



# Technology Orientation Project Brief Special Education Boot Camp Digital Literacy Initiative

Southern Nazarene University's Special Education Boot Camp serves a growing population of adult learners seeking provisional certification. Despite holding undergraduate degrees, many entering students lack the foundational digital literacy skills the program assumes, creating significant barriers to learning in the technology driven course.

# The Problem: Technology Barriers in Higher Education

Current observations reveal that instructors spend valuable class time troubleshooting basic technical issues while students experience imposter syndrome, reduced participation, and social disconnection due to technology struggles in the fast-paced curriculum. This project employs human-centered design methodology to address the digital literacy gap.

Through empathy research including observations, interviews, and data analysis, the root cause was identified: **the program designed instruction around an assumed "typical student" rather than the diverse learners actually entering the program.**

## The Challenge

Technology deficits create barriers to learning and trigger imposter syndrome in accomplished professionals

## The Impact

Reduced participation, social disconnection, and valuable class time lost to troubleshooting

## The Solution

Pre-Boot Camp Digital Literacy Passport providing accessible, confidence-building technology orientation

# Understanding the Problem Through Empathy

Three years of observation/working experience revealed that technology barriers persist despite assumptions that undergraduate degree holders possess basic computer skills. The empathy phase uncovered critical insights: **digital literacy varies dramatically among accomplished professionals.**

One learner (JW) navigated entire undergraduate and professional careers without developing basic technology skills because his educational era didn't require them. Another possessed specialized technical knowledge that didn't transfer to educational technology platforms, demonstrating that professional-level skills don't guarantee LMS proficiency.

Observations documented emotional and social consequences beyond simple skills gaps. Learners reported feeling incompetent navigating basic programs, triggering imposter syndrome. This manifested as reduced question-asking, increased class interruptions requiring IT visits and EdPlan administrator support, and social disconnection from peers.

The fast-paced Boot Camp curriculum is designed for efficient content delivery, amplified these challenges because it assumes technological self-sufficiency and troubleshooting capabilities many learners don't possess.

# Defining the Root Cause

Applying the 5 Whys methodology revealed the true problem:

1. Learners struggle because they lack basic computer literacy skills.
2. Their previous academic and professional experiences didn't require these skills.
3. The program admitted them because it assumed undergraduate degree holders possess basic technology skills.
4. This assumption exists because higher education norms focus on content rather than foundational technical skills.
5. The gap has never been addressed because assumed versus actual learner preparedness has never been evaluated.

**The root cause is not learner deficiency it's institutional design failure.** The program built curriculum around a perceived "typical student" rather than actual learners entering the program. These are intelligent, motivated professionals being set up to fail not due to lack of capability, but because learning environments don't meet them where they are.

# Champions, Resources, and Barriers

## Champions

Champions for change exist within the current system. Instructors possess expertise in fast-paced content delivery that could be leveraged with structured technology support. IT staff and EdPlan administrators already respond to crises, demonstrating organizational awareness that help is needed—they could transition from reactive troubleshooters to proactive support partners.

## Resources

Available resources include existing IT infrastructure and personnel representing untapped potential for preventative rather than reactive support. EdPlan administrators' familiarity with common issues provides valuable insight into where learners typically struggle. The program's established reputation means interventions can build on existing frameworks rather than requiring complete redesign.

## Barriers

Barriers include instructor time constraints—they're already teaching content-rich material and lack capacity to add basic computer skill instruction. Learners may hesitate to disclose technology deficits at enrollment due to embarrassment. Tech-confident students may resist slowing program pace for additional technology teaching, creating potential social division.

# Human-Centered Problem Statement

Graduate students entering the Special Education Boot Camp need accessible, confidence-building technology orientation before content instruction begins because their diverse professional backgrounds have not required the specific computer literacy skills the program assumes, creating barriers to learning, triggering imposter syndrome, and preventing them from demonstrating their true capabilities.

This statement centers the learner rather than institutional convenience. The solution must address three dimensions: practical skill building, emotional safety, and social connection.



## Practical Skills

Building foundational technology competencies needed for program success



## Emotional Safety

Creating confidence and reducing imposter syndrome through supportive learning environments



## Social Connection

Growing community and belonging among diverse learners

# Solution Development and Innovation

The ideation phase employed SCAMPER methodology (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Rearrange) supplemented with "How Might We?" questions and Reverse Thinking. This structured approach prevented premature conclusions and encouraged deep exploration of existing system elements that could be repurposed.

## **Primary Solution: Pre-Boot Camp Digital Literacy Passport**

The selected solution is a self-paced, mobile-accessible digital onboarding system students complete 2-4 weeks before Boot Camp begins. Students take a brief diagnostic assessment generating a personalized learning pathway through essential technology skills. The system uses microlearning modules (3-7 minutes each) organized around specific tasks ("I need to submit an assignment" rather than "Learn Canvas").

Gamification elements include progress tracking, achievement badges, and unlocking levels, with a final "Tech Passport" digital credential awarded upon completion. This solution directly addresses the problem statement's requirement for "accessible, confidence-building technology orientation before content instruction begins."

# Instructional Design Innovation

The solution intentionally layers multiple current instructional design trends to create a learner-centered intervention:

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## Microlearning

Addresses cognitive load challenges. Adult learners balancing work, family, and graduate studies cannot dedicate hours to technology training. Breaking skills into 3-7 minute digestible modules allows learning during commute time, lunch breaks, or evening moments.

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## Personalized Learning

Honors the "dramatic variation in digital literacy" observed during empathy research. The diagnostic-driven adaptive system recognizes individual needs rather than forcing all students through identical content.

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## Mobile Learning

Ensures equity of access. Students can begin building skills before purchasing expensive computers, using smartphones they already own.

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## Gamification

Creates safe spaces for practice and failure—critical for confidence-building. Progress bars, achievement badges, level unlocking, and the final "passport" credential provide visible markers of accomplishment.

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## Scenario-Based Learning

Contextualizes skills within authentic Boot Camp situations. Rather than abstract tutorials, modules present realistic scenarios: "You need to submit your first assignment by 11:59 PM—here's how."

# Prototype Development and Testing

The Pre-Boot Camp Digital Literacy Passport prototype demonstrates the core user experience and testing framework. This solution was selected for prototyping because it addresses the most urgent need: building foundational technology skills and confidence before Boot Camp instruction begins, during a period when learners have time and cognitive capacity to focus on skill development without the pressure of simultaneous content mastery.

## Key Prototype Components:

- Introduction and Orientation with confidence-building messaging
- 15-question diagnostic assessment covering key technology competencies
- Personalized dashboard with visual pathway representation
- Complete sample module: "Navigating Canvas: Finding and Submitting Assignments"
- Progress tracking system with badges and milestones
- Resource library with task-based organization
- Final passport credential preview

The prototype will undergo testing with 8-10 incoming Boot Camp students representing diverse digital literacy levels. Testing will occur 4-6 weeks before Boot Camp begins, allowing sufficient time to iterate based on feedback before full cohort implementation.

# Implementation Timeline and Long-Term Vision



**This intervention represents more than technology training,, it's a foundational shift in how institutions support diverse learners.** By designing for reality rather than assumptions, SNU demonstrates commitment to equity and student success. The Digital Literacy Passport model proves that barriers can be transformed into bridges when institutions meet learners where they are with accessible, confidence-building, personalized support.

As one observed student noted during empathy research: "I'm not stupid, I just never learned this." The Digital Literacy Passport ensures no student must choose between acknowledging knowledge gaps and succeeding in graduate education. It transforms vulnerability into strength, isolation into preparation, and assumptions into evidence-based design that honors every learner's journey.