that when this specialization was begun, no funds were provided for supporting students financially. No request is being made for additional funding for student support as this has not been a problem for recruitment or retention.

Five-Year Business Plan. See Appendix A for a five-year template of the projected budget for the program.

Program Efficiency Measures

6. How efficient will the program be? (Compare anticipated cost per SSH, cost per major, SSH/faculty, average class size or other quantitative measures with other programs in the college and similar programs on other UH campuses.)

At present, there is no similar program in the UH system to the program proposed here. Because the ETEC PhD specialization is not broken out in any statistical analyses, the best measures of efficiency have been estimated based on the Department's knowledge of ETEC doctoral student demographics and course enrollment patterns. See Appendix A. The OVCAA suggested an initial comparison with computer science at \$1655 per SSH as a comparable technology field which far exceeds our estimates of \$449. The template uses the PhD in social welfare at \$425, although the ETEC estimate is slightly higher due to the greater salaries in our field given technology expertise.

We have included our best approximation of faculty effort devoted to the program and SSH generated, already discussed in "Resources" above and incorporated these into the standard planning template. Our estimates include a small percentage increase per year in faculty salaries and tuition generated over the next three years where these figures could be projected then remain steady given unknown figures for salary and tuition increases. The spreadsheet in Appendix A shows that revenues consistently exceed the cost of the program while enrollment will remain steady. This is in fact a high degree of efficiency for a doctoral program, where in many cases at UHM and elsewhere, fellowships and university-based GA positions negate any gains from tuition in other doctoral programs. What we do know is that our faculty workload is relatively high by Mānoa standards, typically five courses in an academic year; in addition a number of faculty teach in the summer increasing revenues given the difference in approach to funding summer semesters. The average salary in the COE is lower than in most other UHM colleges. And with strict guidelines in the Department of canceling courses with low enrollment (i.e., seminar does not equal very small), we maintain a high efficiency rating for graduate programs. As noted above in "Retention and Advising Support," we far exceed national averages on retention, persistence, and time to completion. Given this pattern, over time we will also excel at the percentage of students who graduate.

One gain in separating the program will be increased accountability, as the data for revenues and costs will be more easily calculated than is possible while the ETEC PhD is within the larger COE-wide doctorate. The estimates we have used are conservative and in future program reviews, we expect to show both improvement in economic measures as well as increased scholarly activity that comes with a departmental PhD with a research focus.

Program Effectiveness

7. How will effectiveness of the program be demonstrated? (Describe the plan for assessing the quality of student learning. In addition, information should be gathered on projected number of graduates yearly; placement of graduates; special accreditation; student satisfaction; career and employer satisfaction, etc.)

Student Measures

As noted earlier, the goal is 100% retention and completion, with approximately 8-10 students completing per year based on just under one per faculty member annually when including qualified non-teaching associates (see Enrollment, Retention and Diversity above).

Student Assessment. Student assessment is one measure of program effectiveness based on student learning outcomes. By tradition, doctoral programs have a primary assessment system based on production of a dissertation at the culmination of the program demonstrating competency at inquiry and reporting of an original research study that contributes to the knowledge base of the field. The ETEC program follows all Graduate Division requirements for dissertation completion. However, good assessment systems have both formative and summative components tied to learning outcomes. The COE PhD program developed such a system for the College's accreditation review in 2009 by the National Council for Accreditation of Teacher Education (NCATE), which the COE successfully passed. The ETEC program continues to follow this review process. The program assessments and measures are summarized in the table in Appendix B.

Student Satisfaction. Student satisfaction data are collected by anonymous online surveys in the spring seminars by the department and upon program completion by the COE. A three-year follow up of graduates is expected by NCATE but no figures yet exist for this as the first graduates have just finished. Data to date are included in the table below; not all cells have data reflecting the time at which students in the program reached the more advanced levels and data collection began. Evidence to date indicates a very high initial satisfaction rate that continues throughout the program.

Data for Student Satisfaction with ETEC PhD Program

	2009	2010	2011	2012
Current students: First-year seminar*	4.7	4.9	No cohort	5.0
Current students: Advanced seminar*			5.0	4.9
Program completers (4 point scale)				3.9**

*Based on a five-point scale where 5=excellent when asked "How satisfied are you with your choice of the ETEC doctoral program as compared with other doctoral options you might have selected"

** Based on four-point scale, average based on nine different areas of satisfaction

Job Placement. With two graduates just completing this year, no data currently exist on job placements resulting from program completion. One student indicated a goal for obtaining a faculty position, while the other is seeking a promotion in a current position. This reflects the varied paths for students who complete an education-related PhD program, where not all choose to follow a faculty career. With the program's purpose including improving education both within the state and beyond, we would expect many students will stay in Hawaii and seek leadership positions within their local communities and the state, rather than leave to obtain faculty positions elsewhere. Approximately 20% of entering students indicated a goal for becoming a faculty member in higher education; approximately 5% are already tenure or tenure-track faculty seeking to enhance their practice and achieve promotion. Given the number of openings for faculty positions and the reputation of the ETEC program, we would expect that all students seeking faculty positions will find one within three years.

The program will be collecting data at three- and five-year intervals to track job placement. Further, with an active alumni association and strong relationships among faculty and students, we maintain communication with our graduates and continue to provide support for their career aspirations long after they leave the program. It might be noted that some students not yet completed find positions impacted by their advanced studies: two students have obtained positions leading instructional design efforts at private

universities, one in Washington and the other in Virginia. Another student is one of only ten selected to be the first female diplomats in Saudi Arabia. A fourth student was just promoted to the position of technology director and grant director at a Oahu private school. Two more students have found tenure-track faculty positions within UH and both will need to complete their PhD to obtain tenure. These students remain active in the program and continue to make progress toward completion, with technology facilitating continued communication and participation in the advanced seminar for those who have moved away from the islands.

Program Rankings

While new, the ETEC doctoral specialization has rapidly gained national recognition as an excellent program. ETEC has an advantage in being in the UHM College of Education which is ranked 49th out of 280 US graduate programs in education in the US by *US News and World Report*, putting it in the top 20% of programs nationally in 2013 by default. The list remains a way the public views higher education.

There are no official rankings for this field as the specialization of educational or instructional technology does not appear in any of the standard popular lists such as the *Princeton Review* or *US News and World Report*, nor in more recent academically-oriented ranking systems such as that of the National Research Council (NRC). Further, there are major differences in emphasis among programs with similar names making any potential rankings less reliable. As suggested by the NRC in its 2010 report on program rankings, "Doctoral programs are valued for a variety of reasons, and their characteristics are valued in different ways by stakeholders; there is no single universal criterion or set of criteria" (p. ix). The NRC notes that because each discipline has its own ways of educating students, comparisons should focus on examination within a field rather than on comparisons across programs with very different goals, pedagogy, research approaches, and potentially unlike resource bases.

Educational technology is a relatively small field, and has historically only offered degrees at the graduate level. AECT maintains a list showing a total of 187 educational communications and technology programs in 40 states and 18 countries. Of these, 68 offer the PhD (44 in the US). Another 29 offer the EdD, which in some cases is a professional practice degree, but in other institutions such as Harvard, the EdD is the equivalent of a PhD. These data are self-reports and may underestimate the total programs world-wide. A research study done in 2010 using a different methodology for identifying doctoral programs based on degree name and curriculum requirements recognized 59 in the US. This study also showed that the number of programs has risen steadily since 2000 by a factor of 20 percent. Most educational technology doctoral degrees are located at top research universities, while Master's degrees are found in many universities that have education schools or colleges. Even institutions with smaller education programs focused on teacher licensure commonly have a one or more faculty members who majored in the discipline although such institutions lack a full department in our field.

We have confirmation of our quality reputation among our peer programs through comments made at our professional association (AECT) meetings and the recruitment of our faculty to committees and other professional leadership positions typically held by those of high stature in the field. Another indicator, noted above, is the interest by international students including those supported by their governments to attend our PhD program. One other indication has been the quality and institutional affiliation of candidates for recent faculty searches; candidates who came from the programs generally viewed as best in the field told us their advisors recommended they apply for open UHM positions because we were also a top program. We believe this is because of the scholarship of ETEC faculty and doctoral students, as well as the continuous benchmarking we do to ensure our program meets the best practices in our field and more generally in graduate education. It is our goal to become one of the top ten programs and to be able to document this status. Current evidence is that we are already well regarded, with achievement of

the goal awaiting more students graduating and gaining positions in other universities, as well as having a degree name that separates this specialization from the broader category of education.

Program Evaluation, Accreditation and External Review

In the absence of established national rankings for educational technology programs, other indicators are necessary to demonstrate program quality. Student placements post-graduation are clearly one such data source, though not yet available. While reputation is premised on a combination of program characteristics and indicators of faculty excellence (publications, awards, professional leadership positions, etc.), this section focuses on those specifically related to the doctoral program. However, we note that the presence of a doctoral program has allowed the department to recruit new junior faculty who come from top programs and enter with active research agendas and prestigious publications, promising that factors related to faculty productivity will continue to rise. The PhD has also led to new research strands through faculty-student collaborations, an additional area impacting reputation (see Appendix C).

NCATE Accreditation. As previously mentioned, the College of Education as a whole is accredited by the National Council for Accreditation of Teacher Education (NCATE), and each program within the unit is required to write a program report for national recognition as part of the accreditation process. The accreditation review is focused on programs that lead to teacher licensure, but the process also ensures that all beginning and advanced programs in the COE are up to national standards within the United States. The last accreditation visit in 2009 included approval of the larger COE PhD program of which the ETEC specialization is a part; this will be reviewed again during the next visit in 2014. With ETEC program design and assessment remaining those of the PhD in Education, the expectation is for continuing accreditation following rigorous review. The COE has the only accredited education program in Hawaii.

AECT Review. Our national professional association adopted updated standards in July 2012 and is in the process of developing a peer-review process to recognize outstanding Master's and doctoral programs that are based on these. With a degree specific to the field and already standards-aligned in learning outcomes and assessments, our PhD program is potentially one that will be among the first to achieve this new national recognition for quality at the advanced level. Our experience with the approval process is shown by the recognition for our Master's program under an older accreditation model in 2009. We just received AECT endorsement of our new Graduate Certificate in Online Learning and Teaching (COLT), the first granted by the organization in its new national recognition process, in October 2012. We expect to achieve recognition by AECT for the new doctoral degree which will be one of strongest external indicators of program excellence we can obtain. It should also be noted that our faculty have been instrumental in the development of the new standards and the review process: Dr. Catherine Fulford has been a long-term member of the AECT Standards Committee, and Dr. Ellen Hoffman is its current chair as well as serving as the elected Secretary-Treasurer of AECT.

UHM Program Review of Graduate Programs. Review by our local peers and the Graduate Division will be another indicator, allowing comparison with similar programs at UHM and feedback from local constituencies.

Internal Review and Benchmarking

As education faculty, and particularly as those interested in the rapid changes that impact learning and teaching as a result of emerging technologies, we have built a program that is premised on the results of research in higher education and best practices in doctoral education. We have had the opportunity to build on the experiences of many others who came before us and develop a unique program design that

includes a rigorous curriculum, promotes scholarly community, engenders high student satisfaction, and prepares new scholars for a changing world. We would argue that the rapid growth of interest in our program and the respect we have garnered from our peers is evidence of the strong program already in place.

Among the best practices that have become a standard part of the ETEC department are a living strategic plan that identifies departmental priorities and future goals, an annual retreat at which we examine data collected on our programs to identify strengths and weaknesses and determine where change is warranted, and a review of each new student in the spring to identify those who may need extra support or remediation to become successful. We regularly benchmark our program requirements against those at other top-rated programs to understand trends, and attend conference presentations by doctoral students from other institutions to learn from new research topics they introduce.

We participate in multiple professional networks to stay current on not only research, but teaching and program development. For example, in addition to the leadership positions indicated under "AECT Review" above, Dr. Peter Leong is President-elect of the AECT International Division, providing support for the Division and ensuring connections by UHM to programs throughout the world. Dr. Hoffman and Dr. Michael Menchaca attended the annual meeting of the Professors of Instructional Design (PIDT) in June 2012, which has a focus on graduate-level teaching and program development in our discipline. The sessions were designed to help senior faculty share information on best practices, as well as mentor advanced doctoral students who aim to become professors in educational technology upon graduation. Dr. Fulford and Dr. Curtis Ho have been involved in several major US Department of Education technology grant projects that regularly bring project investigators together to share research results on innovative programs. All of us are intense consumers of Internet information and, beyond the usual reading of major journals, peruse blogs, web sites, and even Twitter to see what is happening that may impact our program, whether this is a new finding from a study on student learning, research on successful strategies in doctoral education, or the latest gadget that may be useful in our teaching.

Summary

In summary, we believe we are well positioned to continue an excellent program that will positively impact education at all levels and across wide geographic boundaries. While still a relatively young program, the ETEC PhD is already recognized as a leading program that is producing the next generation of educational scholars and leaders. With a new degree name that puts an increased spotlight on our disciplinary heritage, and by establishing administrative control that will give us increased opportunity to innovate, the ETEC PhD can become a model for doctoral programs everywhere.

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Appendix A: Estimated Five-Year Program Costs and Revenues (updated Aug. 2013)

* Estimate for cost for current year of program; these are already allocated funds for the specialization. The estimated costs will be incurred within the specialization even if this change request were to fail. There are no additional expenses projected as a result of this request.

	A	B	C	D	E	F	G	H	I	J	K
1	Academic Cost and Revenue Template - New Program (adjust template for appropriate number of years) (Updated 10/31/12)										
2											
3	ENTER VALUES IN YELLOW CELLS ONLY										
4	CAMPUS/Program										
5											
6	MANOA/PhD in Ed Technology										
7	Provisional Years (2 yrs for Certificate, 3 yrs for Associate Degree, 6 yrs for Bachelor's Degree, 3 yrs for Masters Degree, 5 yrs for Doctoral Degree)										
8	ENTER ACADEMIC YEAR (i.e., 2011-2012)										
9	Students & SSH										
10	A. Headcount enrollment (Fall)										
11	B. Annual SSH										
12	Direct and Incremental Program Costs Without Fringe										
13	C. Instructional Cost without Fringe										
14	C1. Number (FTE) of FT Faculty/Lecturers										
15	C2. Number (FTE) of PT Lecturers										
16	D. Other Personnel Costs										
17	E. Unique Program Costs										
18	F. Total Direct and Incremental Costs										
19	Revenue										
20	G. Tuition										
21	Tuition rate per credit										
22	H. Other										
23	I. Total Revenue										
24											
25											
26	J. Net Cost (Revenue)										
27											
28											
29											
30	Program Cost per SSH With Fringe										
31	K. Instructional Cost with Fringe/SSH										
32	K1. Total Salary FT Faculty/Lecturers										
33	K2. Cost Including Fringe of K1										
34	K3. Total Salary PT Lecturers										
35	K4. Cost Including fringe of K3										
36	L. Support Cost/SSH										
37	Non-Instructional Exp/SSH										
38	System-wide Support/SSH										
39	Organized Research/SSH										
40	M. Total Program Cost/SSH										
41	N. Total Campus Expenditure/SSH										
42											
43	Instruction Cost with Fringe per SSH										
44	K. Instructional Cost/SSH										
45	O. Comparable Cost/SSH										
46	Program used for comparison.										
47											
48	Reviewed by campus VC for Administrative Affairs:										
49											
50	Instructions										

(signature and date)

K. S. Chakraborty

Appendix B: Program Assessments and Measures

Table 1: Student Assessments in ETEC Doctoral Program

Title of Assessment	Form of Assessment	Time of Assessment	Who Assesses the Work?	Evidence of Success
1. Written comprehensive examination	Written comprehensive exam: systematic literature review and research prospectus	Upon completion of coursework and meeting with chair to develop focus for questions	PhD coordinator, proposed dissertation committee chair, and at least one additional ETEC faculty member	Faculty agreement to continue with oral defense
2. Oral comprehensive examination	Oral comprehensive exam	Upon successful completion of written exam	Same as 1 above	Pass vote by faculty committee
3. Dissertation proposal defense	Oral defense of written dissertation proposal (first three chapters of dissertation)	After passing comprehensive exam and before beginning data collection for dissertation	Five member dissertation committee	Submission and approval of Graduate Division Form 2
4. Institutional review of research involving human subjects	IRB approval of the dissertation research plan for protection of human subjects	At the time of the proposal defense	IRB at UHM, committee chair	Approval letter from IRB
5. Written dissertation	Written dissertation	Program culmination	Dissertation committee approved by Graduate Division, Graduate Division review	Signed and submitted Graduate Division Form 4, approval to graduate
6. Dissertation oral defense	Dissertation oral defense	Program culmination	Dissertation committee	Signed and submitted Graduate Division Form 3

Table updated and based on submission to NCATE 2009, "PhD in Education Program Report."

Table 2. Alignment of Assessments to Learning Outcomes

	1. Written comp	2. Oral comp	3. Proposal defense	4. IRB review	5. Written dissertation	6. Dissertation oral defense
Learning Outcomes						
Knowledge	x	x	x		x	
Research			x		x	x
Professional Ethics			x	x		x

Appendix C: Summary Information on ETEC Faculty

This appendix provides summary information on the doctoral faculty in the Department of Educational Technology. Full curriculum vitae have not been included as many are very long. Instead, these have been posted online for those reviewers who want to examine them. These can be accessed at:

<https://sites.google.com/a/hawaii.edu/etec-vitae/>

The program brings an experienced graduate faculty to advising and teaching. Although the specialization is relatively new and still has limited graduates, many of the faculty have chaired committees or served on them outside of the department.

The chart shows only committees for students who have completed. Several faculty served on doctoral committees or as chair prior to their hire at Mānoa or on committees at institutions outside the US; these are not included. Newer faculty are working with doctoral students on comprehensive examinations and proposal development but do not yet have dissertation committees that have completed. Counts for chair are not included in the committee membership count.

Department of Educational Technology Doctoral Faculty as of Spring 2012*

Name	Rank	Grad Faculty Status	Doctoral committees chaired	Doctoral committee membership
Catherine Fulford	Professor	Full	1	3
Curtis Ho	Professor	Full	3	19
Ellen Hoffman	Professor	Full	3	11
Christine Sorensen	Professor	Full		
Michael Menchaca	Associate Professor	Full	1	2
Peter Leong	Assistant Professor	Assoc.**		4
Paul McKimmy	Full Specialist	Assoc.		2
Meng-Fen (Grace) Lin	Assistant Professor	Assoc.		
Matthew Schmidt	Assistant Professor	Assoc.		
Seungoh Paek	Assistant Professor	Assoc.		

* One Assistant Specialist, Ariana Eichelberger, is a tenure-track faculty in the ETEC department but not a member of the doctoral faculty. She is currently a Graduate Division approved member of the graduate faculty for the Master's program.

** Dr. Leong has applied for tenure and promotion in fall 2012, and should become a full doctoral faculty member by the time the new program is in place assuming T&P is successful as anticipated.

Faculty Biographies

(Full vitae available online at <https://sites.google.com/a/hawaii.edu/etec-vitae/>)

Dr. Catherine P. Fulford is a Professor for the Educational Technology Department in the College of Education. She has been at the University of Hawaii at Manoa since 1990. She graduated with a Ph.D. in instructional systems from Florida State University (FSU) in 1989. Her Master's Degree in Teaching English as a Second Language and Bachelor's Degree in Theatre are also from FSU. Dr. Fulford served as the Educational Technology Department Chair and Graduate Chair for six years from 2006 to 2012. She continues to serve as coordinator for the on-campus Master's program. In 2005 she received the University of Hawaii Board of Regents Excellence in Teaching Award. Now as full time faculty, she

enjoys teaching, and also mentoring students and faculty to help them realize their potential. Dr. Fulford's areas of expertise are instructional design, needs assessment, visual design, photography, and video. Her research is in distance learning, cognitive speed, and technology integration. She has worked with International Federation for Information Processing (IFIP) and United Nations Educational, Scientific, and Cultural Organization (UNESCO) on two important publications for integrating technology. One of her sections of the publications is used to help World Bank applicants structure their funding requests. Dr. Fulford has extensive experience in the management of instructional systems and grant writing. She has helped bring substantial funding to the College of Education including a series of seven grants totaling over \$10.9 million in funding and matching resources for the LEI Aloha project that has helped faculty integrate technology into their courses throughout the University System. She served as principle investigator for these grants and served as the Project Director for the PT3 Catalyst Grant. She has most recently served as a co-principal investigator for a federal US-DOE Teacher Quality Enhancement – Recruitment grant. Dr. Fulford has a great passion for developing international connections and serving as an unofficial ambassador as she travels to international venues and conferences. In addition to working with UNESCO, and IFIP, she has served on the Executive Committee for the Ed-Media conference for the past four years. She has recently worked with students to create six videos for YouTube to help the parent organization, Association for the Advancement of Computing in Education's attendees of five international conferences to plan their conference strategically and improve their conference presentation and posters. This year she was also instrumental in securing an international agreement for College with The Norwegian University of Science and Technology (NTNU) which she traveled to Trondheim to sign. She coauthored one of the first research articles on interaction in distance learning in the field. She has published in *The American Journal of Distance Education*, *Educational Technology*, *TechTrends*, the *International Journal of Instructional Media*, and *Education and Information Technologies*.

Dr. Curtis P. Ho is professor and former chair of the Educational Technology department at the University of Hawai'i at Manoa. He has been a UH faculty member for over 30 years teaching graduate and undergraduate courses in educational media research, interactive multimedia, web-based instruction, e-learning design, video technology, and computer-based education. Dr. Ho has taught courses in American and Western Samoa and Saipan, and was the first to offer a course statewide over the Hawai'i Interactive Television System. For several years he directed the Office of Faculty Development and Academic Support for the University of Hawaii's Manoa campus. He has presented extensively at national and international conferences at locations including Beijing, Copenhagen, Lisbon, Lugano, Rome, Kumamoto, Kyoto, Melbourne, Montreal, Osaka, Panang, Tokyo, Toronto and Vancouver. Dr. Ho was a co-principal investigator for three US Department of Education grants totaling over US\$9.8 million. He has published articles in the *International Journal of Instructional Media*, *International Journal for Educational Media and Technology*, *Journal of Special Education Technology*, and *TechTrends*, along with multiple book chapters. His 2005 conference paper, "Life Beyond PT3: Field-Testing and Marketing an E-Portfolio Digital Textbook," received an outstanding paper award from the Association for the Advancement of Computers in Education (AACE),

Dr. Ellen Hoffman is Chair and Professor of Educational Technology where she has worked since 2005. She has also served as the coordinator of the ETEC PhD specialization since its inception in 2008. Her background is in anthropological archaeology and journalism. She earned her undergraduate and two masters degrees from the University of Michigan and a doctorate in Educational Leadership from Eastern Michigan University. She teaches graduate and undergraduate courses on campus and online. Courses include research and evaluation methods, foundations of instructional design, advanced doctoral seminars, and emerging technologies for teachers. She has been a principal investigator on multiple grants related to technology integration in education and in digital library development from the National Science Foundation, the US Department of Education, the State of Michigan Department of Education, and the Ameritech Foundation. Her research has focused on research methods in educational technology,

technology policy, distance education, digital libraries in schools, information literacy, usability of networked information systems, and systemic change at the K-12 and higher education levels. She has served as an administrator in academic computing, as a consultant for the Michigan Department of Education, and worked as a technology coordinator and computer teacher at a private elementary school. She is an Internet pioneer who worked on the NSFNET project from 1987-1995. She currently serves as the Executive Secretary of the ETEC discipline's professional organization, the Association for Educational Communications and Technology (AECT), where she also chairs the AECT Standards Committee. Her publications, in addition to multiple book chapters and three co-edited books, include articles in *TechTrends*, *Educational Technology and Media Yearbook*, *School Library Media Research*, *Computers in the Schools*, *Journal of the American Society for Information Science and Technology*, and the prestigious *AECT Handbook of Research for Educational Communications and Technology*.

Dr. Peter Leong is an Assistant Professor with the Department of Educational Technology (ETEC) where he has worked since 2008. A native of Malaysia, he received his Ph.D. in Communication & Information Sciences from the University of Hawaii-Manoa (UHM). He also holds a M.Ed. degree in Educational Technology and a M.S. degree in Travel Industry Management. Dr. Leong has extensive experience in the development and delivery of online courses and distance education. Before joining ETEC, he was the Instructional Designer for the College of Education where he assisted faculty to design courses for distance delivery. He previously served as the Distance Education Specialist for the School of Travel Industry Management where he developed and implemented a new on-line graduate certificate program in Travel Industry Management (e-TIM). He teaches both undergraduate and graduate courses which cover topics including quantitative research methods, instructional design, educational technology in informal learning environments as well as teaching and learning in virtual worlds. Dr. Leong was honored as one of Hawaii's 2007 top high-technology leaders and was recently recognized with the Board of Regents' medal for teaching excellence award in 2012. Dr. Leong is the developer of the College of Education's island in Second Life and he organized the first virtual graduation at UHM, which allowed ETEC students both on Oahu and off-island to experience a graduation ceremony in spring 2010. Dr. Leong was the President of the Pan-Pacific Distance Learning Association and currently serves as the President-elect of the International Division of the Association for Educational Communications and Technology. His research interests include student satisfaction with online learning, faculty support for technology integration, technologies for distance education and teaching & learning in virtual worlds. His publications include articles in *Distance Education*, *Journal of Virtual Worlds Research*, and the *International Journal of Design Education*.

Dr. Meng-Fen Grace Lin is an Assistant Professor for the Educational Technology Department in the College of Education. She has been at the University of Hawaii at Manoa since August 2008. Prior to moving to Hawaii, she was an adjunct faculty for University of Houston in Texas and National Taitung University in Taiwan. Dr. Lin has taught completely online courses in Texas and Hawaii. In addition, she also has experience teaching synchronous online courses for Taiwan and Hawaii. She has a background in programming, project management, web design, and narrative research. Her research interests include educational use of Web 2.0 tools such as wikibooks and YouTube, social learning, open education resources, and mobile learning. In addition to book chapters, she has published in *Journal of Internet and Higher Education*, *Open Learning: The Journal of Open, Distance and e-Learning*, *IEEE Transactions on Learning Technologies*, and has an upcoming article in *TechTrends*.

Dr. Michael P. Menchaca is an Associate Professor and Online Programs Coordinator in Educational Technology at the University of Hawai'i at Mānoa where he has worked since 2005. He has an undergraduate background in English and a doctoral degree in educational technology. He specializes in online learning and helped establish successful online programs at multiple institutions. He teaches courses on designing optimal online learning environments and conducting research in educational technology. He has served as co-principal investigator on federal *Preparing Tomorrow's Teachers to Use*

Technology (PT3) grants. He has presented at numerous national and international conferences. He has consulted for schools, districts, and county and state offices. He was an IT manager for many years, specializing in distributed networks. He has published research in online learning, social justice with technology, and technology integration. He has also published in international journals and conducted research in the Pacific Rim, Africa and the Middle East. He sits on editorial boards for several international conferences and journals. He has published in some of the field's top journals including *TechTrends*, *Distance Education* and *Quarterly Review of Distance Education* and has written chapters and co-edited books for the *International Society for Technology in Education*, which sets standards for technology integration in K-12 environments.

Dr. Seungoh Paek is an Assistant Professor of Educational Technology where she started in Fall 2012. With a background in Educational Psychology, she recently graduated with a doctorate in Instructional Technology and Media and a MS in Applied Statistics from Teachers College, Columbia University. Her research focuses on the design and development of innovative technologies in education, as well as the impact of such tools on learning across ages, domains, and settings. Her dissertation research examines the intersection of multi-modal experience and conceptual learning. More specifically, she designed and researched the impact of virtual manipulatives created to introduce the concept of multiplication through repetitive addition and embodied movement. This work earned a Provost's Research Grant (2011), and has been presented at a number of national conferences including the annual conference of the American Educational Research Association (AERA), the conference of Human-Computer Interaction, the Games Learning and Society conference, and the World Science Festival. She has also worked on evaluating instructional technology initiatives as a research associate for the Institute for Learning Technologies (ILT). In this capacity she has worked on a number of grant-funded projects including the *Curriculum Topic Study to Enhance Achievement in Mathematics and Science*, *GeoGames*, and the *International Baccalaureate's Online Program*. Her role at ILT has been multi-faceted, combining on-site observations and interviews with detailed statistical analyses and report write-ups. She has also taught a number of graduate and undergraduate courses, both online and face-to-face, in the areas of multimedia learning, interaction design and programming. Besides working in post-secondary education, she has worked with K-12 students, teachers, and administrators as a technology instructor and curriculum designer, in public school classrooms, workshops, and summer camps. In the past, she served as the web secretary for the Graduate Student Council of AERA, and as a web master for the Korean-American Educational Researchers Association. Currently, she is a member of the professional organizations AERA, AECT, ACM and NCTM.

Dr. Matthew Schmidt is an Assistant Professor of Educational Technology and Special Education at the University of Hawaii, Manoa, where he has worked since January 2012. His background is in educational technology, special education, and computer-assisted language learning. He earned his undergraduate degree from Truman State University and his masters and a doctorate in Educational Technology from the University of Missouri. He teaches graduate and undergraduate courses on campus and online, including courses on advanced technologies for individuals with disabilities and on research and evaluation methods germane to educational technology. He has served as project manager on two large grant projects: one related to three-dimensional virtual learning environments for individuals with autism spectrum disorders funded by the Institute of Education Sciences and another related to an artificial intelligence-driven online learning environment for radiation protection technicians funded by the Department of Labor. His research is situated at the intersection of educational and assistive technologies and is focused on promoting educational design research, learning analytics, and open access/open source education at the K-12 and higher education levels. Dr. Schmidt has broad expertise in the design, development, implementation, and evaluation of open source educational technology, with particular focus on online constructivist learning environments and three-dimensional virtual learning environments. He has developed systems in a variety of domains including special education, veterinary medicine, biological anthropology, nuclear engineering, radiation protection, and second language acquisition. His

publications include articles in *Exceptional Children*, *Computers in Human Behavior*, *Journal of Ambient Intelligence and Smart Environments*, *International Journal of Open Source Software & Processes*, *International Journal of Social and Organizational Dynamics in Information Technology*, *Journal of Vocational Education & Training*, and the *Handbook of Research on Human Cognition and Assistive Technology*.

Dr. Christine Sorensen is a Professor in Educational Technology. She was Dean of the College of Education at the University of Hawaii at Mānoa (UHM) from 2007 until 2012, coming to UHM after serving as dean at Northern Illinois University (NIU) from 2001. Dr. Sorensen received her undergraduate degree from the University of Houston and her masters and PhD from Iowa State University. She has taught in the areas of educational leadership, curriculum, and research and evaluation. Prior to joining the NIU faculty in 1996, Dr. Sorensen was a lead research and evaluation specialist at the Research Institute for Studies in Education at Iowa State University in Ames, Iowa. She worked on a variety of national, regional, and state grants designing, conducting, and reporting evaluations of the effectiveness various projects. She has successfully chaired 37 doctoral committees, received three research awards, been PI or co-PI for grants totaling more than \$15 million, published more than 20 refereed articles and given more than 100 presentations at regional, national and international conferences. She is co-author for multiple book chapters and three books, including one of the leading texts on educational research methods, *Introduction to Research in Education*, now in its eighth edition. Her publications have appeared in many journals, including *TechTrends*, *Community College Journal of Research and Practice*, *Distance Learning*, *Quarterly Review of Distance Education*, *The Journal on the Art of Teaching*, and *Continuing Higher Education Review*.

Collaborative Research between Faculty and Doctoral Students

Note that while in many disciplines highest priority is placed only on journal publications, conference publications play a major role in educational technology because of the rapid changes in the field and the need to disseminate studies more rapidly than often occurs in print. This was documented by a systematic research study that compared publications and citations in multiple disciplines (van Alst, 2010). Conferences are also seen as a way to increase participation by doctoral students in professional networks. The paper by Herrick, Lin and Heui-Wen (2011) won the outstanding paper award for the international conference at which it was presented. Jointly authored research publications are increasing as more students complete the foundation courses but the record to date is already a strong indicator of research collaboration potential, particularly in a department which is not laboratory based.

Journal Articles

- Lin, M.G, Hoffman, E., & Chun, C. (in press). Is social media too social for class? A case study of Twitter use. *TechTrends*.
- Gose, E., Fulford, C., & Boulay, R. (2012) Method to the media madness: Using free and open source software for online instruction. *Design Principles and Practices: An International Journal*, 5(6) 11-17.

National and International Conference Proceedings

- Lin, M.-F., Fulford, C., Ho, C., Iyoda, R., & Ackerman, L. (2012). *Possibilities and challenges in mobile learning for K-12 teachers: A pilot retrospective survey study*. Proceedings of 6th IEEE International Conference on Wireless, Mobile, and Ubiquitous Technologies in Education (WMUTE, 2012).
- Herrick, M., Lin, M.-F. & Huei-Wen, C. (2011). Online discussions: The effect of having two deadlines. In M. Koehler & P. Mishra (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 344-351). Chesapeake, VA: AACE. (Outstanding Paper Award winner)
- Parisky, A., McKimmy, P. B., & Boulay, R. (2011). Sharing an open resource in medical education. *Proceedings of the E-Learn 2011--World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*. Honolulu, Hawaii, USA.
- Hasler Waters, L., & Leong, P. (2011). New roles for the teacher and learning coach in blended learning for K-12. *Proceedings of the Association for the Advancement of Computing in Education's World Conference on Educational Multimedia, Hypermedia & Telecommunications (ED-MEDIA)*. Lisbon, Portugal.
- McKimmy, P. B. & Eichelberger, A. (2011). The evolution and efficacy of a technology orientation for distance students. *Proceedings of the Association for the Advancement of Computing in Education – GlobalLearn Asia-Pacific Conference on Learning and Technology*. Melbourne, Australia.
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- Hoffman, E., & Borengasser, C. (2011) Technology isn't special anymore: Priorities at a public research university *Proceedings of the World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2011* (pp. 2286-2290). Honolulu, HI: AACE. Retrieved from <http://www.editlib.org/p/39068>
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- Hoffman, E., Nakano, K. L., Herrick, M., & Bradley, J. (2010). Distance learning in the F2F classroom: Using technology to improve student retention. In M. Simonson (Ed.), *33rd Annual Proceedings of the 2010 Association for Educational Communications and Technology (AECT) Convention, Selected Research and Development Papers* (Vol. 1, pp. 69-77). Bloomington, IN: Association for Educational Communications and Technology.
- Kong, K., Masaki, E., Ackerman, L., Borengasser, C., Boon, M. & Hoffman, E. (2010). Planet Gardner: An educational game in a multi-user virtual environment (MUVE). In Z. Abas et al. (Eds.), *Proceedings of Global Learn Asia Pacific 2010* (pp. 3581-3586). Chesapeake, VA: Association for the Advancement of Computing in Education.
- Lin, M.-F., Herrick, M., Davids, J. & Tsai, H.C. (2010). *Building community and sharing knowledge: Team teaching an online class*. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2010* (pp. 2225-2233). Chesapeake, VA: AACE.
- Meeder, R. & Leong, P. (2010). Identity and the educational community in multi-user virtual environments. *Proceedings of the Association for Educational Communications and Technology (AECT) International Conference 2010*. Anaheim, California.
- McCann, K., Ortiz, T., Parisky, A., Hoffman, E. & Boulay, R. (2009). How top US medical schools are using distance learning resources: An exploratory study of four institutions. In *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2009* (pp. 2930-2935). Chesapeake, VA: Association for the Advancement of Computing in Education.
- Ortiz, T., McCann, K., Rayphand, L.J., & Leong, P. (2009). Assessing faculty awareness, practices, and accommodations in Universal Design for Learning: With respect to distance education courses. *Proceedings of the Association for the Advancement of Computing in Education's World Conference on Educational Multimedia, Hypermedia & Telecommunications (ED-MEDIA)*. Honolulu, Hawaii.
- Menchaca, M., Yong, L., & Hoffman, E. (2008). Understanding barriers to Native Hawaiian participation in distance education. In *Proceedings of the Distance Learning and the Internet Conference 2008* (pp. 177-180). Tokyo, Japan: Association of Pacific Rim Universities.

Appendix D: Letter from UHM Librarian




UNIVERSITY
of HAWAII
MĀNOA

University Library
Office of the University Librarian

September 7, 2012

TO: Ellen Hoffman
Chair, Educational Technology

FROM: Gregg Geary 
University Librarian

SUBJECT: Library Resources to Support PhD in ETEC

This memo comes in response to a request to evaluate our Library's holdings as to whether they meet the needs of a doctoral program in Educational Technology. An e-mail poll of ETEC faculty and graduate students to determine the Library's ability to support the proposed ETEC PhD program was conducted on August 21-22, 2012. Responses indicate that students are extremely satisfied and feel supported by the current level of services and resources.

Students note the ease of use of the online catalog and the strong selection of electronic research databases, including those that support interdisciplinary work. When books and journal articles are not located in-house, students note the quick turn-around time provided by Interlibrary-loan service. ETEC students make use of both face-to-face and virtual chat reference to receive real-time research support anytime, anywhere. Mainland and overseas students commented that they have continued their PhD work without complication due to the excellent resources and virtual library services available to them.

At present I find that the library materials are adequate to support the proposed ETEC PhD program. I would be remiss, however, if I did not indicate that as your program grows, needs will surely increase over time, and we will need to revisit this matter in the future and re-evaluate the costs of supporting the library holdings in the field of education technology.

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Telephone: (808) 956-7205 Fax: (808) 956-5968
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Xerox WorkCentre 7855

SMTP Transfer Report



Job Status: FAILED Job canceled by user.

Job Information

Device Name: WC 7855 at Manoa Vice Chancellor's Office
Submission Date: 08/06/13
Submission Time: 10:29 AM
Images Scanned: 58
Size: 0
Attachment Name:
Format: Image-Only PDF
Encrypted E-mail: No

SMTP Server

Address: 128.171.224.23:25

Message Settings:

Subject: Scanned from a Xerox Multifunction ...
From: DoNotReply@hawaii.edu
Reply To: DoNotReply@hawaii.edu
To:

1. mtbh@hawaii.edu

Assumptions for ETEC PhD Program Figures

A. Headcount – as specified in proposal, capped at 50 total per year. Note that this is already in place but the students will shift from being shown in official reports from the PhD in Education to the ETEC PhD when approved. As a result, the enrollment is a steady state.

B. SSH – calculated based on Master's program, approximately 10 credits per year per student. No counts currently possible as the enrollment is merged in the large COE-wide program. This is our best estimate based on known enrollments in ETEC courses.

C1. No. Faculty – based on each faculty member teaching 5 courses per academic year (15 credits). Currently each faculty member generates approximately 300 credit hours per year (5 courses at 3 credits each with 20 students per course). Estimate of 1.75 dedicated to the PhD program.

C2. No lecturers teach in the doctoral program.

D. Student office support to assist with managing records, admission materials estimated at \$1500 per year.

E. No expected unique program costs since this program already is underway.

G. Tuition rates as provided by VCAA office, includes no increase after 2016 as rates then unknown.

I. No other fees collected related to this program.

K1. Based on average salary for eight instructional faculty members in 2013-14: \$95,000 per records provided by COE as of 8/1/2013. Multiplied by number required for PhD program (see C1 – 1.75). Increased by 3% each of the first three additional years. No increase assumed for 2016 onward to match non-increase value for tuition.

L. Numbers per 2010-11, most recent figures available.