Tools and Exercises

Adapted from the Technology Implementation for Higher Education in Prison Playbook

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About these exercises

These exercises are adapted from the "Technology Implementation for Higher Education in Prison: A Student-Centered Playbook for Planning, Preparing, and Assessing Implementation Readiness," a publication available on the Ithaka S+R website at https://doi.org/10.18665/sr.321721. The playbook provides guidance on how to approach the exercises, as well as sample answers.

Tool Template: Student Experience Diagnostic

1. Define and state your program goals and measurable objectives.
2. Use information to reflect on how well your program is performing.
3. Determine how you might improve performance and/or solve problems.

Remember:
- Make objectives specific, measurable, and time-limited so you can gauge performance.
- Do not be discouraged if you have little to add to the form, instead, create objectives that will help you gather the information needed to assess more fully in the future.

Program Goals	
Program Objectives	

Student Perspectives: Barriers, Challenges, Requests	
Student Perspectives: Supports, Values, Benefits	
Student Access, Opportunity, and Outcomes	

Tool Template: Technology Needs Diagnostic

Incorporating technology in educational program offerings is not an end in itself. Rather, we should start by asking: what technology do we need as a means to reach specific outcomes or objectives? We must ground our thinking about technology through the importance of student outcomes and experiences, educational access and opportunity, course and degree offerings, and educational attainment.

Put simply: educational technology is a means to deliver, moderate, or supplement instruction and coursework. Education and its impacts are the end. Use the questions below to help you clarify some of the specifics about how you want technology to function in order to meet specific objectives.

You're considering implementing new technology. What goal are you supporting and what objectives are you trying to achieve in adding this new technology?

Ideally, how would technology help you reach the objective(s) above?

Is there already technology in place that serves similar purposes or meets similar needs? If so, what can you learn from them?

Are there any other goals or objectives that you might want this technology to support later?

What constraints or barriers limit what technology you can acquire and implement? What might get in the way?

Who can you turn to for advice or help brainstorming workarounds or solutions to the constraints you identified above?

Thinking about the answer above, who else do you think should be looped in or brought on board early? What stakeholders will need to be on board for this to succeed, not just happen?

Tool Template: Technology Risk Diagnostic

This tool was created at the suggestion of an individual we spoke with who suggested that it could be useful for correctional education leaders to have a baseline sense of what the culture, expectations, and capacity for taking risks with technology are among staff, collaborators, and stakeholders within their system and/or facilities.

Implementing new technology comes with a certain degree of cultural translation, understanding how much support you have from supervisors and colleagues and how prepared staff, educators, collaborators, and students are to engage new technology may impact your pilot and launch planning. Not taking this into consideration can lead to additional pitfalls later. We also recommend utilizing the questionnaire as a diagnostic tool to help you complete the Mapping Stakeholders exercise, also provided in this section.

Correctional leaders I work with feel that educational technology for higher education programming is… (select all that apply)

- o   Risky.
- o   Expensive.
- o   Difficult to monitor or secure.
- o   A luxury, not a necessity.
- o   Something we might need in the future.
- o   Something we need to integrate but aren't ready for yet.
- o   Something we are interested in.
- o   Something we are actively exploring.
- o   A priority.
- o   I am unsure how they feel about it.
- o   Other:

The IT leaders I work with feel that educational technology for higher education programming is… (select all that apply)

- o   Risky.
- o   Expensive.
- o   Difficult to monitor or secure.

- A luxury, not a necessity.
- Something we might need in the future.
- Something we need to integrate but aren't ready for yet.
- Something we are interested in.
- Something we are actively exploring.
- A priority.
- I am unsure how they feel about it.
- Other:

The security and/or operations leaders I work with feel that educational technology for higher education programming is... (select all that apply)

- Risky.
- Expensive.
- Difficult to monitor or secure.
- A luxury, not a necessity.
- Something we might need in the future.
- Something we need to integrate but aren't ready for yet.
- Something we are interested in.
- Something we are actively exploring.
- A priority.
- I am unsure how they feel about it.
- Other:

The boots-on-the-ground IT staff I work with feel that educational technology for higher education programming is... (select all that apply)

- Risky.
- Expensive.
- Difficult to monitor or secure.
- A luxury, not a necessity.
- Something we might need in the future.
- Something we need to integrate but aren't ready for yet.
- Something we are interested in.
- Something we are actively exploring.
- A priority.
- I am unsure how they feel about it.
- Other:

The boots-on-the-ground security and/or operations staff I work with feel that educational technology for higher education programming is... (select all that apply)

- Risky.
- Expensive.
- Difficult to monitor or secure.
- A luxury, not a necessity.
- Something we might need in the future.
- Something we need to integrate but aren't ready for yet.
- Something we are interested in.
- Something we are actively exploring.
- A priority.
- I am unsure how they feel about it.
- Other:

The administrators of the higher education in prison program(s) I work with feel that educational technology for higher education programming is… (select all that apply)

- Risky.
- Expensive.
- Difficult to monitor or secure.
- Something we need to integrate but aren't ready for yet.
- Something we are interested in.
- Something we are actively exploring.
- A priority.
- I am unsure how they feel about it.
- Other:

College or university leadership from the main campus(es) of the higher education in prison program(s) I work with feel that educational technology for higher education programming is… (select all that apply)

- Risky.
- Expensive.
- Difficult to monitor or secure.
- A luxury, not a necessity.
- Something we might need in the future.
- Something we need to integrate but aren't ready for yet.
- Something we are interested in.
- Something we are actively exploring.
- A priority.
- I am unsure how they feel about it.
- Other:

The boots-on-the-ground educators in the higher education in prison program(s) I work with feel that educational technology for higher education programming is... (select all that apply)

- o A luxury, not a necessity.
- o Confusing.
- o Complicated or difficult to use.
- o Not important for their pedagogy or instruction.
- o Something we might need in the future.
- o Something we need to integrate but aren't ready for yet.
- o Something we are interested in.
- o Something we are actively exploring.
- o A priority.
- o I am unsure how they feel about it.
- o Other:

The students in the higher education in prison program(s) I work with feel that educational technology for higher education programming is... (select all that apply)

- o Confusing.
- o Complicated or difficult to use.
- o Not important for their education.
- o Something they might need in the future.
- o Something they are interested in but unsure about.
- o Something they are excited to use.
- o Something they feel is absolutely needed now.
- o I am unsure how they feel about it.
- o Other:

Reflection:

Take a moment to read over your responses. It is likely that you will notice some complexity in the answers, and you may be thinking of specific individuals. Use the space below to reflect on your responses. You may want to consider questions such as: How can you move the needle forward? How can you develop more conversation and comfort around technology integration? Are concerns and values in alignment across your stakeholder groups? If not, how can you begin to build bridges and trust? If so, what is providing resistance or constraint?

We recommend that at this point, you simply reflect and free write your thoughts. Save your responses to this section, though, as they will be helpful in Mapping Stakeholders and Identifying Constraints and Supports.

Exercise: Mapping Stakeholders and Planning Collaboration

This exercise will help you take stock of all the people you will need to have on board for education technology implementation to work. We recommend first simply answering the questions and then organizing your responses into a visual list.

Before you begin, what individuals, offices, or departments do you need on board to...
- help you decide what educational objectives you want technology to address?
- learn and decide what technologies might help you reach those objectives? What different infrastructures you might create to use those technologies?
- learn about the different ways you might acquire, secure, monitor, and maintain those technologies?
- help you find the funding or budget to incorporate these technologies?

After you've decided on technology, what individuals, offices, or departments will you need on board to...
- acquire the technology?
- install the technology?
- implement the technology?
- ensure that the technology is broadly accessible?
- train stakeholders to understand what the technology is, why it is important, and how it will be used?
- train staff to ensure it is secure?
- develop and write policies on how, when, where, and under what conditions the technology may be used?
- develop and write procedural guidance on how to navigate questions when these policies conflict with other existing policies?
- develop and write procedural guidance on what to do if technology is misused, damaged, or abused?

After you've implemented the technology, what individuals, offices, or departments do you need on board to…

- make sure that the implementation is successful and the technology is supporting educational goals?
- gather stakeholder feedback on the process and outcomes?
- troubleshoot problems, errors, issues, or accidents?
- ensure that issues with accessibility and disability accommodations are received and addressed in timely fashion?
- update and maintain the technology and the trainings on how to use it?
- monitor usage data to understand the quality of access and quality of use?
- ensure that all data collected is gathered, stored, and shared in accordance with relevant DOC policies and procedures and the policies governing educational rights and privacy (i.e., FERPA)?
- tell compelling narratives about what you are accomplishing that will also drive your educational offerings where you need them to go?

Note: Consider these responses alongside the previous ones to understand who might get on board easily, where you will need to build bridges, and where resistance might come from, or compromise might be necessary.

Exercise: Considering Constraints and Supports, Generating Solutions

This exercise is a modified version of one developed and practiced by our colleagues at JSTOR Labs and draws on design workshop principles.[1] While it can be a useful exercise for an individual to complete, it will serve you best if you do it collaboratively with the stakeholders identified in the "Mapping Stakeholders and Planning Collaborations" exercise above.

We recommend that you set aside two to three hours to complete all three phases of the exercise in a group, discuss and debrief, and plan next steps together.

Directions for facilitation and notetaking: This exercise works best when you gather together stakeholders that have different expertise and perspectives and will serve different roles in the implementation process. We recommend that you also engage students and instructors who will be responsible for using the new technology within the education setting in this phase. With this diverse group of stakeholders, you can identify risks, barriers, and potential issues, and collaboratively plan and develop mitigations and solutions. A note of caution: make sure that you plan time to think through supports and iterate solutions, constraint-storm and provide equal time for each phase. This exercise can be targeted to specific phases of implementation and repeated as needed, as well.

Begin by convening the group and explaining the general process, the specific activities, and the intended goals and outcomes of the session. Take breaks between the activities.

Materials required: several pads of sticky notes, writing utensils, a surface and space where you can place and rearrange sticky notes. This exercise can be adapted for synchronous remote facilitation with the use of a virtual sticky note board that can be synchronously edited (such as Mural).

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[1] Alex Humphreys, "Constraint-storming, Not Brainstorming," *JSTOR Labs*, 14 October 2022, https://labs.jstor.org/blog/constraint-storming-not-brainstorming/.

1. **Setting Up the Activity**

- Distribute sticky notes and writing utensils so that everyone has access to them.

    - *This activity works best if you use a second, different colored set of sticky notes, so that you can put solutions and supports next to constraints and barriers and see the difference. If you only have one color of sticky note, you can visually set supports and solutions to the side of constraints.*

- Align on the goal or intention of the meeting in general and this exercise in particular.

- Remind everyone what your educational objectives are and how you hope [target technology] will help you achieve them.

- The first exercise will help you to identify constraints that limit how [target technology] might be acquired, installed, implemented, maintained, serviced, and updated or upgraded as necessary.

2. **Considering Constraints**

- Start with a series of open questions for the group to consider:

    - What barriers or constraints are there to acquiring technology?

    - How might policy, procedures, regulations, culture, staffing, logistics, funding, space, technology infrastructure, or other miscellaneous factors limit how, when, and where you can implement [target technology]?

    - How might they limit who has access to it or how it can be used?

    - What policies, procedures, protocols, and plans might you need to make to secure it?

    - To ensure that students get to use it in the best ways possible to achieve the educational objectives you've set?

- The goal is to consider everything that might limit how you can use [target technology] or be a barrier to successfully implementing it to achieve your stated educational objectives.

- Start by thinking about your role in particular and what obstacles you might identify from that perspective. Don't stop yourself from writing other constraints you identify, though.

- Allow 10-15 minutes for people to write independently, ask them to keep each constraint or barrier to a single sticky note and to write as many as come to mind.

- Prepare to wind this phase down when people begin to slow down or stop writing.

- After time has expired or people have stopped writing, ask people to take a few minutes to reread what they wrote and consider:

    o Are there themes or categories that stand out? For example, technical limitations due to infrastructure? Policy barriers? Procedures that might slow or stall implementation? Etc.

- Ask each person at the table to read out what they wrote on each sticky note and to place them on a surface where you can organize and rearrange them. Discuss with the group how you might categorize each sticky note as you add it.

    o *This might seem arbitrary, but the goal here is to visually cluster similar issues since we will start to think of solutions soon. This series of activities also speaks to different learning styles (leveraging written, visual, verbal, aural, and tactile/kinesthetic components).*

- To end the activity, offer provisional labels for each category or group of sticky notes.

- Announce a brief break and ask people to consider:

    o What supports do you have to implement [target technology]?

    o Thinking about the broad categories of barriers and constraints, are there solutions or strategies that you might use to get past or around these barriers?

    o Thinking about specific constraints close to your role, what can you or your department or team do to support success or develop solutions?

3. Considering Supports and Generating Solutions

- Reconvene the group after your short break and ensure that there are ample sticky notes and pens.

- Building on the questions that you asked before the break we're going to repeat the structure of the previous activity, but focus on supports, guardrails, and solutions that work within our constraints and get us around the barriers we've identified.

- The goal is to consider everything that might help you to successfully implement [target technology] and achieve your stated educational objectives.

- Start by thinking about your role in particular and what supports you might be able to

identify, secure, or provide from that perspective. Don't stop yourself from writing other supports or solutions you identify, though.

- Allow 10-15 minutes for people to write independently, ask them to keep each support or solution to a single sticky note and to write as many as come to mind.

    o Remind participants to feel free to revisit the constraints and barriers you identified and to think of how to counter or prepare for them, in particular.

- Prepare to wind this phase down when people begin to slow down or stop writing.

- After time has expired or people have stopped writing, ask people to take a few minutes to reread what they wrote and consider:

    o Do the supports and solutions identified fit in the same categories, cut across them, or exist outside them?

    o Do they respond to specific constraints or barriers? To clusters or groups?

    o Do you see themes or categories in the solutions and supports that you did not identify in the constraints?

- Ask each person at the table to read out what they wrote on each sticky note and to place them near the constraints or barriers they are associated with. Discuss what each solution or support might require with the group as they are placed.

- Provide another short break here to allow people to process the activity.

4. Creating a Collaborative Plan

- Begin by debriefing and discussing what the exercise revealed to the group.

    o What surprised people?

    o What constraints or barriers did someone else address that you might have missed?

    o What supports or solutions did someone else suggest that you might not have come up with on your own? What solutions or supports could you not enact on your own?

- After this discussion come up with an outline of a plan and agree on a loose timeline for standing up your [target technology].

- As you develop your plan, consider first, a high-level overview of the process:

- What major phases will the process consist of?

  Some phases might include:
  "Clarifying or prioritizing goals to support and student learning objectives to achieve,"
  or "Exploration."

  - Tools and technology available

    - How they fit with existing technology, infrastructure, and what additional infrastructure and logistical needs they might alleviate or require

    - Vendors that can deliver relevant products or services

    - Peers who have implemented and stood up similar interventions

    - Internal resources and/or appetite to build from scratch

  - Acquisition

    - Who will be responsible for:

      - Funding?

      - Acquiring the new technology?

      - Logistical coordination?

      - Planning on how to incorporate technology with existing systems?

      - Planning how to incorporate technology in the specific type of education?

  - Implementation

    - Who will be responsible for:

      - Installation?

      - Testing, piloting, and implementation?

      - Training?

- Establishing policies and procedures?

- Developing and authoring contracts, memoranda of understanding, and/or user agreements?

Tip: make sure that you create student use agreements that establish policies and procedures to ensure that a breach or an abuse of technology does not disrupt or punish all potential users.

- Gathering data about how the technology is working and whether it is contributing toward targeted objectives?

- Evaluation and Maintenance

  - Who will be responsible for:

    - Maintaining, updating, and upgrading technology?

    - Benchmarking and evaluating data gathered to assess the value and effectiveness of the added technology?

    - Establishing new or revised objectives based on benchmarks and evaluation?

    - Assessing how technology, training, policies, procedures, staffing, or other factors might be adjusted to improve the quality of student access to or use of technology?

    - Assessing how technology, training, policies, procedures, staffing, or other factors might be adjusted to improve the effectiveness of instructional use of the technology?

    - Assessing how technology, training, policies, procedures, staffing, or other factors might be adjusted to improve the security considerations related to the technology?

Exercise: Can you break it? Can we fix it? Testing technologies, policies, and procedures together

One novel way that we heard about to increase buy in and to provide training on new technology systems was to build time in to ask different stakeholders to try to break, misuse, or abuse the new technology as a preparedness strategy. This may not at first appear to be a novel exercise for IT and Security and Operations teams; however, there may be a benefit to involving a wider variety of stakeholders in the process. If you treat this as a diagnostic exercise to test the technology's security and safety, its educational functionality, and the effectiveness of drafted policies and procedures, it can increase stakeholder buy-in and develop preparedness-informed procedures to technology breaches or unforeseen issues. In addition to securing systems and limiting threats, though, reinforce that the purpose of the technology is to support identified educational objectives, and set a second intention: to ensure that education is not disrupted and that as few students and/or classes are impacted as possible. These twin goals of securing systems and ensuring educational access and the support of educational success can serve to bring security-centered and student education-centered mindsets into alignment.

This is also an opportunity to reconvene a variation of the group that you worked with in the Exercise: Considering Constraints and Supports, Generating Solutions. We've provided brief directions to inspire two different versions of this exercise: one where you all work together as a team to test systems and the other where you spend more time robustly simulating use. Either of these activities can be adapted to fit a specific phase of technology implementation and can be treated as an internal meeting or workshop, an internal retreat, or a recurring activity.

Testing Systems

Directions: Begin by setting your intention together: the goal of this activity will be to look for weak points, gaps, or unexpected consequences in the technology you've established and the policies and procedures you've developed to govern and structure it. What haven't you planned for that can go wrong? What have you planned that might have unexpected consequences?

Make sure that you have the technology to be tested ready at hand. Include any peripheral technology students may be able to use, as well – such as keyboards, headsets, computer mice etc. Distribute it to those in attendance as you provide the directions for Test 1.

Test 1: Normal Use

First, have the group test the technology in ways that they think students will need to use it: open applications, attempt to type papers, search for research resources, etc. Have the group explore, practice, and sample the technology as intended. Try to do things that users might need to do, some possible questions to consider:

- Can you open two programs simultaneously?
- Can you copy-paste or cut-paste from one program to another?
- Can you adjust font size or zoom?
- How do you scroll?
- How do you unlock the device?
    - Are there any complications to this you might need to plan for?
    - Are there accessibility considerations around unlocking the device you might need to be prepared to accommodate?
        - I.e., if someone blind or with low vision is going to operate the device, can they see touchpads or line up facial recognition cameras to unlock?
        - If someone with fine motor issues is using the device, is it stable? Can they unlock it? Can they select programs and features easily or is there a peripheral that can help them? etc.
- Can you use accessibility features like text-to-voice or voice-to-text?

- Can you navigate the programs and find how to do things like message an instructor or submit an assignment? (if either of these are applicable)

After you complete this activity, debrief as a group: what was easier than expected? What was harder? What might different stakeholder groups need help understanding or doing? Are there limitations that you didn't anticipate? Will those issues impact the educational objectives you set?

Take notes on issues and, if needed, brainstorm solutions together.

Then prepare for Test 2.

Test 2: Break rules and systems to fix them.

Now, you will have the group test the technology to see how students might use it in unanticipated or unsanctioned ways. The goal here is to do things that might break rules, damage or upset systems, or get around security protections and protocols. This is not *just* a security exercise, though, we are looking for surprises, accidents, and mishaps as well.

Try to do things that users might want to do, do as a shortcut, or might do without, some possible questions to consider:
- What happens if you open all of the programs simultaneously?
- Can you change message recipients manually or reach external parties?
- Can modules or pages link externally?
    - What happens if they do?
- Can someone with coding or systems knowledge get into the backend?
- Can the settings be manipulated in unexpected ways?
- If you can download or access readings, assignments, or other media, what happens if you download many things at once? What happens if you fill up the device memory?
- Can other people access or use the device?
- What fail safes or protocols are in place if they do?

Use your domain-specific knowledge to add to these questions.
When the group has completed the activity, discuss and debrief as a group: what problems did you notice? Do you have policies in place to deal

with them? Are there any additional actions or practices that need to be planned for?

Simulating Use

This exercise will require a considerable investment of time. It can be planned as a day-long activity for the whole stakeholder group or broken apart and chunked into a series of discrete activities to be carried out over a longer period of time by smaller groups. While potentially beneficial for revealing how procedures, learning environments, and technologies might interact, this process can be time consuming and potentially disruptive.

In addition to testing the technical considerations and potential usability of the technology, simulating use conditions may allow us to discover if there are other procedural, logistical, or infrastructure issues we have not previously identified. Similar results can be achieved with a structured, limited pilot launch for a select group. There are, however, ethical concerns around selection and informed consent for such an activity which should be reckoned with well in advance.

Directions: The goal of this activity is to simulate actual use conditions. This will allow us to understand how use of the technology intersects with the infrastructure of a given facility, and procedures and protocols around movement and programming.

We will try to access and use the technology at the same time and in the same locations as future users will. The best way to do this will be to have an individual or small team simulate use throughout the day. Be sure to account for all the real-world conditions that a student-user will encounter, such as:

- Movement to and from locations where technology can be accessed, used, or charged.
- Technology use in all of the potential spaces where it may occur— libraries, study spaces, multipurpose rooms, residences, recreational areas or yards, workshops, etc.
- Technology use for periods of time, and ideally in the volume of traffic, that student-users might use technology.
- In these conditions, perform the Test 1 and Test 2 from the exercise above.