**Educational Technology Global Learning Initiative Grant Report**

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**Educational Technology Program GLI Foundational Overview**

To provide a foundational overview of the following report, it is important to know several things.  The NAU M.Ed. in Ed Tech is entirely an online graduate degree program and online degree programs can be designed from a variety of pedagogical approaches.  The faculty of Educational Technology have designed the Educational Technology Graduate Degree Program based upon four distance education theoretical constructs that have emerged from the discipline.

First, and perhaps foremost, because students are located at a distance from their instructor and one another, a primary concern is to reduce the "*transactional distance*" that may cause students to experience feelings of isolation.   To help students reduce the feelings of transactional distance, it is important to design "*interactions*" into course work.  In addition, to students interacting with the content of a course, it is important for them to also interact with their instructor, but also with their peers.  In addition, it is also important to consider the interaction with the media in online course design.

By providing opportunities for distance students to interact in the various ways as listed above, their "*social presence*" increases.  They see each other as more present and become more than just a computer email or text message.  They become fellow students, more closely approximating a face to face classroom.   Finally, it is hoped that by designing online courses in this manner, students begin to engage less from an isolated correspondence course perspective to more of, what we've defined as a, "*distributed learning environment*" where they become an integral part of a learning community.

To help support the distance educational theoretical constructs listed above, courses in the M.Ed. in Ed Tech are designed from a constructivist perspective that is student-centered and in

alignment with social learning theory that utilizes collaborative learning strategies.  In other words, all of the graduate courses require that students engage in group discussions, collaborative team projects, and often perform peer evaluations.

Engaging students on a global scale in this manner requires that they communicate, interact, and be aware of social, cultural, language, and diversity issues that the goals of the NAU Global Learning Initiative address.   The following report outlines how students achieve the program outcomes through the explicit and implicit instruction provided by the NAU M.Ed. in Ed Tech degree program.

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**Educational Technology Program GLI Outcomes**

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The Educational Technology Program Outcomes are aligned to the three GLI outcomes, Global Engagement, Diversity Education, and Environmental Sustainability.  However, the Ed Tech program GLI outcomes are developed within the context of our content area.

**Global Engagement**

Students will learn how to analyze, synthesize, and evaluate the interconnectedness and interdependence of the human experience on a global scale by engaging in communication and collaboration activities where they interact with their instructors, classmates, professional colleagues, and experts in the field.  Specifically, students will:

- Demonstrate an understanding of the global nature of current digital communication tools in terms of having global reach.

- Develop curriculum that promotes and models the utilization of digital communication tools that expands their students' global awareness that promotes a less myopic and prejudicial view of the world.

- Develop curriculum that provides for and models safe, healthy, legal and ethical use of digital information and technologies, in light of the global reach of technology.

- Demonstrate an understanding of the appropriate use of digital communication tools that enhance their students' social presence rather than exacerbating transactional distance or feelings of social isolation.

**Environmental Sustainability**

Students will acquire the skills and knowledge base to understand the importance of and options for environmental sustainability in local and global terms. Students will also acquire an understanding of the range of ethical perspectives concerning the uses of natural resources and the impact of these perspectives on creating a sustainable relationship to the natural environment.

Because the Educational Technology program at NAU is entirely online, students are engaged in helping reduce their carbon footprint by taking online classes rather than driving to and from a bricks and mortar institution. In addition, they also support environmental sustainability by utilizing e-documents for their instruction and assignments, as well as, various digital tools for communication. By modeling the use of electronic tools to reduce the carbon foot print, the faculty are teaching environmental sustainability in an implicit manner. However, it is also important to teach our students the importance of environmental sustainability in an explicit manner. Specifically, students will:

- Describe the nature and importance of environmental sustainability, in terms of how it will impact their students.

- Develop curriculum that integrates technology, which supports and models environmental sustainability through the use of digital communication and media.

- Demonstrate an understanding of how Open Source software can help utilize older outdated hardware, thus reducing the impact that technology waste has on our environment.

**Diversity Education**

Students will learn about and critically reflect upon the nature and consequences of diversity in both the social (e.g. ethnic, religious, cultural) world and the natural environment, and develop an understanding of how this diversity both alters and is altered in a world characterized by increasing global interaction.

Because the Educational Technology program at NAU is entirely online, students engage with fellow students that are often located across the globe, which requires awareness and sensitivity to cultural differences. Indeed, we often have international students, whose native language and communication style and preferences vary. Therefore Diversity Education is a vital element of this program and taught both explicitly and implicitly. However, there are additional elements of diversity that will impact our graduates as they move into their future careers as educators. For example, our graduates must be aware of diverse issues related to cognitive abilities and technology skills that must be considered as they design learning environments for their students. Specifically, students will:

- Describe diversity, in terms of gender, religious, ethnicity, culture, and reflect upon how increasing global interaction, especially in online education, will impact their classroom curriculum design.

- Develop curriculum that models effective utilization of digital communication tools that demonstrates an awareness and understandings of and sensitivities to a diverse population of students.

- Demonstrate an understanding of the nature and importance of Equitable Access to technology opportunities; in terms of access due to socio-economic barriers and/or technical aptitude (i.e. digital native vs. digital immigrant).

- Develop curriculum that includes differentiated instruction, which supports learners of various cognitive abilities – both in terms of accommodations for students with special needs AND extension for students with exceptional abilities.

**Educational Technology Program GLI Curricular Strategies**

It is important to remember that M.Ed. in Ed Tech is an online program where students study from various distant locations.  The Ed Tech faculty have devised several curricular strategies to help students achieve the program outcomes.  While many of the strategies might be seen as traditional online instructional strategies, faculty also utilize strategies designed to reduce transactional distance and improve the students' feelings social presence, which are hallmarks of distributed learning environment. Specifically, curricular strategies include, but are not limited to:

- Course Readings

- Online Discussions

- Instructional Materials

- Software/Resource Review & Evaluation

- Curriculum Development

- Lesson Planning

- Educational Technology Resource Development

- Research

- Writing

- Presentations

- Collaborative Team Projects

Teamwork can often be troublesome for face to face students, and online projects are no different. Therefore, collaborative projects in classes that are early in the degree program are designed with a great deal of structure to help students organize their teams and manage tasks by assigning roles with specifically identified tasks.   In addition, collaborative projects are designed with elements that support individual accountability and group interdependence, which models the notion of the interdependence of the human experience.

Appendix A provides an example of the structure to collaborative learning for one of the first assignments in the Ed Tech Program.  In addition to providing the structure to help students, it also models the elements of individual accountability and group interdependence, which is a foundational aspect of good cooperative learning activities as well as helps them learn about the interconnectedness and interdependence of folks who communicate and work together at a distance.

**Educational Technology Program GLI Co-Curricular Strategies**

To expand support for student engagement beyond the course work, the Ed Tech faculty have also utilized strategies that are co-curricular in nature.  Specifically, we utilize a variety of electronic communication tools to foster and support "The ETC Community."   We believe that by modeling the use of technology to create a learning community or an academic "community of practice" our students will gain an appreciation for technology's ability to support learners who could be extremely geographically separated, of different cultures, perhaps speak different languages, and/or have limited resources to support learning in their local communities.   It is our hope that building this co-curricular online community will foster greater feelings of involvement and provide another avenue for students

to enhance a professional social presence beyond their course interactions; thus supporting the three themes of the NAU Global Initiative: Global Engagement, Diversity, and Environmental Sustainability. Specifically, the non-course related strategies we use within the ETC Community forum include, but are not limited to:

- Share program information

- Announce Special Recognition for Student Exemplars

- Guest Speakers

- Special Topic Presentations

- Student Presentations

- Peer Review

Presentations occur several times a semester and sample topics include:

- Global Citizenship

- Equitable Access: Open Source Software

- Distance Learning and Environmental Sustainability

- Diversity: What do your students look like?

Our students often choose various communication tools that suit their style, location, needs, or access to resources.   To support their various needs, the Ed Tech faculty utilize a variety of communication tools including social media to communicate with their students outside of class.  By using these tools, many of which provide free global communication, thus supporting and modeling; global engagement, environmental sustainability and diversity.

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| Tool | Description | Use | NAU Supported (Limited Access) |
|------|-------------|-----|-------------------------------|
| Facebook | Social Media | The Ed Tech Program, Faculty, and Students create their online Social Presence | |
| Twitter | Open Short Announcement Tool | Students follow faculty and the Ed Tech Account for updated announcements | |
| WetPaint | Open Wiki Web Site Development Tool | Students create their own personal learning environment | |
| Diigo | Open Social Bookmarking & Tagging Tool | Students locate and share valuable resources | |
| Delicious | Open Social Bookmarking Tool | Students locate and share valuable resources | |
| Moodle | Open Source Course Management Tool | Students practice creating online courses in an open source environment. | |
| Elluminate | Internet Audio/Video Conferencing Tool | The Ed Tech Faculty utilize this for video conferences within and outside of class.  This has been especially helpful for presentations for current students. | X |
| Ed Tech NAU Listserv | Group eMail Tool | Another group announcement tool that sends email from one to many. | X |

**Educational Technology Program GLI Assessment Plan**

Currently, the NAU is NCATE accredited, which means that every degree program that leads to

Pre-K-12 classroom instruction, must be aligned to its Specialized Program Area (SPA).  As such, the

graduate degree program in Ed Tech is aligned to the International Society for Technology in Education

(ISTE) standards.   This provides a formalized process for individual student assessment and also

program evaluation.   To support this formalized assessment process, students submit signature

assignments that are housed and assessed with the portfolio tool, TaskStream.  This tool also provides

for evaluation reports at just about every level, including aggregate program data reporting.

Therefore, it makes sense to utilize this formalized assessment process to assess individual student

achievement of the Ed Tech GLI outcomes, but also for the Ed Tech GLI Program Evaluation.

However, additional instructional strategies are included to support a more through

engagement for our students with the GLI curriculum.  Furthermore, by including the GLI

outcomes/objectives in all of the M.Ed. in Ed Tech courses will provide a greater opportunity for our

students to achieve them.   The following matrix outlines the alignment of outcomes/objectives and

assessments as they touch each of the required Ed Tech M.Ed. Program 21 credit hours:

- ETC 547 - Theory and Strategies in Technology Integration
- ETC 567 - Technology, Society, and Education
- ETC 585 Technology Integration in the Pk-12 Classroom
- ETC 625 Designing Instruction
- ETC 635 Tech Planning and Professional Development
- ETC 645 Distributed Learning Delivery Systems
- ETC 655 Creating Learning Environments

## Global Learning Outcomes and Curricula Strategies to Achieve These Outcomes

| Outcomes/Objectives | Strategies | Learning Activity & Assessment | Course | Faculty |
|---|---|---|---|---|
| *Global Engagement* | | | | |
| Demonstrate an understanding of the global nature of current digital communication tools in terms of having global reach. | Course Readings<br>Online Discussions | Online discussion topic: Technology and Global Reach.  Students will be assessed on the level and depth of their posting in the discussion topic as it relates to how technology has impacted global reach. | ETC 567 | Dr. J. M. Blocher |
| | Software/Resource Review & Evaluation | Students review and evaluate Web 2.0 & Online Communication/Social Networking Tools.  Students will be assessed on the level and depth of their review and evaluation, in terms of the tool having global reach. | ETC 625 | Dr. C. Conn |
| | Course Readings<br>Online Discussions | Online discussion topic: Global Engagement.  Students will be assessed on the level and depth of their posting in the discussion topic as it relates to how e-communications have impacted global engagement. | ETC 645 | Dr. C. Tu |

| | Course Readings Online Discussions | Locate and Integrate multiple Open Network Digital Communication Tools to enhance online discussion. Students will be assessed on the number and variety of open network digital communication tools and the complexity of their description of how the tools might be integrated to enhance online discussions. | ETC 655 | Dr. C. Tu |
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| Develop curriculum that promotes and models the utilization of digital communication tools that expands their students' global awareness that promotes a less myopic and prejudicial view of the world. | Course Readings Curriculum Development | Students develop an instructional activity that integrates at least one Web 2.0 tool and one communication or social networking tool into a curriculum project.  Students will be assessed on how well their curriculum project utilizes a Web 2.0, e-communication, or social networking tool to enhance their future students' global awareness. | ETC 547 | Dr. C. Conn |
| | Educational Technology Resource Development | Students create school/district digital portal to promote global digital learning. Students will be assessed on how well their digital portal is designed to promote global awareness for their future students. | ETC 645 | Dr. C. Tu |

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| | Educational Technology Resource Development | Students create "Open Network Learning Environment," designed to engage students and/or teachers in global digital learning.   Students will be assessed on how well their learning environment project is designed to utilize open network tools that are more readily available on a global level. | ETC 655 | Dr. C. Tu |
| Develop curriculum that provides for and models safe, healthy, legal and ethical use of digital information and technologies, in light of the global reach of technology. | Course Readings Collaborative Team Project | Students Create a Team Global Digital Citizen Unit.  Students will be assessed on how well their team's unit teaches and models safe, healthy, legal and ethical uses of digital tools. | ETC 567 | Dr. J. M. Blocher |
| | Course Readings Collaborative Team Project | Students create a Team Technology Plan. Students will be assessed on the policies included in the plan in terms of providing support for the use of safe, healthy, legal, and ethical digital technology tools within the district/school. | ETC 635 | Dr. C. Conn |
| | Educational Technology Resource Development | Students create school/district digital portal to promote global digital learning. Students will be assessed on how well their digital portal is designed to promote global awareness for their future students. | ETC 645 | Dr. C. Tu |

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| | Educational Technology Resource Development | Students create "Open Network Learning Environment," to engage students and/or teachers in global digital learning: Network learning training. Students will be assessed on how well their learning environment project might teach and model open network tools that are more readily available on a global level. | ETC 655 | Dr. C. Tu |
| Demonstrate an understanding of the appropriate use of digital communication tools that enhance their students' social presence rather than exacerbating transactional distance or feelings of social isolation. | Educational Technology Resource Development Collaborative Team Project | Students Create individual page the "Digital Devices Class Website." Students will be assessed on how well they engage with their peers in building a class website that demonstrates each student's investigation and understanding of how an innovative technology has impacted society and education. | ETC 567 | Dr. J. M. Blocher |
| | Educational Technology Resource Development Collaborative Team Project | Students create a Team Website. Students will be assessed on how coherent and comprehensive the website is, and how well they worked with each other using web 2.0 tools to complete the task. | ETC 635 | Dr. C. Conn |

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| | Course Readings<br>Online Discussions | Student's engagement in the online discussion topic: Global Engagement. Students will be assessed on the level and depth of their posting in the discussion topic as it relates to how technology has impacted global engagement. | ETC 645 | Dr. C. Tu |
| | Course Readings<br>Online Discussions | Student's engagement in the online discussion topic: eTextbook for Global Digital Learning. Students will be assessed on the level and depth of their posting on eTextbooks. | ETC 655 | Dr. C. Tu |
| *Environmental Sustainability* | | | | |
| Describe the nature and importance of environmental sustainability, in terms of how it will impact their students. | Course Readings<br>Online Discussions | Student's engagement in the online discussion topic: Nature and Importance of Environmental Sustainability. Students will be assessed on the level and depth of their posting on the importance of environmental sustainability. | ETC 567 | Dr. J. M. Blocher |
| | Course Readings<br>Online Discussions | Student's engagement in the online discussion topic: Using Open Networking Tools to support Environmental Sustainability. Students will be assessed on the level and depth of their posting of utilizing open networking tools as they relate to lesson one's carbon footprint. | ETC 645 | Dr. C. Tu |

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| | Course Readings<br>Online Discussions | Student's engagement in the online discussion topic: Developing a Personal Learning Environment to support Environmental Sustainability.  Students will be assessed on the level and depth of their posting on how developing a personal learning environment might help support environmental sustainability. | ETC 655 | Dr. C. Tu |
| Develop curriculum that integrates technology, which supports and models environmental sustainability through the use of digital communication and media. | Course Readings<br>Collaborative Team Project<br>Curriculum Planning | Students Create a Team Global Digital Citizen Unit.  Students will be assessed on how well their team's unit utilizes digital tools to reduce paper usage and thus support environmental sustainability. | ETC 567 | Dr. J. M. Blocher |
| | Course Readings<br>Collaborative Team Project<br>Curriculum Planning | Students create a Unit Plan with at least 3 lessons, one being for web-based delivery. Students will be assessed on how well they utilize digital communication and media, which reduces the carbon footprint of most traditional learning environments. | ETC 625 | Dr. C. Conn |

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| | Educational Technology Resource Development | Students create school/district digital portal to promote global digital learning. Students will be assessed on how well their digital portal is designed to support digital communication and media, which reduces the carbon footprint of traditional paper information dissemination methods. | ETC 645 | Dr. C. Tu |
| | Educational Technology Resource Development | Students create "Open Network Learning Environment," to engage students or teachers in global digital learning: Network learning trainings. Students will be assessed on how well their Network learning trainings utilize digital communication and media for delivery. | ETC 655 | Dr. C. Tu |
| Demonstrate an understanding of how Open Source software can help utilize older outdated hardware, thus reducing the impact that technology waste has on our environment. | Educational Technology Resource Development Collaborative Team Project | Students Create individual page on the "Digital Devices Class Website." Students will be assessed on how well the class website describes the use of open source software, which can utilize lower end computers, might mitigate computer waste. | ETC 567 | Dr. J. M. Blocher |

| | Course Readings Online Discussions | Student engagement in the Online Discussion Topic: Creating Digital Portals to Promote Global Learning.  Students will be assessed on the level and depth of their posting on the importance of utilizing digital portals in education to support environmental sustainability. | ETC 645 | Dr. C. Tu |
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| | Course Readings Online Discussions | Student engagement in the Online Discussion Topic: Creating Open Network Learning Environments to engage students/teachers in Global Learning. Students will be assessed on the level and depth of their posting on the use of open learning networking tools to support environmental sustainability. | ETC 655 | Dr. C. Tu |
| *Diversity Education* | | | | |
| Describe diversity, in terms of gender, religious, ethnicity, culture, and reflect upon how increasing global interaction, especially in online education, will impact their classroom curriculum | Research and Writing | Students submit the Diversity and Education Scholarly Paper.  Students will be assessed on how well their paper addresses diversity, in terms of gender, religious, ethnicity, and culture. | ETC 567 | Dr. J. M. Blocher |

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| | Course Readings<br>Online Discussions | Students' participation in Discussion Topic: "Teacher's Guide to International Collaboration on the Internet."  Students will be assessed on the level and depth of their posting on international collaboration. | ETC 585 | Dr. S. Armfield |
| | Research and Presentation | Students research strategies that support diverse learners including special needs learners, ELL students; incorporating a multicultural perspective.  Students will be assessed on how well they develop their Communicating Best Practices presentation. | ETC 625 | Dr. C. Conn |
| | Course Readings<br>Collaborative Team Project<br>Resource Development | Global Digital Learning Newsletter for Parents.  Students will be assessed on how well their newsletter demonstrates their ability to present information on global learning to parents. | ETC 645 | Dr. C. Tu |
| | Research<br>Resource Development | Global Digital Learning Research Paper.  Students will be assessed on the level and depth of their research on global digital learning. | ETC 655 | Dr. C. Tu |

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| Develop curriculum that models effective utilization of digital communication tools that demonstrates an awareness and understandings of and sensitivities to a diverse population of students. | Providing Instructional Materials: Webinar - "Lessons from Abroad: International Standards and Assessments" Online Discussions | Use a Web 2.0 tool to create a presentation on formative and summative assessment. Students will be assessed on utilizing web 2.0 tools to present information on formative and summative assessment in light of diversity. | ETC 585 | Dr. S. Armfield |
| | Educational Technology Resource Development | Students create school/district digital portal to promote global digital learning. Students will be assessed on their ability to develop a school/district digital portal that is sensitive to a diverse population of students. | ETC 645 | Dr. C. Tu |
| | Student Developed Open & Personal Learning Environments | Students create "Open Network Learning Environment," to engage students or teachers in global digital learning. Students will be assessed on their ability to develop an open network learning environment that is sensitive to a diverse population of students. | ETC 655 | Dr. C. Tu |
| Demonstrate an understanding of the nature and importance of Equitable Access to technology opportunities; in terms of access due to socio-economic barriers and/or technical aptitude (i.e. | Course Readings Online Discussions | Students' participation in Discussion Topic: Global Education On a Dime: A Low-Cost Way to Connect. Students will be assessed on the importance of equitable access to information via technology. | ETC 585 | Dr. S. Armfield |

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| digital native vs. digital immigrant). | Course Readings<br>Curriculum Development<br>Lesson Planning | Students Create a Team Global Digital Citizen Unit, where lessons must describe differentiated instruction.   Students will be assessed on how well their team's unit utilizes differentiated instruction to support learners of various technological backgrounds and/or levels of access. | ETC 567 | Dr. J. M. Blocher |
| | Course Readings<br>Collaborative Team Project<br>Educational Technology<br>Resource Development | Global Digital Learning Electronic Newsletter for Parents.  Students will be assessed on how well their newsletter supports parents of various technological backgrounds and/or levels of access. | ETC 645 | Dr. C. Tu |
| | Research<br>Writing | Global Digital Learning Research Paper. Students will be assessed on the level and depth of their research as it relates to equitable access. | ETC 655 | Dr. C. Tu |
| Develop curriculum that includes differentiated instruction, which supports learners of various cognitive abilities – both in terms of accommodations for students with special needs AND extension for students with exceptional abilities. | Research<br>Curriculum Development<br>Lesson Planning | Students research strategies related to Adaptive and Assistive technologies and integrate them into instruction. Students will be assessed on how well their "Try Something New!" assignment demonstrates their understanding of utilizing technology to support special needs populations. | ETC 547 | Dr. C. Conn |

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| | Course Readings<br>Curriculum Development<br>Lesson Planning | Students Create a Team Global Digital Citizen Unit, where lessons must describe differentiated instruction.   Students will be assessed on how well their team's unit utilizes differentiated instruction to support learners of various cognitive abilities to support their learning of being a good global digital citizen. | ETC 567 | Dr. J. M. Blocher |
| | Course Readings<br>Curriculum Development<br>Lesson Planning | Students Create a "Teaching with Scenarios" unit, where lessons must have differentiated instruction.  Students will be assessed on how well their unit provides for differentiated instruction to support learners of various cognitive abilities. | ETC 585 | Dr. S. Armfield |
| | Research<br>Curriculum Development<br>Lesson Planning | Students research strategies that support diverse learners including special needs learners, ELL students.  Students will be assessed on how well they; incorporated a multicultural perspective, integrate the strategies into their Unit Plan. | ETC 625 | Dr. C. Conn |