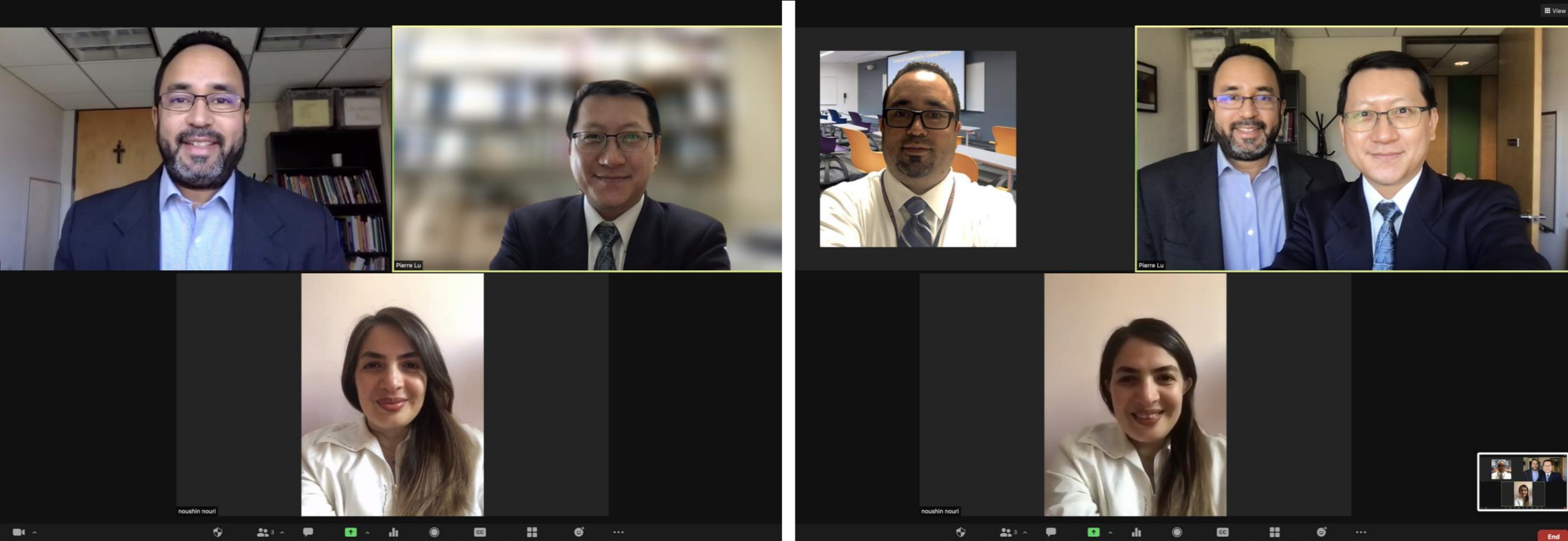




ETIC

Teacher Prep Transformation SIRG



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Investigating HSI Pre-Service Teachers' (PT) Perception of Effective Technology Integration in the Classroom (ETIC)





- Many PT students grew up with technology. (Prensky, 2001)
- These students have never known life without the internet.
- They have spent their entire lives using computers, cell phones, and digital media, and they have integrated technology into almost everything they do.

- Technology is an integral part of their lives (Oblinger, 2008; Prensky, 2007).
- This generation of diverse students populate today's classrooms, but according to Ikpeze (2009), "students live their lives with and through the aid of technology while schools have generally remained largely print-based and lukewarm in integrating technology."





Lit. Rev.

- PT or teacher training in the use of technology in many colleges has continued to be ineffective
- teachers lack follow-up support throughout the school year.
- teachers who attempted to implement their training and use computers in their classrooms often requested additional support later on
- (ChanLin, 2005; Hall & Hord, 2001; Hosman & Cvetanoska, 2010; Levin & Wadmany, 2008; Pavlova, 2005; Sugar, 2005; Tunks & Weller, 2009).
- Training without follow-up and support for teachers reduces the effectiveness of technology integration in their classrooms (Hall & Hord, 2001, 2006, 2014).

Needs & Importance

to investigate PT's perception of ETIC

(1) they will soon be teaching and probably implementing ETIC in their schools;

(2) there is no study of this kind at UTRGV or in RGV yet;

(3) research shows perception of ETIC influences teacher's implementation of ETIC and teaching practices; and

(4) implications may help technology policy makers, professional development decisions and technology support in schools or districts.



RQs

(1) What are the current implementations of ETIC practices at the study HSI and clinical schools perceived by PTs? How are the ETIC perceived by our PT students?

(2) What supports, issues and/or difficulties concerning ETIC have our PT students encountered? How do they face and deal with these issues?

(3) What factors influence PT perceptions of effective technology integration in the classroom?

(4) What relationships exist between PT's background/ demographics and perceptions of ETIC?

(5) To help students learn and succeed, what can and should be done for ETIC in the future, in PT's opinion?



Methodology-

(1) Design:

- An exploratory mixed-methods study (Gay, Mills & Airasian, 2012) with surveys and interviews will be used.
- Data will be collected and analyzed using quantitative and qualitative mixed methods (Creswell & Clark, 2017).

(2) Participants/ Sampling

- For the qualitative component (interviews), purposive sampling (criterion and typical sampling methods) are used.
- Approximately 30 students will participate in the one-on-one interviews, depending on information saturation.
- For the quantitative component (surveys), convenience sampling is used.
- A priori power analysis using G*Power3 reveals that to obtain a large effect size ($> .80$) with alpha value = .05, $n = 70$ is needed.
- In this study, approximately 200 students will be surveyed.
- In addition, secondary datasets through UTRGV's institutional research office (student data) will be analyzed, so the study's N will be approximately 3,000.



(3) Instruments and Procedures

- Data sources are surveys and semi-structured one-on-one interviews.
- The self-developed survey probing PT's perception of ETIC is pilot-tested and validated.
- Analysis of existing datasets is conducted.
- Electronic surveys of ETIC implementations and perceptions are developed.
- One-on-one in-depth semi-structured interviews are developed. Interviews last approximately 45 min each.



- The survey includes 60 Likert-style items for participants to rate their technology beliefs, perceptions of learner-centered instruction, current practices, perceived barriers, and evaluation of current PD programs.
- In addition to the items related to technology integration, the survey collects demographic and other informational data such as age, gender, years of teaching experience, level of technology skills, and subject area being taught.
- After the survey has been completed, individuals are selected to participate in the one-on-one in-depth interviews.
- The interviews include semi-structured 15 questions.



Designed survey

The survey with 60 items is designed in the Qualtrics and is ready to distribute

Section 1: Opinions and Attitudes on Technology Integration

The questions in this section ask for your honest opinions about different technologies, their role in education, and the future of different technologies.

Please rate the following questions.

	Excellent	Above Average	Average	Below Average	Very Poor
Your level of technology proficiency for current technology used on your campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your level of technology proficiency when using new technology on your campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 2: Outside Factors Affecting Technology Integration

The questions in this section are designed to determine what factors, both school-wide and in your classroom, are either influencing or hindering your use of technology.

Please rate your level of agreement with the following sentences:

	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
I believe students are most likely to learn about technology programs and apps through social media and friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my college education (courses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Teacher's Perceptions of Technology Integration in the Classroom

This survey is being conducted by Dr. Piern Lu, Dr. Jair Aguilar, and Dr. Nooshin Rousi at The University of Texas Rio Grande Valley. We are inviting you to participate in the research study. If you are NOT an educator, teacher, or student teacher, please leave the study now by not filling it out.

The purpose of the study is to learn more about teacher's perceptions of technology integration in the classroom. This research study has been reviewed and approved by the Institutional Board for the Protection of Human Subjects (IRB) at UTRGV.

This survey should take about 8-10 minutes to complete. Participation in this research is completely voluntary. You must be at least 18 years old to participate. If you are not 18 or older, please do not complete the survey.



Sample of Interview Questions





Sample of Interview Questions

From your observation and experience, could you share some effective ways to integrate technology in the classroom?

What are some advantages and disadvantages you observe in ETIC?

What are some challenges you face in ETIC? What may be solutions?

How could we improve or enhance ETIC? Based on your experience in technology, how much time should be devoted to technology preparation for education?

What type of software you consider should be implemented in education? Why?

How would you define collaboration in education with technology integration?

Do students value the use of technology in the process of teaching & learning? Why?

(4) Data Analysis Methods

- For quantitative data, we use exploratory data analysis (EDA), mean comparisons, correlational analysis, multiple regression analysis, ANOVA, MANOVA, repeated ANOVA, and/or SEM
- For qualitative data, we use grounded theory (Charmaz, 2014) with content analysis, thematic analysis, and comparative analysis (Creswell & Clark, 2017).





Accomplishments

- A systematic literature review on the topic.
- Development and follow up of IRB.
- Development of Survey and Interview Questions.
- Development of Qualtrics survey for data collection.
- Piloting Survey with a $N=20$.
- Piloting data summary.
- Survey Improvement.

Pilot study

Summary of pilot data

Gender	
Female	80%
Male	20%
Race	
Hispanic	100%

Pilot Study

Opinions and Attitudes on Technology Integration

Summary of pilot data

	Excellent	Above Average	Average	Below Average	Very Poor	Total
Your level of technology proficiency for current technology used on your campus	33%	56%	11%	0%	0%	100%
Your level of technology proficiency when using new technology on your campus.	34%	44%	0%	22%	0%	100%

Pilot Study

Opinions and Attitudes on Technology Integration

Summary of pilot data

	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree	Total
My students are more knowledgeable than I am about technology	0%	34%	11%	44%	11%	100%
I am not comfortable using technology	0%	0%	0%	50%	50%	100%
I believe technology use has improved my ability to teach	56%	44%	0%	0%	0%	100%
I am confident about using technology	56%	33%	11%	0%	0%	100%
I believe my students express higher levels of frustration when using technology software/programs	0%	25%	0%	63%	13%	100%
I believe I am good at using technology	33%	56%	11%	0%	0%	100%
I believe rapid changes in technology negatively impact my teaching in the classroom	0%	11%	22%	33%	33%	100%
I see technology use as helpful in achieving state and federal accountability requirements.	67%	22%	11%	0%	0%	100%
I believe it is important to integrate technology into classroom instruction daily.	89%	0%	11%	0%	0%	100%
I believe using a variety of technology software/programs at my school helps student progress.	56%	44%	0%	0%	0%	100%
I believe my students express higher levels of thinking when using technology software/programs.	56%	33%	11%	0%	0%	100%
I feel there is enough support for teachers when it comes to technology integration in the classroom.	22%	22%	11%	11%	33%	100%
I believe rapid changes in technology positively impact my teaching in the classroom.	33%	56%	0%	11%	0%	100%
I see technology use as distracting in achieving state and federal accountability requirements.	0%	0%	0%	56%	44%	100%
I believe using a variety of technology software/programs hinders student progress.	0%	0%	0%	44%	56%	100%

Pilot Study

Outside Factors Affecting Technology Integration

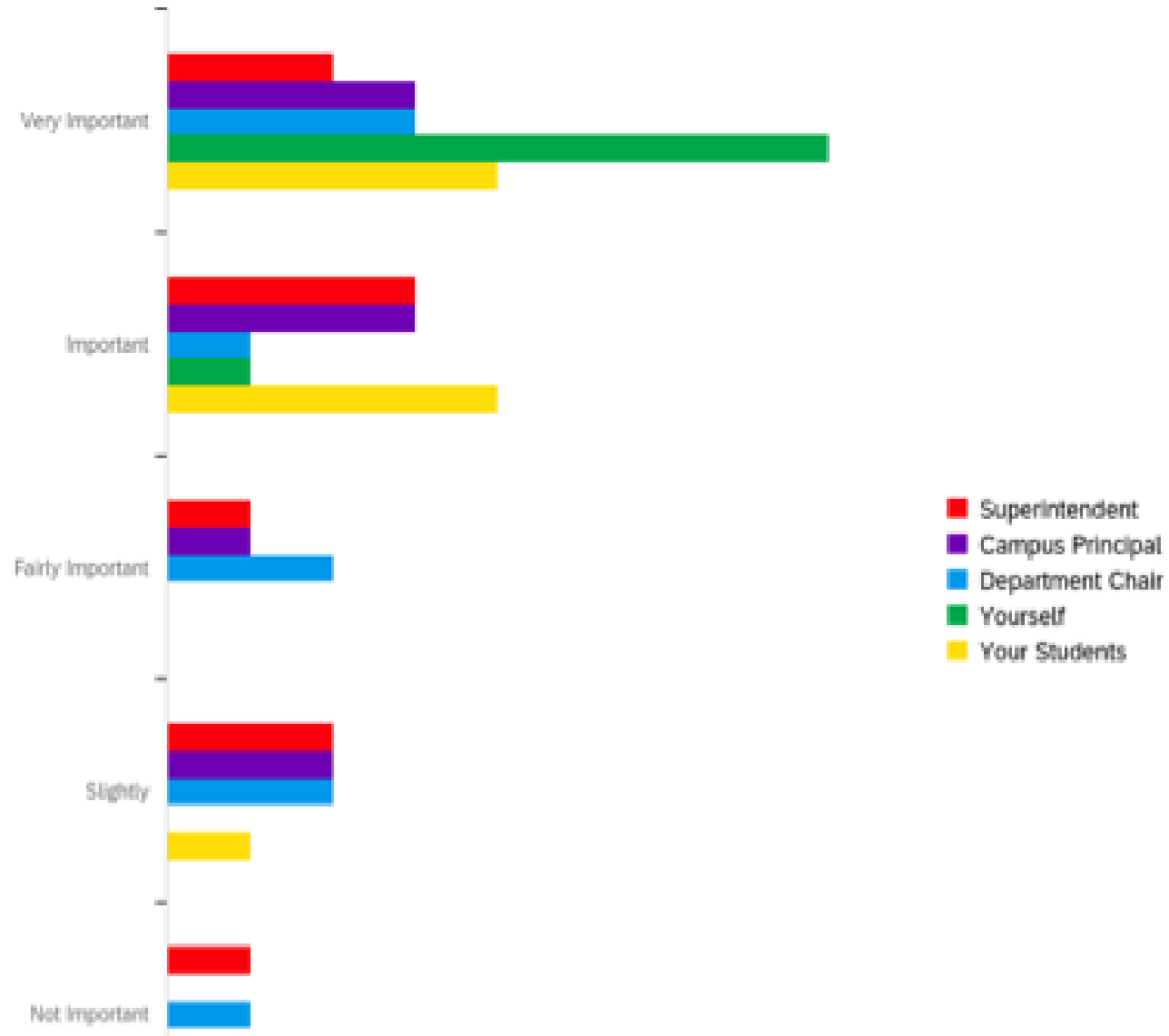
Summary of pilot data

	Strongly Agree	Agree	Undecided	Dissagree	Strongly disagree	Total
I believe students are most likely to learn about technology programs and apps through social media and friends.	33%	56%	0%	0%	11%	100%
I believe my college education (courses) adequately prepared me to use technology for instruction.	11%	22%	11%	11%	44%	100%
I feel my school has effectively prepared me to use technology for instruction.	11%	44%	11%	0%	33%	100%
I feel our current administration values the use of technology for instruction.	11%	56%	11%	0%	22%	100%
District and Campus administration holds teachers accountable for using technology for daily instruction.	22%	44%	0%	22%	11%	100%
I feel our district provides adequate professional development opportunities related to effective integration of technology in the classroom.	11%	56%	0%	11%	22%	100%
In our district, professional development opportunities are available to educators on how to use different types of technology.	33%	56%	0%	0%	11%	100%
My use of technology in the classroom has increased dramatically during the COVID 19 pandemic.	100%	0%	0%	0%	0%	100%

Pilot Study

Emphasis do each of the following people place on technology

Summary of pilot data



Pilot Study

Technology Use in the Classroom

Summary of pilot data

	Almost Always	Often	Sometimes	Seldom	Never	Total
Not enough Computers	25%	25%	13%	0%	38%	100%
Outdated/ Broken Computers	0%	25%	25%	0%	50%	100%
Limited training on how to use specific technology software/programs	13%	13%	13%	50%	13%	100%
Slow Internet Connection	0%	38%	38%	25%	0%	100%
No Internet	0%	0%	38%	25%	38%	100%
No Issues with Technology	13%	25%	38%	25%	0%	100%
I am satisfied with my access to technology on my campus.	75%	0%	25%	0%	0%	100%
I struggle daily to effectively use technology in my classroom.	0%	0%	13%	63%	25%	100%
I feel my campus administration encourages me to use technology in the classroom.	38%	38%	13%	13%	0%	100%
I believe I need more training on effective technology integration in the classroom.	13%	13%	13%	50%	13%	100%
I believe that I effectively use technology in my classroom.	38%	25%	38%	0%	0%	100%
I believe campus administration should provide more support for teachers on effective technology integration in the classroom.	25%	13%	63%	0%	0%	100%
I use technology effectively in my classroom to differentiate instruction.	25%	38%	38%	0%	0%	100%
I have adequate access to technology at home.	63%	25%	13%	0%	0%	100%
I believe that my colleagues need more technology training.	13%	25%	38%	25%	0%	100%
Campus administration encourages me to use technology in my classroom.	38%	25%	25%	13%	0%	100%
I have altered my teaching methods to accommodate different technology software/programs into my classroom instruction.	38%	50%	13%	0%	0%	100%
I welcome all technology training opportunities to improve my teaching.	88%	13%	0%	0%	0%	100%

A wide-angle photograph of a coastal dune landscape. A light-colored wooden boardwalk, constructed from horizontal planks, starts in the lower foreground and curves gently to the left, then right, leading into the distance. The boardwalk is flanked by dense, tall grasses in shades of green and yellow. In the background, rolling sand dunes are visible, some with patches of exposed sand and others covered in low-lying vegetation. A dark line of trees marks the horizon under a heavy, overcast sky with soft, grey clouds. The overall mood is serene and contemplative.

What's Next



Thank you

We appreciate our teachers!