

Scholarship of Teaching and Learning Proposal
Immersive Mobile Technologies for Language Teaching and Learning

Investigators:

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Funding Level: Phase II

Duration: 1.5 year

Scholarship of Teaching and Learning Proposal

Immersive Mobile Technologies for Language Teaching and Learning

Abstract

This project is a part of a larger research that aims at investigating the role of immersive mobile technologies in language education and measuring their effectiveness on language learners. Our recent initiative, *Augmented Reality Digital Technologies for Foreign Language Teaching and Learning*, has laid a theoretical and practical ground for the current proposal. In addition to improvement in design and evaluation methods, the present study aims to further expand the spectrum of mobile technology application. While our previous study was limited to two-dimensional space of mobile devices, the current project will evaluate three-dimensional spatial immersion and its effect on language learners. Recent advances in technology have made it possible to add these spatial dimensions to a learning environment by using 360 cameras and Google virtual cardboard viewers. In collaboration with IU Emerging Technologies and the CITL Video lab support, this project will research, develop, and evaluate the use of virtual videos in a language classroom. In addition, this methodology has the potential of becoming a useful tool for language instructors. Thus, our proposal has a two-fold purpose: i) to explore the learning potential of this technology for language classrooms and ii) to provide a technical evaluation of its usability for language teachers.

Project Description

1. Introduction

“With each new era, educators must examine the cultural and technological changes that define the times in order to reflect or incorporate them into teaching practice.” [4]

This project is a part of an ongoing investigation to explore and evaluate the use of immersive mobile technologies in language education. Our first initiative, supported by SOTL grant,¹ focused on the design and evaluation of the mobile augmented reality application *Aurasma* [1]. Based on students’ feedback and evaluations, we were able to define the scope of augmented reality application (henceforth, AR) for language instruction, illustrated in Table 1:

Language Skills	Effectiveness
Vocabulary	Very effective for visual learning and vocabulary reinforcement
Pronunciation	Effective in a context of learning vocabulary
Listening	Effective only with short dialogues (no more than 1 minute)
Communication	Hard to design for a group activity
Cultural Learning	Hard to create cultural content (e.g., historical, cultural descriptions of spanish-speaking countries)

Table 1: **Scope of AR Application in Language Instruction**

The results in Table 1 yielded both favorable and unfavorable outcomes, as it became clear that the scope of augmented reality app was limited to vocabulary learning and short dialogues for listening and comprehension. Foreign language learning, however, represents a multi-dimensional cognitive learning process, which also involves communicative skills and cultural learning. Videos have been traditionally utilized as a convenient media for teaching these skills. While these media are able to engage learners by activating visual and auditory sensors, learners usually remain passive recipients of information, i.e., learners are not fully immersed.

Recent advances in mobile technology have offered a new opportunity to the field of education, namely virtual reality applications, allowing instructors to “bridge the gap between reality and abstract knowledge” [22]. Virtual reality (VR, henceforth) has shown an impact not only on more integrated understanding of scientific concepts but also on long-term memory retention. Such immersive virtual experiences have great potential for foreign language instruction, where learners’ engagement and memory retention are the key elements for success. By shifting from a passive to an active participant in virtual scenes, the learner is compelled to explore language environments. It has also been claimed that virtual technology can help students learn more effectively and increase their retention compared to traditional two-dimensional surfaces [2]. Moreover, since visual and

¹http://citl.indiana.edu/programs/sotl/funded/2015/augmented_reality_scrivner_madewell.php

audio aids are commonly used to reinforce language learning, combining these aids with an immersive spatial environment will be particularly effective for language learners. Furthermore, VR technology allows for incorporation of cultural and communicative aspects of language learning. In contrast to traditional videos used in language classes, VR offers a 360 view of environment. As a result, learner is not confined to viewing a predefined spatial segment: the viewer is able to explore all dimensions, similar to a Google street view, where the viewer is in control of movement. Moreover, these three-dimensional videos can be used for various task-oriented activities, in contrast to open social virtual worlds (e.g. *Second Life*) [32, 34], which are less beneficial for classroom activities or individual work [33]. Finally, this technology will enable language instructors to share their own cultural experiences in a more vivid and immersive way.

While the digital capabilities of virtual technologies are almost limitless, to our knowledge no study has been conducted to measure VR effectiveness on actual language learners. In addition, the lack of research on design for virtual language environments and their implementation in language curricula presents considerable challenges to the widespread use of these technologies in language instruction. To address these issues, the current proposal investigates the effectiveness of three-dimensional videos for language learning. The grant will provide us with the opportunity to answer the following questions:

- 1.) Does this emerging technology positively affect students' motivation and performance?
- 2.) How do students and instructors respond to VR interaction?
- 3.) How does VR change the language classroom dynamic?
- 4.) What VR design best supports language learning?
- 5.) What are the best practices for VR in language classroom settings?
- 6.) Is there any significant difference found between teaching with traditional technology versus teaching with emerging technology (VR) in language classes?

This project anticipates a three-fold impact: First, it will add to our understanding of the role of emerging technologies in language education, thus improving our teaching and learning experiences. Second, it will provide methodological recommendations for virtual reality design and use in language classroom settings. Finally, it will lay the theoretical framework for a larger interdisciplinary grant proposal.

2. Project Plan and Methodology

2.1 Virtual Reality in Education

VR is defined as “a computer interface that permits the user to interact in real time, in a tridimensional space generated by a computer, using their feelings, through special devices” [21]. It

has been successfully implemented in scientific simulations (e.g., aeronautics, geophysics, and surgery) as well as in education [27, 28, 25]. Such interactive simulations enable participants to enter environments that feel similar to their real world, thus creating a feeling of full immersion into the virtual setting. VR has already shown an impact on various aspects of learning. Not only does VR help “discover, explore and build knowledge” [29], but it can also improve motivation and attention [9] and provide first-person experiences, otherwise not obtainable through formal education [36].

2.2 Literature Support

The current project’s instructional design and principles are based on Constructivist Learning Design and Task-Based Language Teaching. The main tenet of the constructivist approach is to develop environments in which students can learn by doing. In contrast to other disciplines, the “doing” in foreign languages can be defined as meaningful language exploration and language production. This learning process is tied to “active mental work, not passive reception of teaching” [37]. In this view, the learner is central to the learning process, and one of the driving forces behind students’ stimulus is ‘puzzlement’ or a ‘problematic’ situation [12, 30]. It has also been shown that the environments that offer learners choice and minimize performance pressure support meaningful learning and motivation [11]. David Lebow, in his *Five Principles toward a New Mindset*, constructs the following five principles for constructivist design [23]:

Principle 1 Make instruction personally relevant to the learner

Principle 2 Provide a context for learning that supports both autonomy and relatedness

Principle 3 Embed the reasons for learning into the learning activity itself

Principle 4 Support self-regulated learning by promoting skills and attitudes that enable the learner to assume increasing responsibility for the developmental restructuring process

Principle 5 Strengthen the learner’s tendency to engage in intentional learning processes, especially by encouraging the strategic exploration of errors

From these principles, it is clear that the key elements to students’ success are i) engagement, ii) responsibility, iii) autonomy, and iv) relevance. When a learning activity is delivered by a video or a textbook, it is often non-interactive: learners are usually passive recipients of information. On the other hand, when the learning activity is delivered by a mobile device (e.g. mobile flashcards and language game apps), it is usually interactive and consequently more engaging. As a result, learners actively participate in their learning process. However, these activities still remain non-immersive and are usually isolated from learners’ real lives. Recently, several studies have shown that virtual environments are able to incorporate these principles. In contrast to two-dimensional technology, where “the view is controlled at the source and identical for all observers”, this three-dimensional reality provides each viewer with active control [26]. Thus, viewers become *virtual participants*,

controlling their own experiences and perceptions. Recent advances in mobile technologies provide necessary tools for immersing students in such authentic experiences, both enhancing their cultural exposure and encouraging independent exploration. In addition, it has been argued that VR is an ideal instrument in education, as it combines visual, auditory, and kinesthetic learning styles [10]. While such *spatial* feelings have the potential to enhance learners' language experiences, many theoretical and methodological questions remain unanswered, such as how effective this technology is in classroom settings, how it enhances learners' experiences, how to quantify and evaluate its effectiveness, and how it affects teacher-student and student-student interactions, classroom dynamics, and contextual relations.

2.3 Methodological Innovation

In recent years, we have seen a significant increase in the use of mobile devices as tools in education. The 2014 NMC Horizon Report for K12 and Higher Education has identified the use of mobile digital technology as a key trend and has predicted its large impact on teaching and learning. While mobile VR technologies (e.g. Oculus Rift, Google Cardboard) have become more accessible, their use, however, remains limited due to technological challenges related to the creation of 3D environments by means of platforms such as Maya and Unity. To address this issue, this project develops and evaluates a method that will facilitate the process of using VR in language education. The main focus is on the implementation of 3D videos recorded with 360 degree cameras. This instructional method will enable educators to i) use cultural videos filmed during their travels (e.g. travel abroad, sightseeing) and ii) record various language conversations (e.g. ordering food in a restaurant or cooking authentic recipes). These language materials will be rendered through VR technology and will provide learners with *spatial* authentic experiences. These experiences will be achieved by using mobile devices (e.g., IOS, Android) paired with a Google virtual cardboard viewer. Because it enables motion tracking, Google Cardboard provides learners with a feeling of being physically present in a virtual setting.

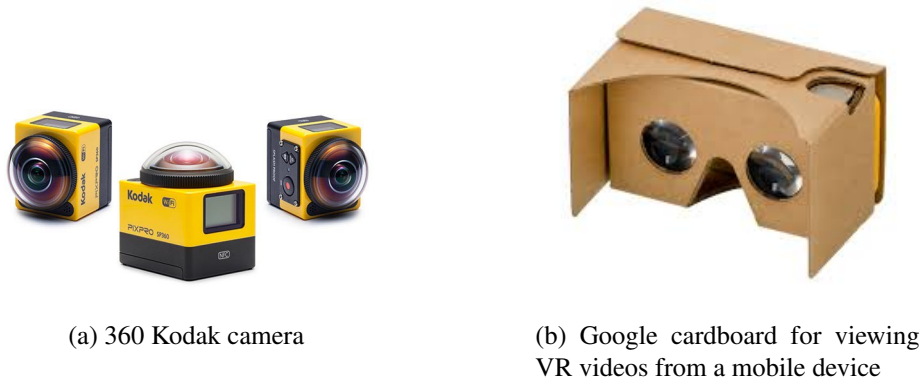


Figure 1: Technical Tools Used for 360 VR Videos

In order to produce high quality 360 VR videos, this project will utilize state-of-the-art hardware and software: 1) a 360 camera (Figure 1a), and 2) Google cardboard (Figure 1b). In collaboration with UITS Emerging Technologies and SOTL Video Lab, videos will be recorded using a 360 camera. Recorded videos will then be uploaded to youtube and converted to 3D format and viewed via Google cardboard lenses. The SOTL grant will allow us to purchase 360 cameras, 50 VR cardboards viewers, which will be used in the language classroom, as well as to hire several native speakers to participate in video recordings. In collaboration with the Spanish & Portuguese department, these videos will be used during the Fall 2017 semester in four beginner's-level Spanish classes.² The VR technology will enable us to test and evaluate communicative activities, which were not effective with the AR technology. In this type of activity, the *viewer* will be guided by another student to explore and describe scenes as well as to provide requested information. In addition, the VR format will allow for incorporation of lengthy sightseeing tours in contrast to a short AR format (one minute). Finally, students will be able to practice writing skills expressing their experiences after being immersed into cultural experiences.

To evaluate the VR effectiveness, we plan to administer anonymous surveys using qualtrics, self-assessment questionnaires as well as quizzes to test for comprehension of materials. We will also collect technical feedback from students describing issues related to the use of technology.

3. Measures of success

There are several strong indicators of the success of this research. Whether the results are favorable or not, this study will provide the evaluation of immersive technologies on language learners. Such findings will help advance our understanding of new technology and its role as a tool in education. Likewise, our assessment and methodology will also assist instructors as well as SOTL centers to make decisions about what types of technology to use in a classroom. Finally, the scope of this research can be extended to other disciplines in which videos play a role in teaching, such as history, journalism, and social studies.

In the short-term, the results will be disseminated in several conferences as well as publications. Our workshop on AR and VR technology has been already accepted to the FALCON 2016 conference ([Virtual and Augmented Reality in Teaching and Learning](#)) and we have published our research in the proceedings of Future Technologies Conference ([Augmented Reality Digital Technologies \(ARDT\) for Foreign Language Teaching and Learning](#)). We have also submitted a proposal to the 2017 Annual Emerging Learning Design Conference. We also plan in the future on submitting another proposal for EDUCAUSE.

To complete the project, the following activities are planned:

1. Spring-Summer 2017

- Purchasing two 360 cameras

²There are five basic undergraduate language levels in the Basic Language Program for Spanish at Indiana University [100, 150, 105 (combination of 100/150), 200, 250].

- Hiring two instructors from the IU Honors Language program to record 360 sightseeing videos during their summer program in Spain and Mexico³
- Hiring two Spanish associate instructors to develop videos with a communicative content (e.g. ordering meal at a restaurant, describing a house etc)
- Uploading and converting videos to 3D format
- Testing videos and creating lesson plans
- Obtaining IRB approval (all investigators have already completed the CITI training)
- Purchasing Google cardboard viewers
- Developing surveys in qualtrics for students' evaluation

2. Fall 2017

- Using AR and VR in four Spanish classes
- Collecting students' feedback and assessing their performance via quizzes and self-assessment

3. Spring-Summer 2018

- Analyzing results
- Disseminating and publishing

4. Budget Narrative

Project Allowance:

1. 4 Graduate students (15/hr): video recording, uploading videos - \$800
2. AR and VR preparation: Cameron Buckley and Olga Scrivner - \$1000
3. Lesson plans, directing video recoding - Julie Madewell \$500
4. VR and 360 video consulting - Nitocris Perez \$500
5. Software - \$1700
 - (a) 360 cameras x 2 (\$750 each) - \$1500
 - (b) Google Cardboard viewers x 40⁴ (\$7.50) - \$300

Conference Allowance: - \$500 (travel expenses to present and publish results)

³Many Associate Instructors from the Spanish & Portuguese Department are part of this summer programs.

⁴10 cardboards have been already purchased to present at the FALCON conference.

References

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OBJECTIVE

Merging Linguistics, Language Technology, Virtual Realities, Teaching Methods, Gaming, Data Analytics to advance our understanding about language learning, development, variation, and change.

EDUCATION

PhD French Linguistics and Computational Linguistics, Indiana University, 2015

Minor in Spanish Linguistics

MA French Linguistics, Indiana University, USA, 2009

MA Romance Philology, State University of Saint-Petersburg, Russia, 1998

CURRENT POSITION

Visiting Lecturer Department of Spanish and Portuguese, Indiana University 2015-present

SELECTED PUBLICATIONS AND PRESENTATIONS

Augmented Reality Digital Technologies (ARDT) for Foreign Language Teaching and Learning. To appear. In Proceedings of Future Technologies Conference (with J. Madewell, C. Buckley, and N. Perez)

Language Variation Suite: A theoretical and methodological contribution for social and linguistic data analysis. 2016. In Proceedings of Linguistic Society of America, Washington, DC (with Manuel Díaz-Campos)

Faculty Colloquium on Excellence in Teaching, Indianapolis, IN, 2015 - **Social Media in Education**

Faculty Colloquium on Excellence in Teaching, Indianapolis, IN, 2014 - **Anatomy of the Classroom: You and Them** and **Class Resuscitation by Animation**

Faculty Colloquium on Excellence in Teaching, Indianapolis, IN, 2012 - **Class Resuscitation By Animation: Bringing Your Classroom Back To Life**

Faculty Colloquium on Excellence in Teaching, Indianapolis, IN, 2011 - **Lights, Camera, Action: The Next Step In Your Future Presentations**

GRANTS AND AWARDS

Faculty Grant Center for Innovative Teaching and Learning, Indiana University, 2016 - \$750

SOTL Grant Augmented Reality Digital Technologies (ARDT) for Foreign Language Teaching and Learning (Principal Investigator), Indiana University, 2016 - \$5,000

Faculty Grant Center for Innovative Teaching and Learning, Indiana University, 2015 - \$750

Leadership Grant Center of Excellence for Women in Technology, Indiana University, 2015-2016 - \$500

Travel Grant Fourth Workshop on Computational Linguistics for Literature, Montclair State University, 2015 - \$1,100

Conference Travel Grant Department of General Linguistics, Indiana University, 2015 - \$300

HASTAC Scholar Award Institute for Digital Arts and Humanities, Indiana University, 2014-2015 - \$300

Recognized with Distinction Associate Instructor Department of Spanish and Portuguese, Indiana University, 2014

Graduate Student Conference Travel Award College of Art and Humanities Institute, Indiana University, 2013 - \$1,000

Grace P. Young Graduate Award Excellent Achievement in French Studies, Department of French and Italian, Indiana University, 2011 - \$500

Teaching Award Outstanding Performance as Associate Instructor in French, Department of French and Italian, Indiana University, 2010 - \$200

President's Volunteer Award Kosair Children's Hospital, Louisville, Ky, 2005 - Bronze Award

LEADERSHIP AND COMMITTEES

Logistic Committee FALCON - Faculty Colloquium on Excellence in Teaching

Conference Committee New Ways of Analyzing Variation NWAV 41 Conference, Indiana University, 2012

SKILLS

Programming : R, Shiny, Python, Java, Unix, HTML, XML, Latex

Technology : Audio and Video Editing, Game developing, Web Publishing, Unity, Maya

LANGUAGES

Native - Russian; **Fluent** - English, French, Spanish, Greek, Catalan; **Basic** - German, Latin

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Linguistic Society of America - Member of Women Mentoring Group

Association for Computational Linguistics

Humanities, Arts, Science, and Technology Alliance and Collaboratory

Center of Excellence for Women in Technology - Leader in Digital Research Group

Association Internationale d'Etudes Occitanes

JULIE ANN MADEWELL

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EDUCATION

MA Hispanic Linguistics **2006 - 2008**
Indiana University, Bloomington, IN

BS Spanish (cum laude) **2001 – 2005**
BS Photography (cum laude) **2001 – 2005**
Middle Tennessee State University, Murfreesboro, TN

AS Basic & Applied Science (cum laude) **1999 – 2001**
Chattanooga State Technical Community College, Chattanooga, TN

EMPLOYMENT

ADMINISTRATIVE ROLES AT INDIANA UNIVERSITY

Course Supervisor of S105: First Year Spanish **Fall 2013 - current**

- Fall 2016: Supervise 23 instructors of 35 sections with approximately 840 undergraduate students
- Spring 2016: Supervised 7 instructors of 13 sections with approximately 310 undergraduate students
- Fall 2015: Supervised 21 instructors of 35 sections with approximately 840 undergraduate students
- Spring 2015: Supervised 9 instructors of 16 sections with approximately 380 undergraduate students
- Fall 2014: Supervised 22 instructors of 34 sections with approximately 820 undergraduate students
- Spring 2014: Supervised 10 instructors of 20 sections with approximately 480 undergraduate students
- Fall 2013: Supervised 24 instructors of 34 sections with approximately 820 undergraduate students

Course Supervisor of S250: Second Year Second Semester Spanish **Spring 2012**

- Spring 2012: Supervised 26 instructors of 38 sections with approximately 990 undergraduate students

TEACHING ROLES AT INDIANA UNIVERSITY

Core Lecturer of Spanish **Fall 2011 - current**

- HISP-S105 First-Year Spanish Honors (Fall 2016)
- HISP-S105 First-Year Spanish (Spring 2013 - current)
- HISP-S317 Spanish Conversation and Diction (Fall 2015)
- HISP-S315 Business Spanish (Fall 2012, Spring 2013)
- HISP-S250 Second-Year Spanish II (Spring 2012-Fall 2012)
- HISP-S200 Second-Year Spanish I (Spring 2011-Fall 2011)
- GLLC-G291 Study Abroad: Before You Go (Spring 2012)
- GLLC-G491 Study Abroad: When You Return (Fall 2011)

Visiting Lecturer of Spanish **Spring 2009 – Spring 2011**

- HISP-S250 Second-Year Spanish II (Spring 2009, Spring 2010 – Spring 2011)
- HISP-S150 Elementary Spanish II (Fall 2009)

Assistant Instructor, Spanish **Fall 2006 - Fall 2008**

- HISP-S105 First-Year Spanish (Fall 2006 – Spring 2007)
- HISP-S200 Second-Year Spanish I (Fall 2007 – Fall 2008)

OTHER TEACHING AND ADMINISTRATIVE POSITIONS

Middlebury Institute of International Studies at Monterey, Summer Intensive Language Program
Monterey, CA **Summer 2016**

Spanish Language Instructor

- Designed course syllabus and all course materials for first year Spanish courses: Elementary 2 and Elementary 3
- Collaborated with supervisor in the preparation and implementation of additional non-class cultural activities

**Indiana University Study Abroad, 7Elements Lodge
Las Canas, Dominican Republic**

Fall 2015 - Summer 2016

Program Consultant

- Collaborated in the successful design and implementation of a new service-learning based program
- Offered support with all student and program needs before, during, and after the duration of the pilot program

**Indiana University Honors Program in Foreign Languages
Viña del Mar, Chile**

Summer 2015

Instructor, Student Coordinator

- Taught 7 week summer Spanish course Introduction to Hispanic Linguistics; developed course material and planned daily lessons; instructed three sections daily; monitored student progress
- Supervised afternoon activities; collaborated with other instructors and Onsite Coordinator regarding all student and program needs

**Austin Peay State University
Galapagos Islands, Ecuador**

Summer 2014

Instructor, Program Co-coordinator

- Taught 4 week summer Spanish courses: Beginner and Intermediate Language courses (4 total courses) to fifteen students
- Developed syllabus, course materials and daily lessons; instructed two sections daily
- Organized and implemented a service learning component with the Scalesia Foundation through Conservation International

**Indiana University Honors Program in Foreign Languages
Mérida, México**

Summer 2012

Instructor, Student Coordinator

- Taught 7 week summer Spanish course: Introduction to Hispanic Linguistics; developed course material and planned daily lessons; instructed three sections daily; monitored student progress

**Indiana University Honors Program in Foreign Languages
Mérida, México**

Summer 2011

Instructor, Financial Coordinator & Public Relations Co-coordinator

- Taught two 7 week summer Spanish courses: Introduction to Hispanic Linguistics & Advanced Grammar; developed course material and planned daily lessons; instructed four sections daily; monitored student progress; managed program finances

**Committee on Institutional Cooperation Summer Study Abroad Program
Guanajuato, México**

Summer 2010

Program Assistant

- Organized logistics of program and served as mentor and liaison for students; supervised students on excursions; organized and oversaw extracurricular activities and class trips; arranged service learning at a local eye clinic

**Indiana University Honors Program in Foreign Languages
Oviedo, Spain**

Summer 2009 & 2008

Instructor, Logistics Coordinator

- Taught 7 week summer Spanish course: Spanish Culture; developed course material and planned daily lessons; instructed three sections daily; monitored student progress
- Planned, directed and implemented all program logistics

**Ramiro de Maeztu, Escuela Primaria, Comunidad de Madrid,
Madrid, Spain**

Fall 2005 - Summer 2006

Auxiliar de Lengua y Cultura

- Co-instructed English courses daily for 1st and 2nd grade students and co-led school excursions, activities, and performances
- Assisted with selection of teaching materials, class preparation, and student evaluation
- Led weekly adult Conversational English groups for 12 instructors at the school

ADDITIONAL CURRICULUM DEVELOPMENT

Pearson Higher Education, World Languages Division

Spring 2016

Created activities based on cultural videos for the Club Cultura Project for the textbook *Anda Elemental, 3e*

Indiana University, Dpt. of Spanish & Portuguese, Bloomington, IN

Spring 2011

Designed quiz material currently used in the department online instructional project site ANCLA for S250

RECOGNITIONS, HONORS, AND AWARDS

Service-Learning Faculty Fellow <i>IU Center for Innovative Teaching and Learning</i> Fellow to learn issues related to service-learning and community-based research and to develop service-learning pedagogy	Fall 2016 - Spring 2017
Course Development Institute <i>IU Center for Innovative Teaching and Learning</i> Selected as one of few IU instructors to be involved in this intensive week-long course development workshop Developed the new HISP-S105 Honors Course now offered	Summer 2016
Scholarship of Teaching and Learning Grant Winner <i>IU Center for Innovative Teaching and Learning</i> Awarded a Scholarship of Teaching and Learning Grant from the Office of the Vice Provost for Undergraduate Education Project title: "Augmented Reality Digital Technologies (ARDT) for Foreign Language Teaching and Learning"	Spring 2016
IU Department of Spanish and Portuguese Recipient of the Department's annual NTT Teaching Award Recognized as Outstanding NTT Faculty Instructor with High Distinction	Spring 2016 Spring 2014 – Spring 2016
IU Department of Spanish and Portuguese Full Scholarship and Teaching Assistantship National Scholars Honor Society	Fall 2006-Fall 2008

SERVICE AND OUTREACH EXPERIENCE

IU Language Tutor <i>Spanish language tutor</i>	Fall 2014 - current
IU Spanish & Portuguese Song Festival <i>Judge</i>	Spring 2016
IU Honors Program in Foreign Languages <i>Translator/Editor</i> <ul style="list-style-type: none"> Co-translated and co-edited official documents from English to Spanish for host families 	Spring 2015
IU Honors Program in Foreign Languages <i>Prospective Student Evaluator and Interviewer</i> <ul style="list-style-type: none"> Assisted the Director of the IUHPFL with the student selection process for summer study abroad programs Read and evaluated student application materials (resumes, letters of recommendation, personal statements, etc.) Conducted student interviews on-site and off-site (Spring 2009, Spring 2010, Spring 2011). 	Spring 2009 - Spring 2015
AATSP, Indiana State Spanish Academic Competition <i>Volunteer Judge</i> <ul style="list-style-type: none"> Served as judge for students' performance at the <i>Concurso Académico</i> 	May 2015
IU Office of International Development, Youth Leadership Program with Burma <ul style="list-style-type: none"> Volunteer host for two foreign exchange first-year college students from Burma (Myanmar) for two weeks 	April 2015
Habitat for Humanity of Monroe County, Bloomington, IN <i>Volunteer</i> <ul style="list-style-type: none"> Served as Spanish/English interpreter and provide document translation services as needed 	2011-2014
Kelley Summer Institute, IU CIBER, Bloomington, IN <i>Mentor</i> <ul style="list-style-type: none"> Served as a mentor, tutor, and interpreter for a Spanish speaking foreign exchange student studying global business in the Kelley summer institute (CIBER Program). 	Summer 2013

Agua Viva Children's Home
Chimaltenango, Guatemala

January 2010 & March 2009

Volunteer

- *January 2010:* Acted as interpreter (Spanish/English) for group members in a variety of settings
Organized group activities for volunteers and children; Led and participated in activities with children that live at the home
- *March 2009:* Assisted in Spanish language presentations of a variety of IU Educational Counseling & Psychology modules to Home "parents" and school instructors at Agua Viva in Chimaltenango and to instructors at a school in Chichicastenango

INDIANA UNIVERSITY COMMITTEES AND AFFILIATIONS

IU Honors Program Advisory Committee

2012 - current

Committee Member Representative for the Department of Spanish & Portuguese

IU Center for Excellence for Women in Technology

Spring 2016 - current

Faculty Affiliate

CEWiT Advancement Circles: Tech for Teaching

IU Foreign/Second Language Share Fair Committee

Fall 2016

Organizational Committee Member; Implementation Team

IU Spanish & Portuguese Song Festival

Spring 2016

Organizational Committee Member

IU Department of Spanish and Portuguese

- Spanish Education Certificate Committee Member **Fall 2016 - Spring 2017**
- Community Outreach Organizational Committee Member **Fall 2016 - Spring 2017**
- NTT Annual Review Committee Member **Spring 2016**
- NTT Merit Salary Review Committee Member **Spring 2016**
- AI Probation Policy Committee Member **Fall 2015**
- Undergraduate Scholarship Committee Member **Spring 2015 & 2013**
- NTT Co-Representative for the Departmental Faculty Meetings **Spring 2014**
- NTT Representative for the Departmental Faculty Meetings **Fall 2013**

WORKSHOPS PRESENTED

IU Center for Language Excellence

Fall 2016

New and Continuing AI/FLTA Orientation

The skill of reading: Reading for different purposes. The integrated-skill teaching.

IU Foreign/Second Language Share Fair

Spring 2016

Help me find my way and plan my day!

(Theme: "Teaching for the Real World: Street Smarts, Authentic Activities, & Simulations")

IU Center for the Enhancement of Learning and Teaching

Fall 2015

World Language Festival

- ¿Eh vo' ahí? ¿Querí o querés un matecito? - Learning about Argentinian and Chilean culture over tea
- Discovering the mythology of Northern Spain: duendes, gigantes y hadas

IU Department of Spanish and Portuguese

Fall 2013-current

AI Orientation Week Workshops for new instructors (Fall and Spring)

- Effective teaching methods of vocabulary
- Course Orientation for new/returning instructors of S105

IU Department of Spanish and Portuguese

Fall 2013-current

AI Administrative/Grading Workshops

- S105 Exams
- In-Class Writings

IU Department of Spanish and Portuguese

Spring & Fall 2012

AI Pedagogy Workshop

Implementation of Oral Skills in the Classroom



cameron BUCKLEY

www.cameronbuckley.org

www.paper-thin.org

(918)269-9188

cabuckle@indiana.edu

education

2014 - 2017	Indiana University	Master of Fine Arts Digital Art
2010 - 2014	University of Tulsa	Bachelor of Arts Film Studies + African American Studies

exhibitions + screenings

2016	Why?	I-Fell Gallery Bloomington IN	<i>Unsolved</i>
	MFA Non-Graduating Show	Grunwald Gallery Bloomington IN	<i>F*R*I*T*E*N*D*S</i>
2015	Digital Art Exhibition	Cyberinfrastructure Building Bloomington IN	<i>Payday</i>
	Virtual Environments Student Exhibition	Advanced Visualization Lab Bloomington IN	<i>Okla</i>
	MFA Non-Graduating Show	Grunwald Gallery Bloomington IN	<i>The Cave</i>
2014	CAVE Virtual Environments	Advanced Visualization Lab Bloomington IN	<i>The Cave</i>
	Senior Exhibition	Alexandre Hogue Gallery Tulsa OK	<i>Beneath Starved Amygdala Public Domain</i>
	Senior Film Festival	Lorton Performing Arts Center Tulsa OK	<i>Tall Tales</i>
	46 th Annual Gussman Juried Student Exhibition Juried by Seth Lower	Alexandre Hogue Gallery Tulsa OK	<i>Beneath The House I Built Starved Amygdala</i>
	University of Tulsa 6 th Annual Spring Film Festival	Lorton Performing Arts Center Tulsa OK	<i>Tall Tales</i>
2013	45 th Annual Gussman Juried Student Exhibition Juried by Vince Pitelka	Alexandre Hogue Gallery Tulsa OK	<i>Public Domain Forget that time is all that exists</i>
	University of Tulsa 5 th Annual Spring Film Festival	Lorton Performing Arts Center Tulsa OK	<i>Unlawful</i>
2012	Oklahoma Dance Film Festival	Circle Cinema Tulsa OK	<i>Lovers' Dance</i>

	University of Tulsa 4 th Annual Spring Film Festival	Lorton Performing Arts Center Tulsa OK	<i>Poison of Friendship</i>
2011	Aha!	Tulsa Performing Arts Center	<i>Writer of Play</i>

**curating +
installation**

2016	Andy Lomas <i>Cellular Forms 18 0011 0003</i>	Paper-Thin	<i>Installed and curated show</i>
	Hugo Arcier <i>Degeneration</i>	Paper-Thin	<i>Installed and curated show</i>
2015	Rachael Archibald <i>Carnate(in-pinking)</i>	Paper-Thin	<i>Installed and curated show</i>
	Daniel G. Baird and Haseeb Ahmed <i>HWBM x 8</i>	Paper-Thin	<i>Installed and curated show</i>
	Hunter Jonakin <i>Collector's Digital Art Piece: Platinum Artist's Proof</i>	Paper-Thin	<i>Installed and curated show</i>
	Alan Resnick <i>Ring Worm</i>	Paper-Thin	<i>Installed and curated show</i>

**teaching
+
experience**

2014 – Current	MADlab Coordinator	Makerspace Art and Design Lab at Indiana University
2014 – Current	Associate instructor	Digital Art Survey and Practice at Indiana University
2014 – Current	Associate Instructor	3D Computer Graphics at Indiana University
2011 – Current	Head Instructor	Residential Filmmaking and Screenwriting Camps at University of Tulsa

**grants +
awards**

2016	Phase II Scholarship of Teaching and Learning Grant	<i>Augmented Reality Digital Technologies for Foreign Language Teaching and Learning</i>
2015	Friends of Art Best in Show Award	<i>The Cave</i>
2014	46 th Gussman Best In Show Award	<i>Beneath</i>
2013	45 th Gussman 1 st Place Undergraduate Award	<i>Forget that Time is All That Exists</i>

2010 University of Tulsa Student Research Colloquium 2nd Place Prize *Linear vs. Non-linear: How Structure Affects Perception in New Media*

**publications
+
conferences**

2016 Future Technologies Conference *Augmented Reality Digital Technologies and Foreign Language Teaching and Learning*

2014 Internet 2 Technology Exchange *Metaverse Working Group – Oculus Rift*

Thesis Presentation for African American Studies *Self-Aware Mondo Film: Addio Zio Tom as Metacinema*

2013 Research Presentation for African American Studies *Marriage in African Theater: Rotimi and Aidoo*

2012 Oklahoma Film and Video Studies Society Conference *The Obscuring of Desire in Buñuel's Cet obscure objet du désir*

2011 University of Tulsa Student Research Colloquium *Family Horror: Silent Hill, Texas Chainsaw Massacre, and The Devil's Backbone*

2010 University of Tulsa Student Research Colloquium *Linear vs. Non-linear: How Structure Affects Perception in New Media*

**press +
interviews**

2016 Interview with Hugo Arcier <http://www.paper-thin.org/hugo-arcier---interview.html> I conducted and translated this interview

Interview with Andy Lomas <http://www.paper-thin.org/andy-lomas---interview.html> I conducted this interview

Review: A Permanent Installation in a VR Museum <http://rhizome.org/editorial/2016/jan/20/review-rachael-archibald-carnate-in-pinking/> Rhizome

Visit the VR platform Paper-Thin (printed in Chinese) <http://www.vice.cn/read/visit-the-VR-platform-Paper-Thin> Vice China

Five Fierce February Exhibitions you Really shouldn't miss concreteplayground.com/melbourne/best_of/five-fierce-february-exhibitions-you-really-shouldnt-miss/ Concrete Playground

2015 Visit This Virtual Gallery for an Anti-Gravity Art Experience <http://thecreatorsproject.vice.com/blog/visit-this-virtual-art-gallery-for-an-anti-gravity-art-experience> Creator's Project (Vice)

A Digital Museum that can be Viewed IRL <http://hyperallergic.com/262249/a-digital-museum-that-can-be-viewed-irl/> Hyperallergic

Paper-Thin. The Virtual Art Platform <https://anti-utopias.com/newswire/paper-thin-virtual-art-platform/> Anti-utopias

**skills +
interests**

Digital Fabrication	Rhinoceros, Fusion 360, MakerWare, FormLab, Meshmixer, CNC, 123D Make, Memento, Recap, Laser Cutting
Virtual Reality and Game Development	Oculus Rift, MiddleVR, CAVE, Leap Motion, Unity, Unreal, Maya, Mudbox, 3D Studio Max, Motion Builder
Interactive Multimedia	Arduino, Wiring, Flash, Processing, HTML, CSS, WebGL, Java, Javascript, C#, C++, C
Film and Video Art	After Effects, Premiere, Photoshop, Cinema4D, Red Giant Suite, Final Cut Pro, Audition, Nuke
French	Great French translation skills

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PROFESSIONAL APPOINTMENTS

Indiana University, Bloomington, IN --Emerging Technology Analyst 2014 to Present
Indiana University, Bloomington, IN --Emerging Technology Specialist 2012 to 2014

PUBLICATIONS AND PRESENTATIONS

Virtual and Augmented Reality in Teaching and Learning (with Olga Scrivner) - FALCON conference, 2016

Augmented Reality Digital Technologies (ARDT) for Foreign Language Teaching and Learning (with Olga Scrivner, Julie Madewell, Cameron Buckley). 2016. In Proceedings of Future Technologies Conference 2016.

UITS Statewide IT Conference 2015

CEWIT Techie Women Have More... Conference 2015

Citrix Synergy 2014

UITS Statewide IT Conference 2014

CEWIT Techie Women Have More... Conference 2014

UITS Statewide IT Conference 2013

CEWIT Techie Women Have More... Conference 2013

IU WESiT Executive Board Staff Co-Chair and Technical Advisor 2014 - 2015

PROJECTS (MOST RELEVANT)

TECHNOLOGY SHOWCASE

2012 - 2015

I designed an immersive environment for students, faculty and staff to interact with emerging technologies including Google Glass, Oculus Rift and telepresence robots. It required continuously researching and monitoring trends, to identify emerging technologies that have potential applications across campus.

<https://itnews.iu.edu/articles/2014/meet-nitocris-perez.php>

TECHNOLOGY ROADSHOW

2013 - CURRENT

I designed a traveling mobile Tech Showcase for students, faculty and staff to interact with emerging technologies including Google Glass, Oculus Rift and telepresence robots at our regional campuses. It required continuously researching and monitoring trends, to identify emerging technologies that have potential applications across campus, training staff in hardware configuration, troubleshooting and making the devices easy to transport. <https://itnews.iu.edu/events/game-on-iupui.php>

CITRIX WORKSPACE HUB AND OCTOBLU AUTOMATION EVALUATION

CURRENT

I am working in collaboration with Citrix to evaluate Workspace Hub viability in the academic IT space as a tool for simplifying access to teaching and videoconferencing tools.

The Workspace Hub is a machine which transforms any PC display or conference room TV / projector into an intelligent Workspace for individuals or teams. The hub allows users to connect to a display and share content from a mobile device via proximity using Bluetooth beacons or by scanning a QR code.

<https://www.citrix.com/blogs/2015/05/28/citrix-workspace-hub-and-octoblu-workspace-automation-explained/>

PROJECTS (OTHERS)

WEARABLE TECHNOLOGY COLLABORATION WITH AMID

2015

I created a project to incorporate open hardware and wearable technology development into the IU Apparel Merchandising Fashion Design program curriculum, primarily using lights, sensors and inspiration from Adafruit. The project involved designing and implementing curriculum to teach a group of Fashion Design students about Microcontroller programming, sensors and electronics fundamentals.

<https://blog.adafruit.com/2015/11/11/project-shark-tank-runway-at-indiana-university-wearablewednesday/>

IUANYWARE

2012 - 2014

This project with the IUanyWare team involved collaborating to create documentation, marketing tools, software and hardware demonstrations and collecting feedback to improve service usability and facilitate adoption by IT professionals in university departments.

IUanyWare is a client virtualization (CV) service available to Indiana University students, faculty, and staff. With **IUanyWare**, you can use a web browser or mobile app to run certain IU-licensed software applications without having to install them on your computer or mobile device. <https://iuanyware.iu.edu/vpn/index.html>

THIN CLIENT COMPUTING

2013

This project involved configuring, evaluating, testing and deploying thin client hardware and operating systems and server management tools from the top 5 enterprise thin client vendors including Dell, HP and NComputing.

A thin client looks like a regular desktop computer, with a monitor, keyboard, and mouse, but has no computer operating system of its own. The thin client consists of a small unit, which communicates directly with IUanyWare over the Internet. <https://kb.iu.edu/d/bdpc>

MICROSOFT CONTINUUM AND DISPLAY DOCK EVALUATION

CURRENT

Microsoft Continuum and Display Dock allows users to connect a Lumia 950 or 950 XL to an external monitor, keyboard, and mouse. Office apps and Outlook scale up to create a big screen-optimized work environment creating a PC-like experience that's powered by a phone. I am currently testing this as a potential option for future staff and student workspaces <http://windows.microsoft.com/en-us/windows-10/getstarted-continuum-mobile>

PAPERLESS CLASS PILOT

2014 - CURRENT

I am responsible for project management of a classroom based Surface 3 tablet pilot. In an effort to create a "paperless" classroom, participating faculty will deliver curriculum and course materials as to be accessed by the students via tablet.

75 Indiana University students enrolled in MATH-V 118 are participating in a paperless classroom pilot during the fall 2015 semester. The Herman B Wells Library is loaning out Microsoft Surface 3 tablets, styluses, and keyboard covers to participating students until the end of the semester. <https://kb.iu.edu/d/bfws>

SYNERGISTIC ACTIVITIES

TECH BYTES VIDEO SERIES

2013 - 2015

I wrote and co produced a video series featuring reviews of emerging technologies and their potential in the academic space along with featuring innovative ways that IU faculty use technology. <https://youtu.be/dwNMETSxAaA>

GOOGLE GLASS

2013 - 2014

I brought the first pairs of Google Glass to Indiana University through my participation in the initial call for Glass Explorers. I did numerous conference presentations and classroom guest lectures with hands on demonstrations of the device for the academic community https://youtu.be/5PP_dkLDMoY