The technology exposure and experiences that pre-service teachers receive, as part of their teacher education program, impacts their use of technology as student teachers. Though teacher education programs use a variety of content and approaches to teaching technology integration (Betrus & Molenda, 2002; Pellegrino, J., Goldman, S., Bertenthal, M., & Lawless, K., 2007; Tan, del Valle, & Perira, 2004), the actual focus for many years has been on technology skills and productivity (Betrus, 2000). However, a shift seems to be occurring as more educational technology courses are moving away from emphasizing computer technology and focusing more on instructional technology methods (Hargrave & Hsu, 2000). In a report published by the National Center for Educational Statistics, 1,439 teacher educator programs indicated that their educational technology courses and experiences stressed using technology to support instruction (Kleiner, Thomas, & Lewis, 2007). However, the study did not indicate that the topics covered were taught to any particular breadth or depth within the curriculum, but rather they were taught to “at least the minimal degree” (Kleiner et al., p. 6). Kay (2006) also notes that few studies with a rigorous evaluation process have been conducted to evaluate the strategies that work best for incorporating technology into pre-service teacher education.

Therefore, if teacher education programs are doing what they claim to be doing and are teaching technology integration as way for teachers to support instruction within the curriculum, then one could assume that pre-service teachers are being prepared to teach with technology well. However, since strategies for effective preparation are still questionable, research in this still needs to be conducted. As Betrus and Molenda (2002) report, a gap may exist between “what is taught in a majority of pre-service instructional technology courses and what is practiced by teachers in American schools” (p. 21). This discrepancy is also noted Moursund and Bielefelt (1999), who surveyed 416 teacher education programs to examine to what degree technology skills were being transferred into the classroom by pre-service teachers. Their findings indicated that, despite adequate access to technology, pre-service teachers “were not routinely using that technology for instructional purposes and did not have supervising teachers who were adequately prepared to assist them with technology integration efforts” (Indiana University, 2008, p. 7). Lawless & Pellegrino (2007) have called for further research to be conducted in what knowledge is being taught to pre-service teachers in educational technology courses and how to best transfer that knowledge to support student learning in the classroom (Indiana University).

Research Question:

My particular study is the offspring of a larger research project known as “Leveraging Educational Technology to Keep America Competitive.” LevTech is a study that seeks to examine how current and emerging technologies are being used in K-12 classrooms and how teachers are being prepared to use those technologies. The U.S. Department of Education has acknowledged that there is a gap between what teachers are learning about technology integration in their pre-service programs and what is transpiring in the classroom. The School of Education at Indiana University has been charged by the Department of Education with task three of the project, which will study how teacher preparation programs instruct future (pre-service) teachers how to best integrate technology for enhanced student learning. The study will also describe what is transpiring in the classroom by interviewing, observing, and collecting artifacts from in-service and induction teachers.

My research will be conducted independently of the larger LevTech project, but the data gathered may have a certain utility to the LevTech study as it explores one of LevTech’s target populations, which is pre-service teachers. I intend to study the technology experiences of pre-service teachers who are currently involved in field experiences or in the process of student teaching. The focus of my research seeks to address the following questions:
1. *What exposure to technology do pre-service teachers have prior to entering their teacher education program?*

2. *What exposure to and experiences with technology do pre-service teachers acquire as part of their teacher education program?*

3. *What technology integration practices do pre-service teachers observe during their field experiences and implement as student teachers?*

**Constructs:**

This descriptive study will address not only the educational technology experiences that pre-service teachers receive as part of their teacher education program, but also the technology exposure that they received prior to entering the program. The major constructs to be examined in the study are **exposure to technology**, **experiences with technology**, and **perceptions toward technology**. Technology exposure addresses what amount of technology an individual has observed being used or has learned about from others. Technology experience entails actual technology usage by the individual. Perception toward technology is intended to measure an individual’s feelings toward technology usage in the classroom as well as perceived support.

Within the survey instrument, the constructs are addressed in the following ways:

- Questions 9 to 13 examine the amount of educational technology courses that students have taken at the college, which provides demographic information for the constructs of technology exposure and experiences.
- Question 16 addresses exposure to technology outside the realm of college. The question explores the facets of technology exposure that the student bring with him/her into the classroom. The emphasis in this construct is the exposure to technology that individual has received from family, friends, work experiences, formal and informal education.
- Questions 19 and 22 address the constructs of technology exposure and experience. The individual examines his/her educational technology and methods courses and considers the following:
  - Exposure (observed teacher and student use of technology in class)
  - Experiences (student technology use of technology in class or incorporation of technology in assignments)
  - Modeling of Technology Integration (teacher use of technology in class)
- Question 25 addresses the construct of technology exposure during field experiences, with a particular emphasis on how teachers use technology themselves or with their students within the K-12 environment.
- Question 28 examines the construct of technology experience during student teaching, with a particular emphasis on how pre-service teachers use technology themselves or with their students in the classroom.
- Questions 30, 32, and 34 tackle the construct of perceptions toward technology through the following sub-constructs:
  - Access to technology (if student teaching)
  - Support structures (in the college environment)
  - Opinions/Views of Technology (teacher and student usage in education)

**Target Population, Sampling Frame, and Sample**

The **target population** are pre-service teachers currently enrolled in four-year* teacher education programs in the United States that grant Bachelor’s degrees and offer programs in Elementary and/or Secondary Education. The pre-teachers that I would like to question must be at least 18 years of age and must in the process of completing or have completed field experiences and/or student teaching. Typically, students who fit this demographic will be in their junior or senior year of college.
The **sampling frame** I have at my disposal (due to my involvement with the LevTech project) is a contact list that includes a educational technology representative from each of the 1181 four-year* teacher education programs in the United States (including Alaska and Hawaii, but not including territories such as Guam) that grant Bachelor’s degrees and offer programs in Elementary and/or Secondary Education for initial licensure. This very special list includes the following information:

- Institution’s name
- Institution’s address
- Institution’s website
- Institution’s email address
- A contact name of an educational technology faculty member from each institution (typically the lead faculty member of the educational technology department)
- An email address for each contact
- A phone number for each contact
- The degrees offered at the institution
- The campus setting (e.g. Rural:Remote, City:Large, Town:Distant, etc.)
- Total Student Population
- Total Undergraduate Population

If I receive permission to use that particular list for this study (which is a distinct possibility), I will draw a stratified probability sample from the sampling frame according to:

- the campus setting of the institutions
- the major geographic regions of the United States (e.g. Pacific Northwest, Midwest, East Coast, etc.)

Once I have determined which institutions I will contact, I will work with the educational technology faculty at the chosen institutions to identify potential participants, which may be found by examining the lists of students who are in the process of completing or have completed field experiences and/or student teaching. Being an optimist, I intend to survey all eligible participants at each institution.

**Intended Mode of Data Collection**

For my particular research design, the mode of data collection that I will be using is an **online survey instrument**. I have chosen this particular mode of collection because my sampling frame represents a wide coverage area. An online survey is not only a practical mode of data collection, it prevents me from using my monthly stipend to pay for a plane ticket to Hawaii to conduct personal interviews. Additionally, a digital survey is an appropriate format for my target population because they are younger in age and more than likely will have frequent access to the Internet. Although I do not have a means right now to contact potential participants directly, I hope by working with the educational technology faculty at each institution, I will be able to contact a pool of participants via email. Once I am able to contact participants, I will provide them with a link to the appropriate human subjects form, which if completed, would them lead them to a link for my survey.

Hopefully the topic of my survey will be as relevant and meaningful to the participants as it was to my pilot test group. I have made a special effort to minimize the effect of any sensitive questions in my survey instrument as well.

The cost expenditure on my behalf will be fixed, as surveysz.com offers academic pricing of $49 for six months (though I am in negotiations with them right now to drop that price even lower). Variable costs will be relatively low, since the online survey format will allow me to transfer my data directly to SPSS for data analysis.

My timeline will depend upon my IRB approval as currently Indiana University is experiences a “traffic jam” if you will. I intend to draw up my IRB proposal during the winter break and once I receive approval, I will begin contacting my chosen educational technology representatives. I know that I would like to send out an initial contact email to participants sometime in March, begin survey distribution in April (with two follow-up emails) and close the survey at the beginning to May. Although, students may be less stressed in June and
more willing at that time to participate in the survey. However, I take a risk of a higher unit non-response rate due to graduating seniors. Any suggestions that you have in this area would be helpful.

**Plans for Analysis:**

Due to the nature of surveyz.com, I will be able to export the data gathered from the survey directly to SPSS. Once I have data to analyze, I will check for internal validity and reliability under the guidance of Dr. Ted Frick, who is an expert in this particular area. I intend to bring in assistants (e.g. co-authors) to help me through the data analysis process if I need them, as I have never done data analysis independently before.

**Explicit Logic of Sampling Process**

My target population is not the ideal because it leaves out certain populations of teachers, which results in coverage error. I am not examining pre-service teachers who are a part of alternative teacher certification programs, such as Teach for America. This leaves out a significant amount of people, however, considering the coverage that I will have [if everything goes according to plan], my target population will be covered well. My sampling frame is an incredible list that took months for the LevTech group to compile. Phone calls were made, websites were checked, and all the information was neatly packaged into one Excel file. At this time, I cannot think of a better sampling frame to work from for this study. My sampling design, on the other hand, is still in need of refinement. For example, there is a distinct possibility that when I contact faculty members and ask them for assistance, I may be turned down. This would be the ultimate unit non-response. Before I can make any phone calls or emails, I need to improve my sampling design, so if you have any suggestions, please send them my way.

**Description of Survey Instrument**

The survey instrument provided within this document has been refined over the course of multiple revisions. The initial draft item set included descriptions for my principal items, which outlined my underlying constructs, sources, and processes that went into each item. I used two questions from my initial draft item set for a think-aloud exercise that I conducted with another person. She offered helpful feedback as I took notes. Following the think-aloud, I revised my survey into my first full draft. The first full draft includes a reflection on three potential questionnaire-design problems, along with potential solutions. My second full draft represents a "leap" of form, as I moved from a paper format to an online survey format. Skip-logic was added to my survey design. In my second full draft of my survey, I also included a reflection on several questionnaire-design problems. I pilot tested my survey with four willing volunteers, all of whom fit into my target population. A write-up of my results, decisions, and reflections from conducting that several pretests help guide and shape the document into its final form.

**Brief Reflection On Process**

The overall process of creating this survey was mentally and physically exhausting, however, it was well worth the time and effort. The process, to do it well, involves much thought and consideration. Too often I see peers in my department quickly compose a survey, distribute the survey in haste, and realize only after the data was analyzed that it serves no purpose because of the various kinds of errors that occurred during the survey creation process. I know that my survey will encounter error. More than likely, I will have unit non-response error from educational faculty at the macro-level, and at the micro-level, I will have unit non-response error from my intended participants. Teachers and pre-service teachers are very busy people and my mode of data collection is a digital survey, which may be a blessing or a curse, depending upon the individual. Another drawback is that I have no incentives to offer pre-service teachers to take the survey other than reminding them of the service that they are doing for the good of the field. Despite all the potential sources of error, I still feel that this study has merit and should be carried out someday .
References


Purpose and research questions for the project:

The overall goal of the LevTech study is to examine how pre-service teachers are prepared to integrate technology into the classroom, what is transpiring in the classroom, and where is the "gap" (between preparation and practice). The LevTech study will examine all degree-granting institutions that prepare students for initial licensure within the United States.

That being said, my particular research focus for my pilot study is to examine how pre-service teachers are prepared to integrated technology in the classroom at Indiana University.

The focus of my questionnaire seeks to address the following question: What are the technology skills/experiences that pre-service teachers acquire as part of their teacher education?

Draft Items: (Demographic Information)

• What is your current age? ______

• What year are you in school?
  o Freshman
  o Sophomore
  o Junior
  o Senior
  o 5th year Senior
  o Other: __________

• What is your primary concentration area as you pursue your education degree?
  o Early Childhood Education
  o Elementary Teacher Education
  o Special Education/Elementary
  o Secondary Education Program
  o Music Education
  o Physical Education Teaching
  o Visual Arts Education
  o World Language
  o Other: ________________

These categories were pulled from the School of Education website. I am not sure that categories will be the same between institutions, but these appear to be general yet specific enough, to be appropriate.

• If you are a secondary education program teacher, please specify your intended content area:
  • Exceptional Needs/Early and Late Adolescence
  • Health Education
  • Journalism
  • Language Arts/English
  • Mathematics
  • Chemistry
  • Earth/Space Science
• Life Science/Biology
• Physics
• Social Studies
• Theatre
• World Language
• Other: ________________

- How many educational technology credits are you required to take as part of your teacher education program?
  
  o None
  o One credit
  o Two credits
  o Three credits
  o Four credits
  o Five credits
  o Six credits
  o Other: _____ credits

  This question frames the construct of **College Preparation: Courses** by addressing the current credit requirements educational technology courses at various institutions. On a side note, it will be interesting to see how course expectations correlate with attitudinal questions.

- How many educational technology credits have you completed successfully thus far?
  
  o None
  o One credit
  o Two credits
  o Three credits
  o Four credits
  o Five credits
  o Six credits
  o Other: _____ credits

  This question frames the construct of **College Preparation: Courses** as the quantity of completed courses taken may affect a student’s responses in this survey.

- Are you enrolled in any educational technology courses this semester?
  
  o Yes
  o No

**Construct Category: College Preparation (Coursework)**

1. I am exposed to new technology ideas in my methods course(s).
   (Always, Often, About half the time/Undecided, Seldom, Never)

   *This question stems from the construct of exposure of technology integration in pre-service courses. Concepts to define further: exposed, ideas, technology*

2. My assignments in my methods courses require me to use technology.
   (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)

   *This question stems from the construct of assignments of technology integration in pre-service courses. Concepts to define further: “use technology”*

3. I experience new technology tools in my methods course(s).
   (Always, Often, About half the time/Undecided, Seldom, Never)
This question stems from the construct of **experiences** of technology integration in pre-service courses. Concepts to define further: experience, “technology tools”

4. **My** other professors within the School of Education model technology integration in the class when providing instruction.
   (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
   This question stems from the construct of **modeling of technology integration in courses outside educational technology classes**. Concepts to define further: model, other professors, and instruction

Construct: **College Preparation: K-12 environment**

5. I am exposed to new technology ideas in my field experience(s).
   (Always, Often, About half the time/Undecided, Seldom, Never)
   This question stems from the construct of **observed teacher use**. Concepts to define further: exposed, “technology ideas.” I may want to give a timeframe (e.g. within the past six months) to aid in recall strategies.

6. I experience new technology tools in my field experience(s).
   (Always, Often, About half the time/Undecided, Seldom, Never)
   This question does not have a construct included in my design proposal, though I feel that it is an aspect of observed teacher use as teachers may include pre-service teachers in instructional activities. Concepts to define further: experience, “technology tools”

7. I align my technology integration practices with the NETS/ISTE standards.
   (Always, Often, About half the time/Undecided, Seldom, Never)
   This question does not have a construct included in my design proposal (YET). The NETS/ISTE standards are the technology integration national standards for teacher use, therefore, they are rather important. I need to address this question further, but I do not wish to discard it due to its critical nature in the LevTech study. (all observations we will do in the study will be based on the NETS/ISTE standards).

8. I see classroom teachers use technology in the classroom.
   (Always, Often, About half the time/Undecided, Seldom, Never)
   This question stems from the construct of **observed teacher usage**. Concepts to define: “use technology” – Teachers may “use” many kinds of “technologies” in various ways. – This is a question that is rather muddy and more qualitative in spirit.

9. Pre-service teachers are supported with technology tools in the classroom.
   (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
   This question stems from **impressions** of perceived usage. Concepts to define further: support, “technology tools”. I may want to provide a list or an additional question that focuses on perceived technology tools in the classroom.

Construct: **Current Relationship with Technology: Usage in Classroom**

10. I integrate technology into lesson plans that I create.
    (Always, Often, About half the time/Undecided, Seldom, Never)
    This question stems from the construct of **usage in the classroom**. Problems in this question may be confusion of technology integration for whom? Teachers? Students? Both? I may need two separate questions for this construct.

11. I incorporate technology into my classroom teaching practices.
    (Always, Often, About half the time/Undecided, Seldom, Never)
12. Students use technology in my classroom.
(Always, Often, About half the time/Undecided, Seldom, Never)
This question stems from the construct usage in the classroom. It may be the most vague question I have included thus far because if a student uses their phone, is that technology usage? I know this question needs some major revisions. Here’s the tricky part of making qualitative questions into closed questions – technology integration is technically occurs when students use technology, not the teacher. So, student technology usage is critical to the study and may need to be defined further by offering a question in which options are given for how students utilize technology. A similar question for teacher usage in the classroom should be provided as well.

13. The assignments I give to my students incorporate technology requirements.
(Always, Often, About half the time/Undecided, Seldom, Never)
This question stems from the construct usage in the classroom. Concepts to define further: incorporate, “technology requirements”

Construct: Current Relationship with Technology: Opinions

14. I am supported in using technology as a teacher:
   o By educational technology faculty
     (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
     This question addresses the construct of mentorship via personal support structures.
   o By my clinical supervisor
     (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
     This question addresses the construct of mentorship via personal support structures.
   o By my supervising teacher
     (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
     This question addresses the construct of mentorship via personal support structures.
   o By the School of Education
     (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
     This question addresses the student’s opinions of the School of Education’s views of technologies.
   o By the University
     (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
     This question addresses the student’s opinions of the University’s views of technologies.

15. Technology use in the classroom is relevant to my particular field.
(Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
This question stems from the construct relevant technologies. Concepts to define further: relevant.

16. I have encountered difficulties with integrating technology while in my teacher education program
(Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
This question stems from the construct usage in the classroom. Concepts to define further: difficulties
17. I have seen technologies introduced to me in my pre-service educational technology course that I will never use in the classroom.  
(Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
This question stems from the construct meaningful technologies. Concepts to define further: technologies

18. I find certain technologies useful, but I don’t think that I will be able to use them in the classroom.  
(Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)
This question stems from the construct relevant and meaningful technologies. Concepts to define further: “certain technologies,” useful
**Notes from the think-aloud exercise** (completed Thursday Oct. 14, 2008)

Julie read aloud my questions on technology integration (which existed in between my draft-set of items and my first full draft).

**I see classroom teachers use technology in the classroom.**
(Always in class, Often in class, About every class, Seldom in class, Never in class)

She answered: about every class

Then gave her reasoning: “In reading the question, I thought about the three classes I’m taking:

1) My first professor uses it [technology] in every class (survey methodology)
2) My second class, the teacher never uses it [technology]
3) In my third course is psych, and my teacher uses PowerPoint, so …

Since 2 out of my 3 professorys use technology, about 66%, I decided upon -> “about every class”

**Discussion:** My thought process was, I needed to be more accurate since the participant needed to identify each class! So I created the revised question in a table, that way since Julia’s teachers each use technology differently, there should be a way for her to record that information. When I probed, “Could this be too time consuming?” She said, “No.” When asking about response categories, if they were o.k., she said “They would be adequately covered if I was looking at each individual prof.”

The next question given was:

**Technology use in the classroom is relevant to my particular field.**
(Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree)

Response: “When I read this question, I think of it as a graduate student. I infer teaching. My response is strongly agree.

*(notes: Judgment/Estimation -- quick response, very assured)*

I give that conclusion because in school today.

*(Note: Julie offers up her reasons why with no prompting!)*

- Tech is the standard.
- Students are typically stimulated in a visual/auditory manner.
- I’m not sure if method is appropriate, but I conform to the standards -> I will use technology if I have to

**My thoughts:**

- Do people need to be sure of appropriate methods?
- The “conform” issue -> may show an issue of social desirability (not wanting to go against grain). Julie went on to tell a story of a prof who didn’t work with technology at all and was the best teacher she ever had, yet you have other teachers who use PowerPoint and don’t know how to teach.
First Full Draft of Survey With Comments

Thank you for your willingness to take this survey. Participation is voluntary and you may exit the survey at any time, for any reason, if you do not feel comfortable. This particular survey is a part of a project that is required for a course in questionnaire design, however, the questions stem from a larger research study called LevTech. The LevTech study seeks to examine how pre-service teachers are prepared to integrate technology into the classroom. If you are willing to participate in this survey and are at least 18 years of age, I would be grateful if you could please share some thoughts about your experience in the teacher education pre-service program. The following survey is anonymous and confidential. Although the survey should not take more than 15 minutes to complete, accuracy and honest insight is of the utmost concern, so please take your time thinking and reflecting on the questions posed to you. I thank you in advance for your feedback.

I verify that I am at least 18 years of age: □ Yes □ No

Directions: Please indicate your response by filling in information where appropriate and/or placing a check mark in the circle that best indicates your answer.

1. In what year were you born? _________

2. What year are you currently enrolled in school?
   o Freshman
   o Sophomore
   o Junior
   o Senior
   o 5th year Senior
   o Other: ____________________________

3. What is your primary concentration area as you pursue your education degree? (Please check only one answer)
   o Early Childhood Education
   o Elementary Teacher Education
   o Special Education/Elementary
   o Secondary Education Program
   o Music Education
   o Physical Education Teaching
   o Visual Arts Education
   o World Language
   o Other: ____________________________

4. Are you a secondary education program teacher?
   o Yes (please continue to the next question)
   o No (please skip questions 5 & 6 and proceed to question 7)

5. What is your intended major content area as a secondary education teacher? (Please check only one answer)
   o Exceptional Needs/Early and Late Adolescence
   o Health Education
   o Journalism
   o Language Arts/English
   o Mathematics

Comment: Should respondents choose only one option?
It is a good practice to set all instructions off with distinctive (and consistent) formatting so it is clearly different from the question text.
6. What are the secondary content areas that you are pursuing as secondary education program teacher? (please check all that apply)
   - Exceptional Needs/Early and Late Adolescence
   - Health Education
   - Journalism
   - Language Arts/English
   - Mathematics
   - Chemistry
   - Earth/Space Science
   - Life Science/Biology
   - Physics
   - Social Studies
   - Theatre
   - World Language
   - Other: ________________________
   - Not applicable

7. How many educational technology credits are you required to take as part of your teacher education program?
   - None
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits
   - Don’t know

8. Sometimes students may take additional courses that are related to educational technology as electives. How many elective educational technology credits have you completed successfully thus far?
   - None
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits

9. Excluding the elective classes mentioned above, how many educational technology credits have you completed successfully thus far?
   - None
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits
10. Are you enrolled in any educational technology course(s) this semester?
   o Yes (please continue to the next question)
   o No (please skip questions 11 and proceed to question 12)

11. How many credits will you earn for the educational technology course(s) you are taking this semester?
   o One credit
   o Two credits
   o Three credits
   o Other: _______ credits
   o I am not enrolled in an educational technology course at this time.

12. Background: Technology Exposure

Technology is a term that is used often in everyday speech and can mean many different things to many different people. For purposes of this survey, technology is defined as any electronic software or hardware. For example, technology could include computers, In your opinion, before you entered college, what quantity of technology exposure did you receive from each of the following?:

<table>
<thead>
<tr>
<th>Source of Exposure</th>
<th>A great deal of exposure</th>
<th>Some exposure</th>
<th>A little exposure</th>
<th>No exposure at all</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
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<tr>
<td>Parent(s) or guardian(s)</td>
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<td>Siblings</td>
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<tr>
<td>Other family members (e.g. cousins, aunts/uncles, grandparents, etc.)</td>
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<tr>
<td>School computer teachers (K-8)</td>
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<tr>
<td>Traditional classroom teachers (K-8)</td>
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<td>Technology courses (9-12)</td>
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<td>Traditional core subject teachers (9-12)</td>
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<td>Work experiences outside of high school</td>
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<td>Informal experiences (e.g. clubs, volunteer activities, camps, etc.)</td>
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<tr>
<td>Your own independent explorations of technology</td>
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<td>Other (please describe):</td>
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</table>

13. College Preparation: Methods Coursework

Method courses are defined in this survey as classes that you are required within the School of Education, not including educational technology requirements. On the whole, since you started on your methods courses, how often have you been exposed to new technology ideas and required to use technology (beyond

<table>
<thead>
<tr>
<th>Frequency of Exposure</th>
<th>Almost Always</th>
<th>More than half the time</th>
<th>About half the time</th>
<th>Less than half the time</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposed to new technology ideas</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Required to use technology (beyond</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
**14. College Preparation: Current Coursework**

Technology usage varies within a classroom setting as professors can teach with technology or not or have students use technology or not. Think about each class in which you are currently enrolled within the School of Education. Please describe the frequency of technology usage that you have encountered this semester.

<table>
<thead>
<tr>
<th>Course</th>
<th>Teacher Usage</th>
<th>Student Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td></td>
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<td>3</td>
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<td>4</td>
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<td>5</td>
<td></td>
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<tr>
<td>6</td>
<td></td>
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</tr>
</tbody>
</table>

15. College Preparation: Field Experiences (in the K-12 Environment)

Field experience is defined as observing a cooperating teacher in a K-12 classroom. Based on your field experience in the past 12 months, how often have you:

- Been exposed to new technology ideas
- Used new technology tools
- Observed teachers and/or students use technology for presentation purposes (e.g., PowerPoint, digital media, etc.)
- Observed teachers using technology with their students as a skill-building tool (e.g., typing, drill and practice programs in math or spelling, interactive whiteboard games, etc.)
- Observed teachers use technology with their students as a communication tool (e.g., making content public via blogs, wikis, Inspiration, websites, etc.)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Almost Always</th>
<th>More than half the time</th>
<th>About half the time</th>
<th>Less than half the time</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
</table>

*Comment:* I think that stipulating “beyond Word” introduces some difficulty. One of the basic questions that comes up is how to define “beyond”. It may be useful to return to your construct list and research question and try to figure out exactly what interests you most about respondents’ experiences with software, and why it would be necessary or important to exclude (ordinary) uses of common word processing tools.

*Comment:* Will respondents know specifically what you mean with this term?

*Comment:* Since there seems to be some possibility of social desirability effect for this item set, you may want to consider specifically mentioning the possibility of instructors not engaging in these practices as well as engaging in them. I’ve inserted a couple of “or not” phrases here as a kind of prompt. I think the sentence is made more complicated by doing this, but perhaps you could take a look and think of ways to smooth it out.

*Comment:* I think “teacher usage” is probably more intuitive than “student usage”. Could you think of ways to incorporate a more explicit definition?

*Comment:* I am thinking that respondents will need to be able to anticipate here that you will be asking about different functions (as a skill-building tool; for communication, etc.). I’m wondering, could you build it into the question stem and then limit the item set to the tool items? Please let me know if this doesn’t make sense. I may be able to explain better in person.

The remaining items (i.e. the first 2) could then go into a separate item set.
Observed teachers and/or students use technology as a content exploration tool (e.g. internet research, preparing materials about course content, etc.)

Observed teachers use technology as a data collection/analysis tool (e.g. Excel, graphs/charts, Palm technology, etc.)

Observed students use technology to learn it for its own sake.

16. Current Relationship with Technology: Teacher and Student Usage in Classroom

<table>
<thead>
<tr>
<th>Many times what you want to do with technology integration is not always possible due to various obstacles at your school. Despite any barriers that you may have faced, based on your student teaching experience of the past 12 months (where you were facilitating instruction in the classroom), how often have you and/or your students used technology:</th>
<th>Almost Always</th>
<th>More than half the time</th>
<th>About half the time</th>
<th>Less than half the time</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>For presentation purposes (e.g. PowerPoint, digital media, etc.)</td>
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</tr>
<tr>
<td>As a skill/building tool (e.g. typing, drill &amp; practice programs, interactive whiteboard games, etc.)</td>
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<tr>
<td>As a communication tool (e.g. making content public via blogs, wikis, Inspiration, public websites, etc.)</td>
<td></td>
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<tr>
<td>As a content exploration tool (e.g. internet research, preparing materials about course content, etc.)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>As a data collection/analysis tool (e.g. Excel, graphs/charts, Palm technology, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To learn technology for its own sake (not to build knowledge).</td>
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</tr>
</tbody>
</table>

17. Current Relationship with Technology: Opinions

<table>
<thead>
<tr>
<th>Everyone’s comfort level with technology is different and technology usage varies among teachers. Please state your level of agreement with the following statements:</th>
<th>Completely Agree</th>
<th>Generally Agree</th>
<th>Generally Disagree</th>
<th>Completely Disagree</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>I try to incorporate the recommended NETS-T standards for technology integration into my lesson plans.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
I have adequate access to technology tools when teaching in the classroom

My students have adequate access to technology tools when I am teaching in the classroom

I feel supported (verbally encouraged) in using technology as a teacher by educational technology faculty

I feel supported (verbally encouraged) in using technology as a teacher by my clinical faculty supervisor

I feel supported (encouraged) in using technology as a teacher by my classroom supervising teacher

I feel supported (encouraged) in using technology as a teacher by the School of Education

I feel supported (encouraged) in using technology as a teacher by the University

Technology use in the classroom is relevant to my particular field (e.g. Elem. Ed, secondary social studies, etc.)

I have encountered difficulties with integrating technology while in my teacher education program

I am unsure that I will be able to use all the technologies presented to me (during my teacher education program) in my future classroom.

I have seen technologies introduced to me in my pre-service educational technology course that I will never use in my own classroom.

Potential Questionnaire-Design Problems

Issue #1:

In the section that addresses Current Relationship with Technology: Teacher and Student Usage in Classroom, I am concerned with the fact that I am covering two groups (teachers and students) at the same time. I have lumped the two groups together primarily due to the fact that if either student or teachers are using technology, the usage is defined as technology integration by the LevTech standards. In order to address particular problems within this section of the questionnaire design, I will examine the following question:

“Based on your student teaching experience of the past 12 months (where you were facilitating instruction in the classroom), how often have you and/or your students used technology as a skill/building tool (e.g. typing, drill & practice programs, interactive whiteboard games, etc.)?”

Comprehension: The question is asking for pre-service teachers to reflect upon their student teaching experiences, which should not have transpired more than a year prior, based on the demographic of people that will be taking the survey. I could narrow the time frame to the past six months, but if pre-service teachers completed their student teaching in the spring and they are taking the survey in the fall, they may not be able to respond to the question. Furthermore, they may need further
clarification on what technologies are considered skill/building tools. Although I provided some examples, the category may need to be defined in more depth. Lastly, the word “often” is not defined beyond the response categories. I may need to give a frame of reference for the word. Thoughts?

Retrieval: Retrieval may be difficult due to the summative nature of the question as it is asking for the pre-service teacher to quantify their experience as a whole. Although I could break down the question to a time period of “a typical week”, I would further need to define what a typical week entails. Teaching responsibilities and autonomy vary from school to school, therefore, a typical week may not be same from one teacher to the next.

In terms of recalling the requested info, the pre-service teacher will need to quantify the frequency of using technology as a skill/building tool, including the length of time during which it took place. I may need to offer more cues to assist in the retrieval process.

Judgment and Estimation: The judgment and estimation process is based upon actual occurrence as well as the judgment of the pre-service teacher with regards to technology usage. Though a pre-service teacher may think that he/she used technology in every lesson plan, he/she may have only used it once a week.

Reporting: Many questions in the section about teacher and/or student usage of technology in the classroom have the added weight of social desirability. In order to lessen the stigma of not using technology as an instructor or with students, I have included an introduction to the question to reassure respondents that many factors can get in the way of successful implementation. However, there is still a chance that pre-service teachers may report higher frequencies of technology usage due to a social desirability factor.

Potential Solutions: In this particular question, I can define technology skills/building tools further, make a reference period for the word “often,” and divide the overall section to correspond to the two groups being addressed (teacher and students).

Trade-offs: By further defining my intended meanings, I may be unintentionally adding to the complexity of the question. If I am to divide the section into two different groups (teacher vs. student usage), I will be adding to the length of the survey, which is rather long as it stands how.

Issue #2:

In the section that addresses Current Relationship with Technology: Opinions, I am concerned with my questions that address pre-service teacher support for technology integration. Here is an example question:

“I feel supported (encouraged) in using technology as a teacher by the University”

Comprehension: This question is attitudinal and the response categories provided are intended to measure the degree that the individual agrees or disagrees with the statement. The response categories lean on the side of cognitive agreement versus emotional agreement, so in that respect, the response categories may be just. However, the concept of “support from the University” may be too vague to allow for an attitudinal response. I can clarify support from the university by referencing examples, such as breadth of campus-wide courses that integrate technology into the classroom or the accessibility of technology tools or programs on campus.

Retrieval: Pre-service teachers will need to recall experiences, both positive and negative, that relate to university support. A university that communicates with students about technology issues (e.g. UITS bi-weekly emails) or provides universal technology access (e.g. wireless internet connections throughout campus) may be examples of cues that I need to provide to aid in the retrieval process.
Also, it does not appear that I have provided a frame of reference for time, which is a grave mistake! I will correct that in my next draft 😊.

**Judgment and Estimation:** Since the respondents have no idea what time frame they are referencing, I can easily see how judgment and estimation errors can occur! If the are referencing the past three years verses the past six months, opinions may change.

**Reporting:** Again, due to the nature of the survey, students may want the university to appear favorable and, therefore, respond in a positive frame of mind. I tried to address social desirability by including the statement, “Everyone’s comfort level with technology is different and technology usage varies among teachers,” but it may not be entirely effective for this particular question.

**Potential Solutions:** I can include a frame of reference for the time period and provide more salient examples of university support structures for technology integration.

**Trade-offs:** My main concern with altering the statement is that I will make it convoluted with examples. I will need to reframe the support questions with particular care.

**Issue #3:**

In the section that addresses **College Preparation: Current Coursework** I am concerned with the following question:

| Technology usage varies within a classroom setting as professors can teach with technology or have students use technology. Think about each class in which you are currently enrolled within the School of Education. Please describe the frequency of technology usage that you have encountered this semester. |
|---|---|---|---|---|
| Almost Always | More than half the time | About half the time | Less than half the time | Rarely | Never |

**Comprehension:** This question concerns me because although I provide a time frame for the pre-service teachers to reference (“this semester”), I do not define “frequency of technology usage” outside of my response categories. Therefore, respondents may consider frequency to mean every time the class meets or judge the class based on feelings about the whole semester.

**Retrieval:** Pre-service teachers will need to consider the frequency of teacher usage and student usage for each class that they attend. Originally, my question lumped all courses and technology usage into one question! However, based on my “think-aloud” experience, I broke the question down into each course and separated student vs. teacher use. By chunking the question into parts, I hope to facilitate in the retrieval process.

**Judgment and Estimation:** Again, since the respondents do not know what “frequency” entails, they may have varied judgments and estimations. Also, and this may apply more to the comprehension section, I do not define technology usage well in this question. Instead, I am more concerned with who is using the technology and the frequency of usage.

**Reporting:** I do not feel that social desirability is an issue in this question, as it requires respondents to report the behaviors of their professors. However, if a student thinks favorably of a particular professor, he/she may be more inclined to report higher technology usage than what is really occurring in class due to social desirability.
Potential Solutions: I can include a frame of reference for the word “frequency” and provide examples of what technology usage entails.

Trade-offs: Since the specific ways that professors use technology is not relevant to the construct I am addressing, I do not think it is necessary to define what technology usage means in this question.
Due to the nature of SurveyZ.com and its dislike for exporting questions/responses into Word files, in addition to the questions that I have transposed below, I have decided to grant you access to the survey itself (so you don’t have to take the survey to see it). Please go to www.surveyz.com and enter the login tarroman and the password is mziskin. I hope this helps!

For feedback purposes, here is the new and improved second draft of the full survey:

Thank you for your willingness to take this survey. Participation is voluntary and you may exit the survey at any time, for any reason, if you do not feel comfortable. This particular survey is a part of a project that is required for a course in questionnaire design, however, the questions stem from a larger research study called LevTech. The LevTech study seeks to examine how pre-service teachers are prepared to integrate technology into the classroom. If you are willing to participate in this survey and are at least 18 years of age, I would be grateful if you could please share some thoughts about your experience in the teacher education pre-service program. The following survey is anonymous and confidential. Although the survey should not take more than 15 minutes to complete, accuracy and honest insight is of the utmost concern, so please take your time thinking and reflecting on the questions posed to you. I thank you in advance for your feedback.

2. I verify that I am at least 18 years of age: ☐ Yes ☐ No
   SKIP LOGIC QUESTION – If yes, participant can take the rest of the survey. If no, they jump to question 3.

3. Your willingness to participate is appreciated, however, individuals who are not yet 18 years of age are restricted from taking this survey. We apologize for the inconvenience and thank you for your time.
   SKIP LOGIC -- Survey moves to question number 35.

4. In what year were you born? __________

5. What year are you currently enrolled in school?
   o Freshman
   o Sophomore
   o Junior
   o Senior
   o 5th year Senior
   o Other: __________________________

6. What is your primary concentration area as you pursue your education degree?
   o Early Childhood Education
   o Elementary Teacher Education
   o Special Education/Elementary
   o Secondary Education Program
   o Music Education
   o Physical Education Teaching
   o Visual Arts Education
   o World Language
   o Other (please specify): ________________________________
[SKIP LOGIC QUESTION – If the participant selects secondary education program, they answer questions 7 and 8. If they select any other category, they move to question 9].

7. What is your intended major content area as a secondary education teacher?
   - Exceptional Needs/Early and Late Adolescence
   - Health Education
   - Journalism
   - Language Arts/English
   - Mathematics
   - Chemistry
   - Earth/Space Science
   - Life Science/Biology
   - Physics
   - Social Studies
   - Theatre
   - World Language
   - Not applicable
   - Other: ______________________

8. What are the secondary content areas that you are pursuing as secondary education program teacher? (Please check all that apply)
   - Exceptional Needs/Early and Late Adolescence
   - Health Education
   - Journalism
   - Language Arts/English
   - Mathematics
   - Chemistry
   - Earth/Space Science
   - Life Science/Biology
   - Physics
   - Social Studies
   - Theatre
   - World Language
   - Not applicable
   - Other: ______________________

9. How many educational technology credits are you required to take as part of your teacher education program?
   - One credit
   - Two credits
   - Three credits
   - Don’t know
   - Other: _____ credits

10. Sometimes students may take additional courses that are related to educational technology as electives. How many elective educational technology credits have you completed successfully thus far at your current college/university?
    - None
    - One credit
    - Two credits
    - Three credits
    - Other: _____ credits
11. **Excluding the elective classes mentioned above, how many educational technology credits have you completed successfully thus far?**
   - None
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits

12. **Are you enrolled in any educational technology course(s) this semester?** [SKIP LOGIC QUESTION]
   - Yes
   - No

13. **How many credits will you earn for the educational technology course(s) you are taking this semester?**
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits

15. Technology is a term that is used often in everyday speech and can mean many different things to many different people. For purposes of this survey, technology is defined as any electronic software or hardware. For example, technology could include computers, iPods, cell phones, electronic whiteboards, PC tablets, blogs, wikis, email, Internet, etc.

In your opinion, **before you entered college, what quantity of technology exposure did you receive from each of the following?**

<table>
<thead>
<tr>
<th>Source of Exposure</th>
<th>A great deal of exposure</th>
<th>Some exposure</th>
<th>A little exposure</th>
<th>No exposure at all</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent(s) or guardian(s)</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Siblings</td>
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<tr>
<td>Other family members (e.g. cousins, aunts/uncles, grandparents, etc.)</td>
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</tr>
<tr>
<td>School computer teachers (K-8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Traditional classroom teachers (K-8)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Technology courses (9-12)</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Traditional core subject teachers (9-12)</td>
<td></td>
<td></td>
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<tr>
<td>Work experiences outside of high school</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Informal experiences (e.g. clubs, volunteer activities, camps, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your own independent explorations of technology</td>
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</tr>
</tbody>
</table>

Comment: This seems clear enough, but potentially just slightly confusing. What is the construct you are looking to measure here? Is it required ed technology credits completed?

Comment: You have better judgment than I do on formatting and design, but I’m thinking you might consider emphasizing the term and its definition here in order to make it easy to refer back to. Take a look and see what you think about it.

Comment: Should this be bold to match with the rest of the question?

Comment: It might be helpful to provide an introductory sentence introducing the idea that you’d like participants to think about precollege experiences in this item set. The intro and reiteration will also serve as an additional cue for retrieval.

Comment: It would probably help to orient respondents to the response task if you provided a concrete referent here. What would you think of saying something like “…each of the following sources?” or “…each of the following experiences”?

If you go with the second option you might need to adjust each of the items to begin with an “-ing” verb so that the set is grammatically consistent. “Interacting with friends… through… Exploring technology independently on your own”
19. College Preparation: Methods Coursework
Method courses are defined in this survey as classes that you are required within the School of Education, not including educational technology requirements.

<table>
<thead>
<tr>
<th>On the whole, since you started on your methods courses, how often have you:</th>
<th>Almost Always in my courses</th>
<th>More than half the time in my courses</th>
<th>About half the time in my courses</th>
<th>Less than half the time in my courses</th>
<th>Rarely in my courses</th>
<th>Never in my courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Been exposed to new technology ideas (e.g. websites, podcasting, software, etc.)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Been presented with new technology tools in class (e.g. electronic whiteboards with clickers, netbooks, ebooks, etc.)</td>
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<td></td>
</tr>
<tr>
<td>Using new technology tools in class (e.g. electronic whiteboards with clickers, netbooks, ebooks, tablets, etc.)</td>
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</tr>
<tr>
<td>Integrated traditional software in your assignments (e.g. Microsoft Office Suite)</td>
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<tr>
<td>Integrated alternative technologies in your assignments (e.g. podcasts, Adobe Connect presentations, blogs, wikis, etc.)</td>
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</table>

22. College Preparation: Current Coursework
Technology usage varies within a classroom setting as professors can teach with technology or not or have students use technology or not. Think about each class in which you are currently enrolled within the School of Education.

Please describe the frequency of TEACHER and STUDENT technology usage that you have encountered this semester in EACH of your courses (including educational technology courses, if applicable). An easy way to reflect on this question is to start with your first course of the week and end with your last course of the week. If you have more than one teacher in a class, please rate the course as two separate classes to enable you to rate the teachers independently of each other. If you find that there are more course options than classes that you are currently taking, please select the response "not applicable."

<table>
<thead>
<tr>
<th>Course 1 (Teacher Usage)</th>
<th>Almost Always</th>
<th>More than half the time</th>
<th>About half the time</th>
<th>Less than half the time</th>
<th>Rarely</th>
<th>Never</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1 (Student Usage in class)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course 2 (Teacher Usage)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Course 2 (Student Usage in class)</td>
<td></td>
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</tr>
<tr>
<td>Course 3 (Teacher Usage)</td>
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<tr>
<td>Course 3 (Student Usage in class)</td>
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</tr>
</tbody>
</table>

Mary Ziskin 12/19/08 4:44 AM
Comment: Alternatively “Seen”

Mary Ziskin 12/19/08 4:44 AM
Comment: Items within the same set should be grammatically parallel to the extent possible. In this case, I think it makes the most sense for the very to be “...Used”

Mary Ziskin 12/19/08 4:44 AM
Comment: Since this has been a little complex you might consider breaking this out into two sets: one on teacher usage, and one on student usage in class. Your strategy of preparing respondents with your introductory text is a good one. You may need to draw on it again if you fold the set out into two.

Another option for helping simplify the task for respondents would be to offer a blank for them to note what class they are thinking of. This would have the advantage of helping with retrieval and with estimation in a fairly complex task. However, the disadvantages are not trivial… involving the risk of seeming to be able to identify particular respondents and particular faculty members through these answers. This risk might put some respondents off from answering, might put others off of answering frankly.

Lots to think through…. But I think your reasoning on these issues has been very sound.
25. **College Preparation: Field Experiences (in the K-12 Environment)**

Field experience is defined as observing a cooperating teacher in a K-12 classroom. Reflect on the field experience you’ve done in the past six months. Think about how technology was used by teachers in the classrooms that you observed. They may have had limited technology resources or you may have observed them for a restricted amount of time. Despite those obstacles, can you recall a time when you observed teachers integrate technology in the classroom? Think about all the various ways technology was used to support instruction when answering the following questions.

<table>
<thead>
<tr>
<th>Based on your field experience in the past six months, how often have you observed teachers using the following types of digital technology to support their instruction as teachers?</th>
<th>Almost Always</th>
<th>More than half the time</th>
<th>About half the time</th>
<th>Less than half the time</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>For student productivity (e.g. word processors, spreadsheets)</td>
<td></td>
<td></td>
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<tr>
<td>For information presentation (e.g. PowerPoint, digital media, LCD projector, document camera, interactive whiteboard)</td>
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<tr>
<td>For student access and use of electronic resources (e.g. websites, online databases)</td>
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<tr>
<td>To facilitate teaching specific concepts (e.g. computer-based courseware, tutorials)</td>
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<tr>
<td>To support various learning styles (e.g. use of media for auditory and visual learners)</td>
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<tr>
<td>To support activities that facilitate problem-based or project-based learning</td>
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<tr>
<td>To facilitate activities that require analysis and synthesis of information</td>
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<tr>
<td>To support activities that facilitate data collection and analysis</td>
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<tr>
<td>To incorporate the recommended NETS-T standards for technology integration into my lesson plans</td>
<td></td>
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</tbody>
</table>

25. **Have you completed or are in the process of student teaching?** (You are considered to be student teaching even if you are only instructing one lesson a week). [SKIP LOGIC QUESTION – if yes, participant answers questions 28 and 30. If no, they proceed to question 32]

- Yes
- No
27. Current Relationship with Technology: Usage as a teacher in the classroom for instruction

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Almost</th>
<th>More than half the time</th>
<th>About half the time</th>
<th>Less than half the time</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>For student productivity (e.g., word processors, spreadsheets)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>For information presentation (e.g., PowerPoint, digital media, LCD projector, document camera, interactive whiteboard)</td>
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<td>For student access and use of electronic resources (e.g., websites, online databases)</td>
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<tr>
<td>To facilitate teaching specific concepts (e.g., computer-based courseware, tutorials)</td>
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<tr>
<td>To support various learning styles (e.g., use of media for auditory and visual learners)</td>
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<tr>
<td>To support activities that facilitate problem-based or project-based learning</td>
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<tr>
<td>To incorporate the recommended NETS-T standards for technology integration into my lesson plans</td>
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</tr>
</tbody>
</table>

29. Current Relationship with Technology: Access in the classroom for teacher and student use

<table>
<thead>
<tr>
<th>Access to technology experience in the past 12 months, what quantity of access do you have to technology tools:</th>
<th>A lot of access</th>
<th>Some access</th>
<th>Only a little access</th>
<th>No access at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>For you to use when teaching in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For your students to use when you are teaching in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
31. **Current Relationship with Technology: Support**

<table>
<thead>
<tr>
<th>Source</th>
<th>A lot of support</th>
<th>Some support</th>
<th>Little support</th>
<th>Support at all</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Technology Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My clinical faculty supervisor</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>My classroom supervising teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The School of Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The University</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Many times support can affect whether or not a teacher uses technology in the classroom. Based on your personal experience of the past 12 months, what quantity of support have you received in using technology as a teacher from each of the following sources:

32. **Current Relationship with Technology: Opinions**

<table>
<thead>
<tr>
<th>Technology Integration</th>
<th>Very Positive</th>
<th>Generally Positive</th>
<th>Mixed - Equally</th>
<th>Generally Negative</th>
<th>Very Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyone has different comfort levels with technology. Perceptions regarding the utility of technology integration varies among teachers. Think about your personal feelings toward technology usage in the classroom. How do you feel about teacher technology use in the classroom as it relates to your particular field (e.g. Elem. Ed, secondary social studies, etc.)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do you feel about student technology use in the classroom as it relates to your particular field (e.g. Elem. Ed, secondary social studies, etc.)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How has your experience been integrating technology into your projects/activities while in your teacher education program?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do you feel about incorporating the technologies presented to you during your pre-service educational technology courses into your future classroom?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

33. **Thank you for participating in this survey.** In piloting the instrument, some participants noticed a screen from SurveyZ.com pop-up once they exited the survey. If this window pops-up, you may ignore it, as it is not relevant to this aims of this study. Thank you again for your time.

Follow your draft with a brief (ca. 3-page) reflection on three to five questionnaire-design problems you have grappled with in your design process. Each problem should be presented in relation to a phase of the response process (comprehension, retrieval, judgment/estimation, reporting/response editing). Please explain how you have addressed each problem in your revised draft. Finally, include a brief discussion of at least one remaining problem. Reflect on potential solutions, and the inherent trade-offs built into the different options.

Minor changes in the design process:
Before I explain some major changes in my design process, I would like to highlight the minor, but important changes that I have done thus far.

1) In my introductory statement to the survey, I changed the “Yes/No” response categories regarding age verification to include skip logic. During my pilot testing, I did not create a pathway for participants under the age of 18 to exit the survey. Thus, to protect all individuals under the age of 18, I have included two descriptive statements (questions 3 and 35) to allow the underage participants to gently leave the survey.

2) I eliminated a skip logic question asking whether or not the participant was a secondary education program major. Instead, I integrated skip logic into the response categories in question 6, which asks participants about their intended major. If a participant selects “secondary education,” he/she will still receive two additional questions about their content areas, but if any other category is selected in question 6, they will proceed to the questions about educational technology credits.

Intentional non-changes in the design process:

Though my pilot testing revealed several problems about certain questions, I decided to leave one question alone that I originally thought about removing. Question number nine addresses “required educational technology credits”. In my pilot testing, I had many participants unable to answer this particular question, which is why I originally included the response category “I don’t know” as I anticipated this particular situation. After I administered the surveys, I thought it might be interesting to eliminate the question altogether as the information can be found online. However, I have decided to keep the question as it was originally stated specifically because it can be verified. My reason for doing so is that if many students are unaware of how many educational technology courses they are required to take, it may be a telling indicator of how much the courses are stressed at the undergraduate level. If the study is conducted at multiple institutions, differences may be found between them. For this reason, I have decided to keep question nine in its original form. I recognize that participants may have difficulty recalling the required credits and may form an inaccurate judgment, but the information gleaned from the question may prove useful in the end.

Reflection on changes in the design process:

In question #10, participants are asked about elective technology courses. My pretest indicated that there was an issue with comprehension as one respondent was wondering if the question was limited to the courses administered at the college. In an effort to clarify this problem, I altered question 10 and specified that the courses pertained to those taken at the participant’s current college or university. I made this change because this particular study seeks to examine how preservice teachers are being prepared in college to integrate technology into the classroom.

In question #22 (the course matrix which addresses teacher and student technology use), I attempted to address the many issues participants were having with comprehension. One individual was confused about the order that the courses needed to be in, so I adjusted the question to reflect an order that allows the respondent to move from the beginning of the week to the end of the week. Another participant was not aware that teacher technology use was to be judged separately from student technology usage, so I specified teacher and student technology use in the question. A different participant had difficulty deciding how to reply to categories that did not pertain to her course load (indicating an error of judgment), so I specified in the question that additional courses should be marked with the response “not applicable.” Finally, I noted that all courses should be rated by the participants, including educational technology courses, as one respondent was unsure whether or not that was necessary to address.

The question that addresses observed technology use during field experiences (question #25) caused some participants to struggle during the retrieval process as the 12-month timeframe was deemed
by one respondent to be rather long. In an effort to assist in the recall process, the timeframe for recall was shortened to six months instead of 12 months. This change will allow students to reflect on their most current field experiences. Additionally, I modified the question to include a statement assuring participants that many teachers are limited in technology resources and that pre-service teachers may not see teachers using technology due to the small number of hours that they spend observing in the classroom.

The student teaching matrix (question #26) caused a comprehension error in one participant as she did not know if teaching one lesson a week qualified as student teaching. I clarified the question so that participants would understand that teaching one lesson a week qualifies as student teaching.

Problems that I still need to address:

In question 16, participants are asked about technology experiences before college. It presents an issue of retrieval, as the time periods are rather broad. I could specify time periods to a greater extent, though I feel that I make this effort by scaffolding the response categories (from youth to high school) and by categorizing time periods by school years (e.g. K-8 vs. 9 – 12). I could tailor the K-8 years by breaking them down into categories of early education (K-2), elementary education (3-5), and junior high (6-8). However, respondents would have an increased burden of retrieval and the information gleaned may not provide further insight into the overall technology experiences that participants had prior to college. Any advice that you may have in this issue would be lovely.

Although I have not done this yet, I would like to delete “university support” from the support matrix in question #32. I have not deleted the category at this time because if I did, I would eliminate the answers from my pre-test and I do not know if you are finished reviewing the results of my pilot survey assignment. The reason I would like to eliminate this category is that it causes judgment issues for the participants. Some respondents informed me that they had a hard time differentiating the School of Education from the University as the University is hard to quantify. By only specifying the School of Education, I will be better able to address the technology support (e.g. hardware, software, supplemental courses, etc) that the School of Education provides.

Also, though I have not done anything yet, the feelings and opinions matrix (question #34) is in need of your insight. I included this question between my first full draft and my pilot surveys, so I know you have not seen it before. I would like to get your thoughts on how I approached the issue originally. I would like to clarify how participants are to approach the question (either from the mindset of a student or as a future teacher).
Pretesting the Draft of the Survey: Results, Decisions, and Reflections

Tiffany Roman
Y525 – M. Ziskin
Pretesting Assignment Summary
November 17, 2008

The easiest way to view the results of the pilot survey testing is to visit the following link:
http://www.surveyz.com/ShowResults?id=90511&pie=false&bar=false&line=false

In addition to this report, my OnCourse submission includes the raw data set of the survey responses in an Excel spreadsheet format. However, due to the fact that the responses are numerically coded, I would recommend viewing the original survey and there are two ways to do this. The first option is to view the survey as the respondents viewed it at http://www.surveyz.com/TakeSurvey?id=90511; however, I will warn you that though you will be treated as a participant and your responses will be recorded, though I can erase them at your request. The other viewing option is to look at the Word document that I created as I have numbered the questions to correspond with categories provided by the electronic survey. SurveyZ.com is interesting because it does not allow for descriptions when creating a matrix. Therefore, to lead into a matrix, I had to create separate descriptive questions, which is why you will see jumps in numbers in my Word document.

**Questionnaire-design problems found in the pretest**

**Required Educational Technology Credits** (question #9): The majority of the participants who responded to this question struggled with retrieval. They were unsure of how many educational technology credits were required of them in the teacher program. For example, one student did not know how many credits her current Ed Tech course was worth. She selected “three” initially, but changed then changed her response to “one.” Another participant wanted to consult her professor. A third participant said, “I don’t know! Credits just go along with your cluster. When you sign up for classes, you don’t think about it.” As noted in my observational notes, I either need to assist in recall or eliminate the question altogether if the answer can be found through alternate means (e.g. website searches). However, if students don’t know the educational technology course expectations, it may indicate a lack of emphasis in that particular area from advisors.

**Elective Technology Courses** (question #10): One participant asked me the following question: “For the additional [elective] courses question – is that in college or outside of college?” This question indicates an issue of comprehension. I did not specify in the question where the elective technology courses should have taken place. I will consult with my subject matter expert to see if they should be limited to courses at the university.

**Technology experiences before college** (question #16): The question about technology experiences before college provokes an issue of retrieval. One participant mentioned that she had a difficult time retrieving technical experiences before college. She suggested a pre-internet question (e.g. what technology participants had access to prior to the introduction to the Internet), which indicates to me an issue of judgment as it seems that she did not know how to quantify technology before the internet existed. Personally, I find this interesting as I did not grow up with the Internet, but I did utilize computer programs such as Number Munchers and the Oregon Trail, and they were very salient forms of technology to me.

**Course matrix** (question #22): The course matrix seems to be the most problematic questions that I have. I did not specify how participants were to address multiple teachers in one class, causing my first comprehension error. I changed the wording to that question immediately after my first interview. However, issues with the course matrix remained. One participant stated, “So I can make up which order of classes I respond to?” Again, because I do not specify an order to courses, I evoke a second comprehension issue. A third problem with comprehension has to do with the fact that I do...
not specify whether or not educational technology courses should be included. A fourth comprehension problem relates cluster sectioning, as I do not make it clear teacher uses student technology use very clear, as indicated by the statement, "Oh, I didn’t read carefully... teacher use and student use are separate." Finally, one participant didn’t know how to respond for additional courses and asked, "Do I just leave them blank?" This indicates issues with reporting. Though I have a category for "not applicable," it does not seem prominent.

Field experience matrix (question #25): The field experience matrix evokes many issues with judgment. For example, one participant stated, "[the field experience matrix question] was tough to answer due to the resources because I haven't observed many tech integration experiences thus far as I'm only there three hours a week." The lack of seeing technology integration in field experiences cuts to the heart of the LevTech research study because teachers tend to use technology when it is meaningful and valuable to them. If students are not seeing technology used in the classroom, it will be hard for them to retrieve times when they have witnessed it and ultimately may be discouraged in using it themselves. The field experience matrix leads to issues of retrieval due to the 12-month timeframe. As one participant noted, "It took me more time to respond to the question... as I was thinking about last semester. In my observations during my field experience, I didn't see a lot [of technology usage] except for overheads or PowerPoint."

Student Teaching Matrix (question #28): I had only one participant respond to the student teaching matrix. She asked, "Is it like our full semester of student teaching or what we are doing now, which is one lesson a week?" This indicates an error of comprehension, as I do not clarify what qualifies as student teaching. I will add that to the "to-do" list!

Support Matrix (question #32): The biggest issue in the support matrix deals with comprehension as the difference between university support and support from the School of Education is not clarified. One participant said, "When asked specifically about support... University support seems vague. What is the difference between the School of Education and the University?" Due to the fact the university and the School of Education are hard to distinguish, it leads to judgment error, as noted by one student who said, "How the university supports us versus the School of Education supports me because I visit my advisor four times a year. They're all linked together." Thus, because the participant cannot distinguish between the two entities, she has a hard time formulating a judgment. On a different note, one respondent stated that she struggled with the, "quantity of support in using technology as a teacher." She approached the question from the mindset of a student. Therefore, I may want to clarify the word 'teacher' to aid in comprehension.

Feelings/Opinions Matrix (question #34): The last matrix set of questions causes issues with comprehension because it does not distinguish between courses within the School of Education and Field experiences. Also, formulating judgments is problematic because I do not clarify which "lens" the participant should use when responding to the question (as a teacher or as a student). For example, one respondent said, "Determining for an answer was tricky for the last matrix for feelings. I was just kind of looking at it from being a teacher rather than a student." This issue was echoed by another individual who had difficulty formulating a judgment due to the fact that her class was not, "creating a lesson based around technology. We teach in front of our peers, not in the actual classroom." Thus, since the question calls for students to envision how they will teach with technology in the classroom, which is problematic if students are still in the process of observing teachers and not practitioners themselves.

Potential problems suggested by the responses themselves

Here is a potential problem with the current coursework matrix question. I do not specify the order in which the courses are to be evaluated, nor do I wish for students to identify the courses. However, as a result, the teacher technology use and student technology use findings are all over the map in
question 22. My original intent was to consolidate the data from the courses into a collective “teacher use” verses “student use” correlation. However, my concern right now is what meaning I will be able to draw from the findings. Any insight into this issue would be appreciated.

Another concern that I have involves the potential for missing data. SurveyZ.com provides the option for requiring an answer in a multiple choice format question, but it does not provide a pop-up window when a respondent misses a matrix question. So, long story short, I do not have the ability to warn respondents when they miss a matrix question (even though I attempted to do that once during the pilot survey).

Finally, I’m intrigued by the low variance of responses that were generated when asking about observed technology use by teachers in the field. The low exposure, though indicative of an important finding, seems to render issues of judgments for participants. Furthermore, though I only interviewed one student teacher, I was alarmed by the low variance of her responses. She does not use technology in the courses at all, but my survey does not ask why she is not using it. I wonder if I should allow for open responses in the survey, but since it is meant to be a precursor to focus group interviews, it may not be necessary.

In my next set of revisions, I intend to address all of problems that I have discussed in this paper. I have already been able to fix the disclaimer statement and a part of the current coursework matrix question, however, I have many more revisions to undertake, which are all noted in the questionnaire-design problem section. Most of my issues tend to be related to comprehension, so by clarifying certain concepts better, I hope to provide less respondent burden. Any insight you will be able to provide to me will also be greatly appreciated!
Final Survey Instrument (as of December 15, 2008)

Note: The final format of the survey is on the web, hosted by www.surveyz.com. Right now I am “in negotiations” to extend my survey for another six months. To view the survey on the web, go to www.surveyz.com and enter the login taroman and the password is mziskin to view the document. However, for review purposes, I recommend examining the word document version below.

Thank you for your willingness to take this survey. Participation is voluntary and you may exit the survey at any time, for any reason, if you do not feel comfortable. This particular survey is a part of a project that is required for a course in questionnaire design, however, the questions stem from a larger research study called LevTech. The LevTech study seeks to examine how pre-service teachers are prepared to integrate technology into the classroom. If you are willing to participate in this survey and are at least 18 years of age, I would be grateful if you could please share some thoughts about your experience in the teacher education pre-service program. The following survey is anonymous and confidential. Although the survey should not take more than 15 minutes to complete, accuracy and honest insight is of the utmost concern, so please take your time thinking and reflecting on the questions posed to you. I thank you in advance for your feedback.

2. I verify that I am at least 18 years of age: □ Yes □ No
   SKIP LOGIC QUESTION – If yes, participant can take the rest of the survey. If no, they jump to question 3.

3. Your willingness to participate is appreciated, however, individuals who are not yet 18 years of age are restricted from taking this survey. We apologize for the inconvenience and thank you for your time.
   SKIP LOGIC -- Survey moves to question number 35.

4. In what year were you born? __________

5. What year are you currently enrolled in school?
   o Freshman
   o Sophomore
   o Junior
   o Senior
   o 5th year Senior
   o Other: ________________________________

6. What is your primary concentration area as you pursue your education degree?
   o Early Childhood Education
   o Elementary Teacher Education
   o Special Education/Elementary
   o Secondary Education Program
   o Music Education
   o Physical Education Teaching
   o Visual Arts Education
   o World Language
   o Other (please specify concentration if none of the above options seem appropriate): ________________________________

   [SKIP LOGIC QUESTION – If the participant selects secondary education program, they answer questions 7 and 8. If they select any other category, they move to question 9).]
7. What is your intended major content area as a secondary education teacher?
   - Exceptional Needs/Early and Late Adolescence
   - Health Education
   - Journalism
   - Language Arts/English
   - Mathematics
   - Chemistry
   - Earth/Space Science
   - Life Science/Biology
   - Physics
   - Social Studies
   - Theatre
   - World Language
   - Not applicable
   - Other: ______________________

8. What are the secondary content areas that you are pursuing as secondary education program teacher? (Please check all that apply)
   - Exceptional Needs/Early and Late Adolescence
   - Health Education
   - Journalism
   - Language Arts/English
   - Mathematics
   - Chemistry
   - Earth/Space Science
   - Life Science/Biology
   - Physics
   - Social Studies
   - Theatre
   - World Language
   - Not applicable
   - Other: ______________________

9. How many educational technology credits are you required to take as part of your teacher education program?
   - One credit
   - Two credits
   - Three credits
   - Don't know
   - Other: ________ credits

10. Sometimes students may take additional courses that are related to educational technology as electives. How many elective educational technology credits have you completed successfully thus far at your current college/university?
    - None
    - One credit
    - Two credits
    - Three credits
    - Other: ________ credits
11. Including electives, how many educational technology credits have you completed successfully thus far?
   - None
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits

12. Are you enrolled in any educational technology course(s) this semester? [SKIP LOGIC QUESTION – if yes, participant answers question 13, if no, they proceed to question 16]
   - Yes
   - No

13. How many credits will you earn for the educational technology course(s) you are taking this semester?
   - One credit
   - Two credits
   - Three credits
   - Other: _____ credits

16. Technology is a term that is used often in everyday speech and can mean many different things to many different people. For purposes of this survey, technology is defined as any electronic software or hardware. For example, technology could include computers, iPads, cell phones, electronic whiteboards, PC tablets, blogs, wikis, email, Internet, etc.

Due to the rapid pace of innovation, technology advancements tend to occur quite frequently, which means learning to use technology becomes a lifelong endeavor and not everyone has the same comfort level with it. Think about how you have come to learn to use technology in your life. Perhaps certain individuals or experiences were influential to you, even shaping the way you use technology today.

<table>
<thead>
<tr>
<th>In your opinion, before you entered college, what quantity of technology exposure did you receive from the following individuals/experiences?</th>
<th>Not Applicable</th>
<th>No exposure at all</th>
<th>A little exposure</th>
<th>Some exposure</th>
<th>A great deal of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Parent(s) or guardian(s)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Siblings</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Other family members (e.g. cousins, aunts/uncles, grandparents, etc.)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>School computer teachers (K-8)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Traditional classroom teachers (K-8)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Technology courses (9-12)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Traditional core subject teachers (9-12)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Work experiences outside of high school</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Informal experiences (e.g. clubs, volunteer activities, camps, etc.)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Your own independent explorations of technology</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
20. **College Preparation: Methods Coursework**

Method courses are defined in this survey as classes that you are required within the School of Education, not including educational technology requirements.

<table>
<thead>
<tr>
<th>On the whole, since you started on your methods courses, how often have you:</th>
<th>Never in my courses</th>
<th>Rarely in my courses</th>
<th>Less than half the time in my courses</th>
<th>About half the time in my courses</th>
<th>More than half the time in my courses</th>
<th>Almost Always in my courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gained exposure to new technology ideas (e.g. websites, podcasting, software, etc.)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Observed new technology tools being used in class (e.g. electronic whiteboards with clickers, netbooks, ebooks, etc.)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Used new technology tools in class (e.g. electronic whiteboards with clickers, netbooks, ebooks, tablets, etc.)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Integrated traditional software in your assignments (e.g. Microsoft Office Suite)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Integrated alternative technologies in your assignments (e.g. podcasts, Adobe Connect presentations, blogs, wikis, etc.)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

23. **College Preparation: Current Coursework**

Technology usage varies within a classroom setting as professors can teach with technology or not or have students use technology or not. Think about each class in which you are currently enrolled within the School of Education.

Please describe the frequency of TEACHER and STUDENT technology usage that you have encountered this semester in EACH of your courses (including educational technology courses, if applicable). An easy way to reflect on this question is to start with your first course of the week and end with your last course of the week. **There is the option for you to write in the course number or name for each class that you are taking, but it is completely up to you as it is only meant to aid in recall.**

Also, if you have more than one teacher in a class, please rate the course as two separate classes to enable you to rate the teachers independently of each other. If you find that there are more course options than classes that you are currently taking, please select the response “not applicable.”
<table>
<thead>
<tr>
<th>Course # optional to fill in</th>
<th>Not Applicable</th>
<th>Never</th>
<th>Rarely</th>
<th>Less than half the time</th>
<th>About half the time</th>
<th>More than half the time</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Teacher Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Teacher Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Teacher Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Student Tech Use</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

25. College Preparation: Field Experiences (in the K-12 Environment)

Field experience is defined as observing a cooperating teacher in a K-12 classroom. Reflect on the field experience you’ve done in the past six months. Think about how technology was used by teachers in the classrooms that you observed (e.g. for instruction, directed students use, personal productivity, etc).

*Keep in mind that teacher use of technology varies.* It is possible that teachers may have limited technology resources. You also may have observed teachers for a restricted amount of time in which technology use was not appropriate. *Despite those obstacles, can you recall times when you observed teachers integrate technology in the classroom?* Think about all the various ways technology was used to support instruction when answering the following questions.

<table>
<thead>
<tr>
<th>Based on your field experience in the past six months, how often have you observed teachers using digital technology in the following ways to support their instruction:</th>
<th>Never</th>
<th>Rarely</th>
<th>Less than half the time</th>
<th>About half the time</th>
<th>More than half the time</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>For student productivity (e.g. word processors, spreadsheets)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>For information presentation (e.g. PowerPoint, digital media, LCD projector, document camera, interactive whiteboard)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>For student access and use of electronic resources (e.g. websites, online)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
To facilitate teaching specific concepts (e.g., computer-based courseware, tutorials) | ○ | ○ | ○ | ○ | ○ | ○
---|---|---|---|---|---|---
To support various learning styles (e.g., use of media for auditory and visual learners) | ○ | ○ | ○ | ○ | ○ | ○
---|---|---|---|---|---|---
To support activities that facilitate problem-based or project-based learning | ○ | ○ | ○ | ○ | ○ | ○
---|---|---|---|---|---|---
To facilitate activities that require analysis and synthesis of information | ○ | ○ | ○ | ○ | ○ | ○
---|---|---|---|---|---|---
To support activities that facilitate data collection and analysis | ○ | ○ | ○ | ○ | ○ | ○
---|---|---|---|---|---|---
To incorporate the recommended NETS-T standards for technology integration into my lesson plans | ○ | ○ | ○ | ○ | ○ | ○

26. Student teachers are defined as supervised individuals who teach students in a traditional school setting, even if lessons only occur once a week. **Have you completed or are in the process of student teaching?** [SKIP LOGIC QUESTION – If yes, participant answers questions 28 and 30. If no, they proceed to question 32]
   ○ Yes
   ○ No

28. **Current Relationship with Technology: Usage as a student teacher in the classroom for instruction**
   Many times what you want to do with technology integration is not always possible due to various obstacles at your school.

<table>
<thead>
<tr>
<th>Despite any barriers that you may have faced, based on your student teaching experience of the past 12 months (where you were facilitating instruction in the classroom), <strong>how often have you used technology in the classroom for the following purposes?:</strong></th>
<th>Never</th>
<th>Rarely</th>
<th>Less than half the time</th>
<th>About half the time</th>
<th>More than half the time</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>For student productivity (e.g., word processors, spreadsheets)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For information presentation (e.g., PowerPoint, digital media, LCD projector, document camera, interactive whiteboard)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For student access and use of electronic resources (e.g., websites, online databases)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To facilitate teaching specific concepts (e.g., computer-based courseware, tutorials)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To support various learning styles (e.g., use of media for auditory and visual learners)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To support activities that facilitate problem-based or project-based learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To facilitate activities that require analysis and synthesis of information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To support activities that facilitate data collection and analysis

To incorporate the recommended NETS-T standards for technology integration into my lesson plans

30. Current Relationship with Technology: Access in the classroom for teacher and student use

Access to technology has two components: resources and availability. Schools sometimes provide several computer labs that teachers may use with their students, but if the labs are constantly in use, the school may have a large amount of resources, but low availability. Or a school may have only one classroom set of laptops, but there is never a demand to use it, meaning that resources are low, but availability is high. Think about the school where you are student teaching and access to technology that you and your students have.

<table>
<thead>
<tr>
<th>Based on your student teaching experience in the past 12 months, what amount of technology resources do you have:</th>
<th>No resources at all</th>
<th>Only a few resources</th>
<th>Some resources</th>
<th>A lot of resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>For <strong>you</strong> to use when teaching in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For <strong>your students</strong> to use when you are teaching in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Based on your student teaching experience in the past 12 months, what amount of availability to technology tools do you have:</th>
<th>No availability at all</th>
<th>Only a little availability</th>
<th>Some availability</th>
<th>A lot of availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>For <strong>you</strong> to use when teaching in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For <strong>your students</strong> to use when you are teaching in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

32. Current Relationship with Technology: Support

Many times support can affect whether or not a teacher uses technology in the classroom. Based on your personal experience of the past 12 months, how much support have you received in using technology as a teacher from each of the following sources:

<table>
<thead>
<tr>
<th>Based on your personal experience of the past 12 months, how much support have you received in using technology as a teacher from each of the following sources:</th>
<th>Not Applicable</th>
<th>No support at all</th>
<th>Only a little support</th>
<th>Some support</th>
<th>A lot of support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Technology Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My clinical faculty supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My classroom supervising teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The School of Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
34. Current Relationship with Technology: Opinions

<table>
<thead>
<tr>
<th>Perceptions regarding the utility of technology integration varies among teachers. Think about your attitude toward technology usage in the classroom (both as a student of the university and as a future teacher). How do you feel about the following experiences:</th>
<th>Very Negative</th>
<th>Generally Negative</th>
<th>Mixed - Equally Negative and Positive</th>
<th>Generally Positive</th>
<th>Very Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrating technology into your own college-level student projects/activities while in your teacher education program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporating the technologies presented to you during your pre-service courses into your future K-12 classroom someday?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher technology use in the K-12 classroom as it relates to your particular field (e.g. Elem. Ed, secondary social studies, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student technology use in the K-12 classroom as it relates to your particular field (e.g. Elem. Ed, secondary social studies, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

35. Thank you for participating in this survey. In piloting the instrument, some participants noticed a screen from SurveyZ.com pop-up once they exited the survey. If this window pops-up, you may ignore it, as it is not relevant to this aims of this study. Thank you again for your time.