# Annual Report

July 2021-June 2022

**IDEA HUB**

# About the IDEA Hub

The IDEA Hub (originally known as the Radlab) officially merged with Creighton University Libraries on July 1, 2021. This was the result of a proposal written and presented by Liz Kiscaden and supported by members of the IDEA Hub team. The lab team members had both the interest in and skills needed for moving the primary focus to academic projects. With the expertise available in the Libraries and the added capabilities of the lab, this increased offerings to students, faculty, and staff and was a natural fit. With the changes in focus, move to the Libraries, and guidance of the  Advisory Committee, the Radlab name was changed to IDEA Hub in February 2022.

This report outlines the first year of this three-year pilot program.

Innovate | Discover | Explore | Advance

# Meet Our Team

**Kathy Craig**
Director of Innovation,
Research & Development

**Chad Brocker**
CGI Artist

**Lisa Chinn**
Digital Scholarship
Librarian

**Shari Bennett**
Technology Research
Analyst

**Rich Jenkins**
IDEA Hub
Coordinator

# Year 1

## July 2021-June2022

# Introduction

During this first year, the IDEA Hub went through numerous changes. An environmental scan was completed, new team members were hired, the Advisory Committee was assembled, academic projects expanded, services defined, workshops increased, and all-around improvements made.

On the following pages information will be provided on the changes that have occurred, the internship experience, workshops, faculty activities and projects, outreach efforts, and services defined.

# What's Changed?

A primary reason for the IDEA Hub to move to the Libraries was due to the need for and desire to expand projects in academics. As such, the Libraries had the potential to promote and assist with this endeavor.

The following are the primary changes that have occurred during the first year of the three-year pilot:

- Change in prioritizations with focus on academics;
- Increase in faculty consultations;
- Additional students served through course activities;
- Improved intern assessments;
- Hiring of staff to expand expertise and offerings;
- More workshops for faculty and staff;
- Areas of service redefined;
- Alignment with environmental scan results.

## Fiscal 2021-2022 Events by Category

- Faculty Consultations
- Academic Experiences
- K-12
- Resources Developed
- Workshops

8%
8%
33%
21%
30%
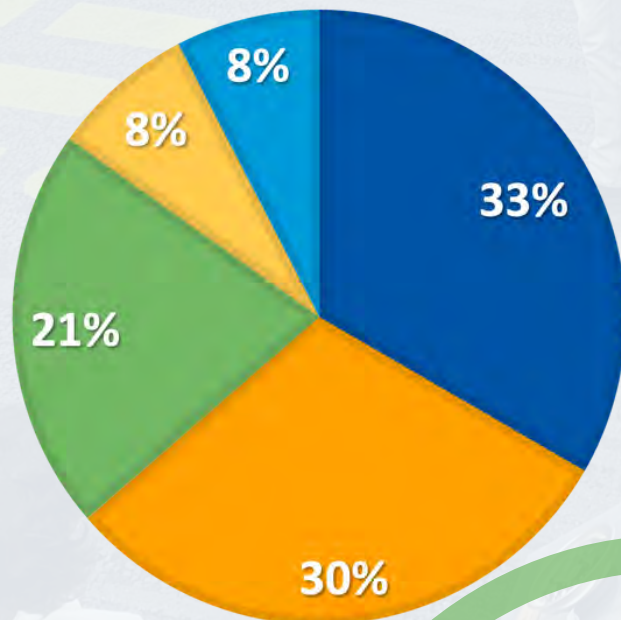
# Environmental Scan

## Overview

In the Fall of 2021 an environmental scan of the IDEA Hub was conducted by an outside consultant, Emily Goff, Ph.D. The data for the report came from internal resources that were provided by the IDEA Hub and the University, interviews of individuals from across campus, and research on similar organizations at other universities.

## Results

Based on the data gathered and the research conducted the final results of the environmental scan outlined the priority of services that align with those of the University. These include the following, in order of alignment.

### Internship Experiences

The results highlighted that the experiences that students gain as an intern align well with the missions of the IDEA Hub and Libraries, as well as with University priorities.

### Supporting the Curriculum

A result of the interviews with University administrators and faculty was that what the IDEA Hub develops in "activities, resources, and experiences" should be embedded in coursework.

## Faculty Research Projects

Working with faculty on research projects not only benefits the research by providing additional resources, but also allows student interns to be involved in real world problem solving, which may be correlated with increased skills and retention.

## K-12 Outreach

Providing engaging opportunities for K-12 visitors and courses for Upward Bound students aligns well with the Jesuit mission of Creighton. It also exposes these students to emerging technologies and possibilities at the university level promoting recruitment.

## Developing New Content for External Audiences

This was done partially through the Skills Academy and involved the creation of courses that were offered to external audiences. It served to bring in extra funding, but through interviews with administrators was thought to be out of scope for their vision.

# SWOT Analysis

As a part of the Environmental Scan a SWOT (Strengths, Weaknesses, Opportunities, and Threats Analysis) was completed. The following display the results and steps the IDEA Hub is taking to address each.

## Strengths

- Internships
- Cutting edge of tech, ideas, and service
- Centrally and neutrally located
- Relationships

The IDEA Hub is growing its internship program to include students at all levels and a new position for a Canon intern who will be tasked with writing stories about the IDEA Hub, interns, and projects. New assessments help in determining the best direction forward for the program.

Research continues for staff and interns on cutting edge technologies. This includes the work of a part-time staff member, our Technology Research Analyst, whose primary responsibility is to research new and suggested topics and share the results with the rest of the team.

The central location and association with the Libraries are beneficial in improving collaboration with faculty.

Building relationships with faculty, staff, and students has made the IDEA Hub more successful for collaborating on and developing new projects. This is enhanced with the referrals from other members of the Libraries.

## Weaknesses

- Inconsistent presentation
- Visibility
- Staffing
- Breadth
- Maintenance and intern handoffs

A primary complaint from both on and off campus visitors and highlighted as a weakness in the environmental scan was the inconsistent and outdated web presence for the IDEA Hub. The IDEA Hub worked with University Communications to improve the message. This was made possible by becoming a part of the Libraries.

Visibility for the IDEA Hub has been greatly improved by joining the Libraries. Library staff members have worked with the IDEA Hub for inclusion in the Library newsletter and marketing through digital signage and other means.

Staffing has been challenging for the IDEA Hub. A Digital Scholarship Librarian was hired as a part of the Libraries with shared projects with the IDEA Hub. This expanded the offerings available for both. The search for another position which was originally slated for a data services professional was unsuccessful. The position was changed to one for an IDEA Hub Coordinator that would assume the responsibility for research, building, and maintenance of a new library makerspace. The person for this position has been hired and is collaborating with members of the Access Services team to build a successful makerspace.

The breadth of services provided by the IDEA Hub has been one of the challenges. Two things have helped in this area. One is to better

define the services offered by the IDEA Hub. This was done with the assistance of the IDEA Hub Advisory Committee. The second was to hire the IDEA Hub Coordinator to cover those services that had previously stretched the existing staff members.

Another challenge has been the maintenance of projects when interns working on them graduate or leave for other reasons. Interns are expected to better document projects. This has included the writing of white papers that outline all the materials and methods needed for the project as well as the results and challenges associated with it. This effort will be expanded for future projects.

## Opportunities
- Alignment with Libraries strategic priorities
- Open movement
- Integration of new positions and Libraries strengths
- Funding through NIH
- Philanthropy

Staff goals are now made to align with the Libraries' priorities. This helps to ensure that the IDEA Hub fits well with the merger.

The open movement plays a role in a number of projects associated with the IDEA Hub. This includes the Technology Eruditio procureto Community of Practice Program initiated by the Digital Scholarship Librarian. This project is based on the open source Odin Project along with other open resources. The IDEA Hub strives to find open resources for faculty, staff, and students. Blender is a 3D development program that is also open source. Interns as well as staff members are learning to use this for creating 3D models for virtual worlds.

The IDEA Hub now notifies library liaisons of projects within their purview. This expands the knowledge available on topics for IDEA Hub projects. The new IDEA Hub Coordinator collaborates with other library team members to improve the vision and development of the new makerspace.

A proposal was submitted for a National Endowment for the Humanities (NEH) grant to support a project associated with the IDEA Hub, the Library Archives, and Creighton faculty. In addition, the IDEA Hub submitted a proposal for the #PlantWildflowers Initiative citizen science project and received the grant. The IDEA Hub, in collaboration with the Libraries, will continue to research potential sources of project support.

Currently, the primary donor for the IDEA Hub is Canon who has provided equipment and financial gifts to support projects and interns. The IDEA Hub will continue to provide information at events that may enhance opportunities for additional donations.

## Threats

- Funding
- Organizational integration
- Alignment vs. experimentation
- Changing innovation environment

Funding is always a challenge. The IDEA Hub continues to get support from donors but has also looked at other possibilities and is currently exploring some potential upcoming opportunities at Creighton. We will be included in discussions associated with possible offerings that may bring in additional revenue.

Integrating two organizations that have different perspectives can be and is challenging. However, the development of relationships between members of the two now integrated teams is occurring and improving over time. This will continue as the IDEA Hub and Libraries share projects such as a new makerspace and inclusion of library liaisons with IDEA Hub projects.

When new technologies are explored, the testing and application of such developments is experimental. However, if these experimental efforts are done with the IDEA Hub priorities in mind, then alignment can occur.

The innovation environment is ever changing. Part of the expectations for the IDEA Hub is to continue to explore new technologies. This occurs with a greater focus on how those technologies align with the IDEA Hub priorities.
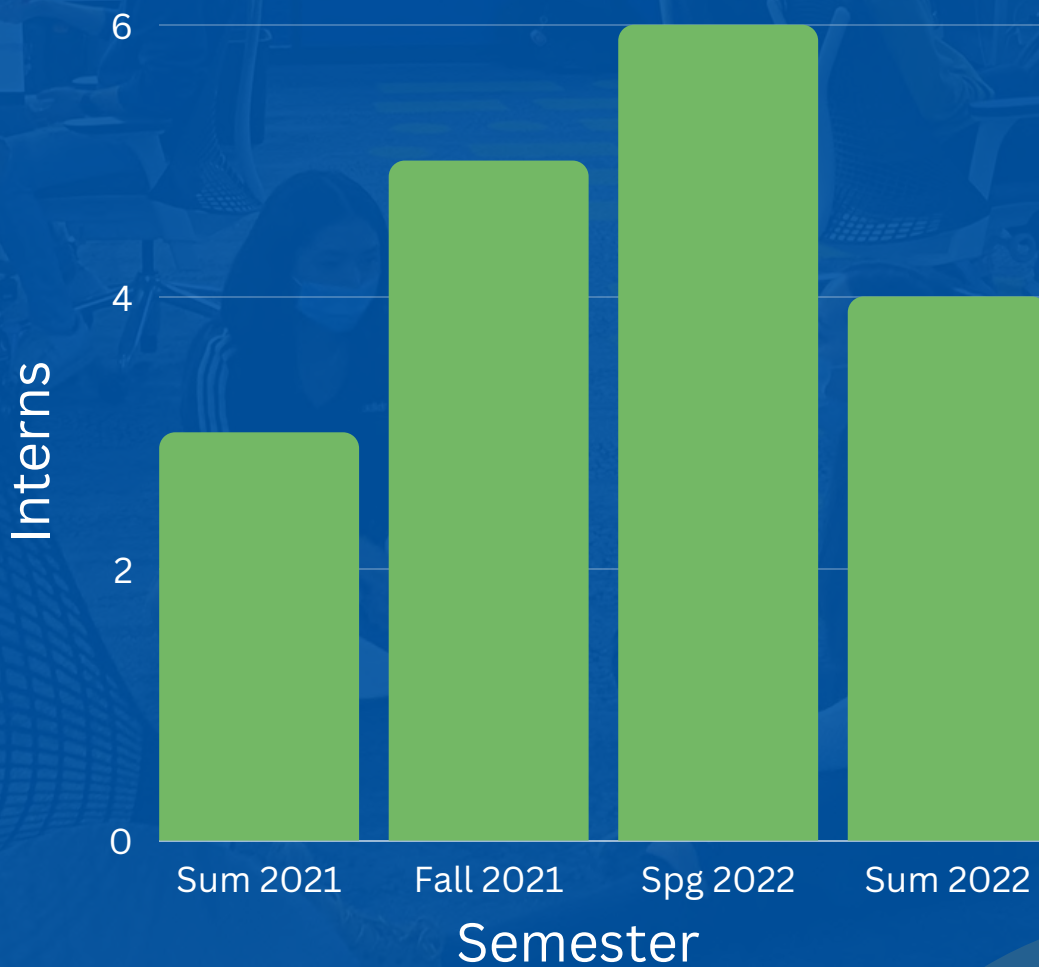
# Internship Experience

## About

The internship program is a very important part of the IDEA Hub and first priority as recommended by the Environmental Scan. Interns are Creighton students who work with staff, faculty, other interns, and outside collaborators on a variety of projects in paid positions. They share in the research required for projects, propose new solutions, explore new technologies, assist in IDEA Hub events, and learn new hard and soft skills that can benefit them upon graduation.

# Interns July 2021-June 2022

The major areas of study for the 2021-2022 interns included Computer Science, Graphic Design, English, Political Science, Business Information and Analytics, Pharmacy, Pre-engineering, Physics, and Exercise Science.

Between July 2021 and June 2022, the IDEA Hub employed 11 different interns. The number varies by semester depending on student availability or graduation. The number of interns will be increasing with the development of a makerspace and a new position designated as a Canon internship.

## Number of Interns/Semester

Bar chart showing number of interns per semester:
- Sum 2021: 3
- Fall 2021: 5
- Spg 2022: 6
- Sum 2022: 4

Y-axis: Interns (0 to 6)
X-axis: Semester

# Assessments

To better evaluate the intern experience, two assessment tools were developed. One was a self-assessment of 68+ skills that include the areas of creative production, Web 4.0, Office applications, development, 3D print and design, lab machines, VR/AR hardware, 360° photography, computer science, lab assistance, multimedia production, machine operations, and Canon camera photography. Skills are self-assessed at the beginning and end of each semester. This was first used during the Spring 2022 semester, and it indicated that the average skill levels for the participating interns increased by 147% since joining the IDEA Hub.

The second is a worksheet with one section that is filled out at the beginning of a semester and a second section that is filled out at the end of the semester. It includes the following:

Section 1. *To be completed at beginning of internship period.*

- List a professional goal you would like to achieve.
- Describe how working in the IDEA Hub might assist or help you achieve your professional goal.
- List three objectives you would like to work on during this internship period. Under each objective, please include a method to measure your progress.

Section 2. *To be completed at end of internship period.*

- Please list three accomplishments you are proud of from working in the IDEA Hub.
- Please describe how you benefited from working in the IDEA Hub this period. (This can relate to your professional goal, or any area you feel you have learned a new skill)
- What was a memorable highlight for you during this period?
- Did you feel that you had everything you needed to be successful while working on your objectives? Please note any specifics.
- If you could change anything about the IDEA Hub, what would it be?
- Was there a project or an idea you wanted to work on, but did not have time? If so, what was it?
- Would you recommend working in the IDEA Hub to others? Why or why not?

# Intern Responses
*The following are direct quotes from the interns.*

## Please list three accomplishments you are proud of from working in the IDEA Hub.

- Creating a new logo and brand
- Teaching interns and students how to 3d print
- Discovering new tools for current projects, like Interaction SDK for VR and new features in 3Dvista for 360 tours
- Helping facilitate my first VR session for nursing
- Completing the School of Dentistry VR experience with Bhagya
- Learn and worked on 3D design software and 3D printer
- Research on metaverse software and worked with sansar, core etc.
- Learned project management skills
- I am proud to be a part of such a hard working and friendly team
- I am proud to continuously work on my communication skills
- I am proud of being more aware of different programs and possibilities of the virtual world.
- Collaborative work. IDEA Hub created a platform where work is split and anyone can contribute based on strength
- Teaching high school students on how to explore virtual worlds.
- Developing a virtual city with core game engine.

## Please describe how you benefited from working in the IDEA Hub this period?

- I feel like my confidence and communication skills really improved over the period!
- I gained exposure and subject knowledge in areas I was unfamiliar with before such as digital humanities and VR.
- Learning new software and designing tools helped me to improve my thinking ability and got experience with new software for 3D model development and 3D printing and got hands-on experience with different versions of 3D printers. In my internship period, I learned project management skills and improved my learning ability.
- I have benefited from working in the IDEA Hub this period by being able to meet people from different backgrounds and be able to collaborate with them on projects.

- This was my first experience working outside academia and I really cherished it. I learnt time management and collaborating skills. IDEA Hub provided the opportunity to work with different softwares that can help my career goals. Now, I am planning to add gamification to my thesis if my advisor approves.

## What was a memorable highlight for you during this period?

- I liked teaching how to use the 3d printer! I learned a lot more about it too as I taught.
- Meeting with different stakeholders (Dr. Sedillo, Pete Brink) and seeing how much they value our projects was key for me understanding my work's impact.
- IDEA Hub is a fun working place. When I experienced Virtual reality and knew that I would be a part of VR projects, that was a memorable time for me. 3D printing is the always exciting part of my internship.
- A memorable highlight for me was testing out VR devices because before this internship I had never even been close to touching anything like it.
- I had a lot of memorable moments at the IDEA Hub. Ranging from the first time I wore a headset and immersed to the virtual environment to game nights with colleagues. The one that stood out the most was Building my first virtual world with Sansar. It is so memorable that I visit it every day to make any modification I feel due.

## Did you feel that you had everything you needed to be successful while working on your objectives? Please note any specifics.

- Yes! I was given a lot of freedom to learn through experimenting. I also never felt uncomfortable asking questions
- Yes, I felt like I had everything. I was given direction from staff which was especially important in the beginning of my internship period so I could understand how things are done in the IDEA Hub. I received support from staff on projects when needed.
- I had knowledge about computers and software but never worked on real projects to implement knowledge and skills so I would say that IDEA Hub provided me a platform to work towards my objective which helps me to improve my professional goals. I am learning all the important skills and knowledge about new technologies and software for future needs.
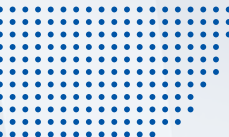
- Yes, I feel that I had everything I needed to be successful while working on my objectives because the Idea Hub has a surplus of resources and technology and all members are open to purchasing things if needed to enhance the experience of us interns.

## *If you could change anything about the IDEA Hub, what would it be?*

- I think it would be nice to have more ways for other students to get involved with the IDEA Hub, like hosting clubs and more events in here.
- I wish that I was given more structured objectives and schedule for the first two weeks of the internship. Now that I'm further into the internship, I have a better understanding of the IDEA Hub procedures, but structure would have helped me become acclimated faster.
- I liked everything, but if I could change anything then I would like to change to a faster internet service.
- I don't think I would change anything about the IDEA Hub.
- The internet connection down the hub [lower level of the IDEA Hub] needs to be better. It kind of creates a partition between staff, as some will prefer to stay at the up bound [upper level of the IDEA Hub], thereby limiting communication.

## *Was there a project or an idea you wanted to work on, but did not have time? If so, what was it?*

- I didn't have time to create a VR prototype, but I learned a lot of useful skills that I can use for it when I do have time.
- There was not, I felt satisfied with the number of projects I worked on during the Spring 2022 semester.
- No. I am still working with IDEA Hub and will come up with more ideas and projects in future.
- I think I would have liked to work more on the social media for the IDEA Hub.
- On coming to Idea Hub, I had an idea of creating a virtual environment for scientific exploration. I wasn't able to do that but I have an Idea on how it can be done. In the future, I will try to implement what I have learnt in other to practicalize this.

## Would you recommend working in the IDEA Hub to others? Why or why not?

- I would totally recommend the IDEA Hub! It's a great and supportive place to grow your skills and resume!
- I think the IDEA Hub is a great opportunity for students and I wish more people knew what it was. It's a great way to gain project experience and soft skills while not having to travel off-campus to an external internship. Additionally, I like the flexibility with our schedules and the projects we work on.
- Yes definitely, IDEA hub is the fun working place that I like most. As a computer science student I am improving my professional as well as personal skills So I would like to recommend IDEA Hub to others. I would not recommend it to the people who do not like computers or do not have any interest in learning new technology and software.
- I would recommend working in the IDEA Hub to others because I feel like it introduces people to more opportunities and makes people more aware of the capabilities of the technological world. The IDEA Hub also offers a lot of hands on experiences that I feel that you can't learn through something like sitting in a classroom.
- 100% recommendation for anyone I meet. The ability to work on ideas with amazing group and explore new game features is something I will love others to experience. The amazing working environment is the right place to get work experience and the opportunity to work with amazing interns and staff.

# Workshops/ Consultations

Another priority for the IDEA Hub is to assist faculty and staff in learning about new technologies and techniques. One way of doing this is through training opportunities. During the spring semester and through the Libraries, the IDEA Hub collaborated with the Center for Faculty Excellence (CFE) to provide workshops that were available to faculty and staff. This is continuing for the Fall 2022 and Spring 2023 semesters. In addition, the IDEA Hub took part in the IT Virtual Technology Fair by offering an additional workshop.

Another way to assist is through individual consultations and training. This method works well for faculty and staff interested in learning new software or techniques that are specific to their individual needs and projects.

# Spring 2022 Workshops
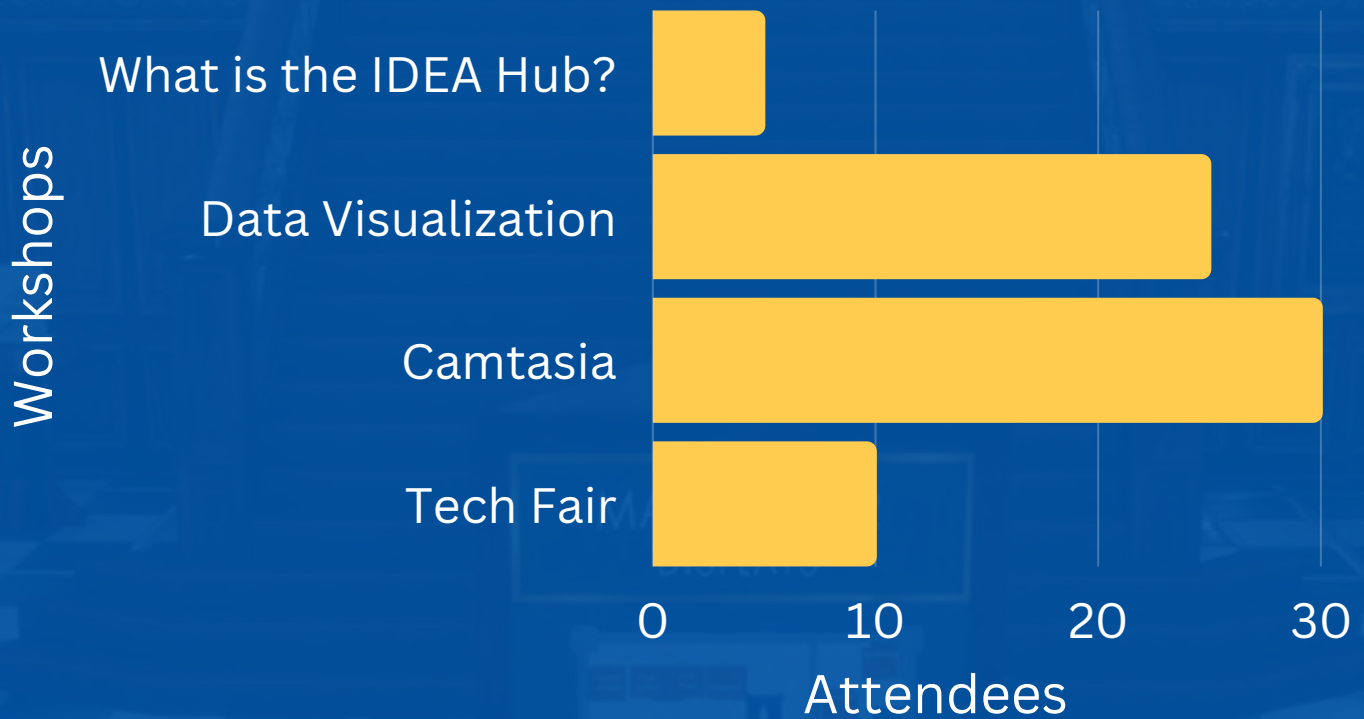


Four workshops were presented by the IDEA Hub during the Spring 2022 semester. One workshop (What is the IDEA Hub?) was conducted in person in the IDEA Hub, one was hybrid in person and through Zoom (Data Visualization), and two were presented through Zoom. The total number of attendees for these four workshops was 70.

In previous years, the IDEA Hub (Radlab) had averaged only one workshop per semester.

# Spring 2022 Workshops

The IDEA Hub offered four workshops during the spring semester. Descriptions of each follow.

## What is the IDEA Hub? (CFE Workshop)

**Date/Time:** Wed., Feb. 16; 3:00-4:00 p.m. CST;
**Location:** IDEA Hub (RAL-L07-08) (in-person only)
**Facilitators:** Kathy Craig, MS, Chad Brocker, Lisa Chinn, PhD
**Audience:** Faculty and staff interested innovation and the IDEA Hub

### Description:

What is the IDEA Hub? How might you collaborate with students and faculty in a state-of-the-art technological environment? This hour-long tour of the IDEA Hub will provide information about the space, projects we have done, and what resources we have available. Come see the IDEA Hub and ask your questions!

### Learning Outcomes:

- find out what the IDEA Hub does and the services available
- learn how to start a project with the IDEA Hub
- find ways that faculty have used the space in their courses

This workshop will provided information about the IDEA Hub, tools available, and collaboration opportunities.

## Using Data Visualization to Enhance Your Research (CFE Workshop)

**Date/Time:** Thurs., Feb. 24; 1:00-2:30 p.m. CST/11:-12:30 p.m. MST; CFE
**Location:** Training Room/Zoom (RAL-L33-L34) (Hybrid)
**Facilitator:** Lisa Chinn, PhD
**Audience:** Faculty and professional staff who use data in research and teaching

**Description:**

You have the data, but how do you transform your raw data into informative, rich, and impact-driven data visualizations? This hour-and-a-half-long workshop will take you through the basics of creating meaningful data displays to effectively communicate the importance of your research.

**Learning Outcomes:**

- learn design best practices to effectively convey the importance of your research
- know how to choose the right type of visualization to illustrate specific data points
- learn how to create both static and interactive data visualizations for optimal impact

This workshop was designed to help participants advance their knowledge of the tools they already use, like Excel, as well as introduced them to more advanced data visualization tools, such as Tableau. This workshop also introduced participants to newer, open-source data visualization too

## Using Camtasia to Create Engaging Activities and How-To Videos (IT Virtual Technology Fair)

**Date/Time:** March 16, 2022; 10:00-10:30 a.m. (CST)
**Location:** Zoom
**Presenter:** Kathy Craig

**Description:**

Camtasia is screen recorder and video editor that is simple to use for creating training and/or interactivities. It is available for use in the IDEA Hub and in the Reinert Library. This presentation provided

# Workshops (continued)

an overview of the software and what it can do along with examples. After the presentation, an online BlueLine Group was available to participants and included additional training materials.

## How to Use Camtasia to Create Interactive Learning Experiences

**Date/Time:** March 17, 2022; 2:00-3:00 CST
**Location:** Zoom
**Presenter:** Kathy Craig
**Audience:** Faculty and professional staff interested in creating learning activities and/or training using Camtasia.

### Description:

Have you wanted to put a little more interactivity into your courses, but didn't know what to use? Camtasia is a simple program that uses a timeline to present material. You may add quiz questions anywhere hotspots to move from location to location within the presentation. Come see how you might use such a tool.

### Learning Outcomes:

- learn the basics of creating educational videos with Camtasia
- find out how to create interactive content that can be put in BlueLine
- learn about associated resources that are available to you

Camtasia is a video editing tool that has the capabilities to create interactivity within the video. Resources are available for participants.

# Workshop Assessments

Few attendees of the workshops provided feedback for the assessments done by the Center for Faculty Excellence (CFE). Requests were sent out multiple times, but few responded. Here are the results from the survey.

## Responses to Survey



Number of Responses
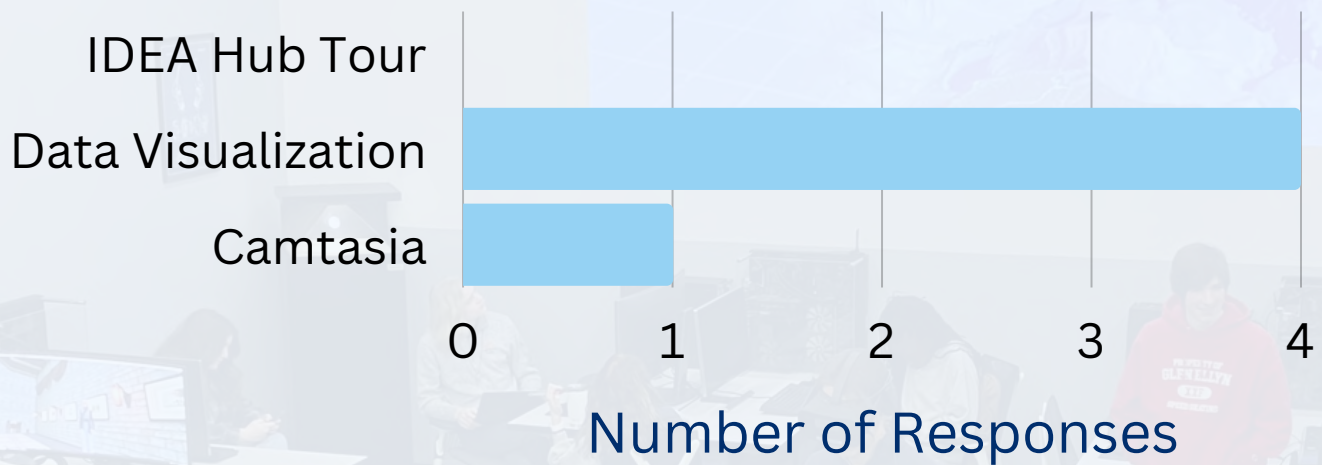
## Survey Questions

### *The following are direct quotes from the survey.*

Regarding the content of this program, please identify the three MOST useful ideas you learned or skills you developed.

- Tools to create data visualization graphs benefits of using good data visualization
- understanding the availability of the tools that were presented
- understanding how to present your data to be able to see patterns otherwise overlooked
- understanding that for more involvement I'm going to have to know Python or Javascript etc.
- modules available -uploading to Bluecast -creating an escape room
- Learned more about the tools, services, and changes happening in the IDEA Hub

# Workshop Assessments

## Survey Questions (Continued)

Regarding the content of this program, please identify the three MOST useful ideas you learned or skills you developed.

- Tools to create data visualization graphs benefits of using good data visualization
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- understanding how to present your data to be able to see patterns otherwise overlooked
- understanding that for more involvement I'm going to have to know Python or Javascript etc.
- modules available -uploading to Bluecast -creating an escape room
- Learned more about the tools, services, and changes happening in the IDEA Hub

Imagine that you were asked to facilitate this program sometime during the next semester. In what ways would you change the program to make it more effective given the goals and objectives of the program?

- provide closed captioning in addition to slides. Perhaps a handout for virtual learners?
- I would spend more time walking through the process of creating a specific data visualization from start to finish, i.e., starting from the raw data, selecting an appropriate program, inputting the data, generating, and revising the graphs, etc.
- ensure topics reach all campuses that the programming is offered to
- Maybe late in the day. It is hard to leave my office and get over there then have to get back to my office. If I can just leave from the presentation and don't have to go back to the office, is my preference.

# Workshop Assessments

## Survey Questions (Continued)

Regarding the content of this program, please identify the three LEAST of value ideas or skills that were presented to you.

- none
- not available to Phoenix, so I ended up leaving early once I learned it wasn't something I could be immediately using
- I didn't have any

I would like a future session to address the topic(s) of:

- More detailed sessions on data cleaning, using the Tableau program, using Excel data visualization with Excel, and digital tools for visualizing data in the classroom. Going more in-depth on any one of the topics covered in the initial data visualization session would be helpful--there is just so much to learn!
- how to build a virtual escape room
- More about virtual reality experiences.

# Consultations/Training
## July 2021-June 2022

**Individuals/Small Groups** (vertical axis label)

Training
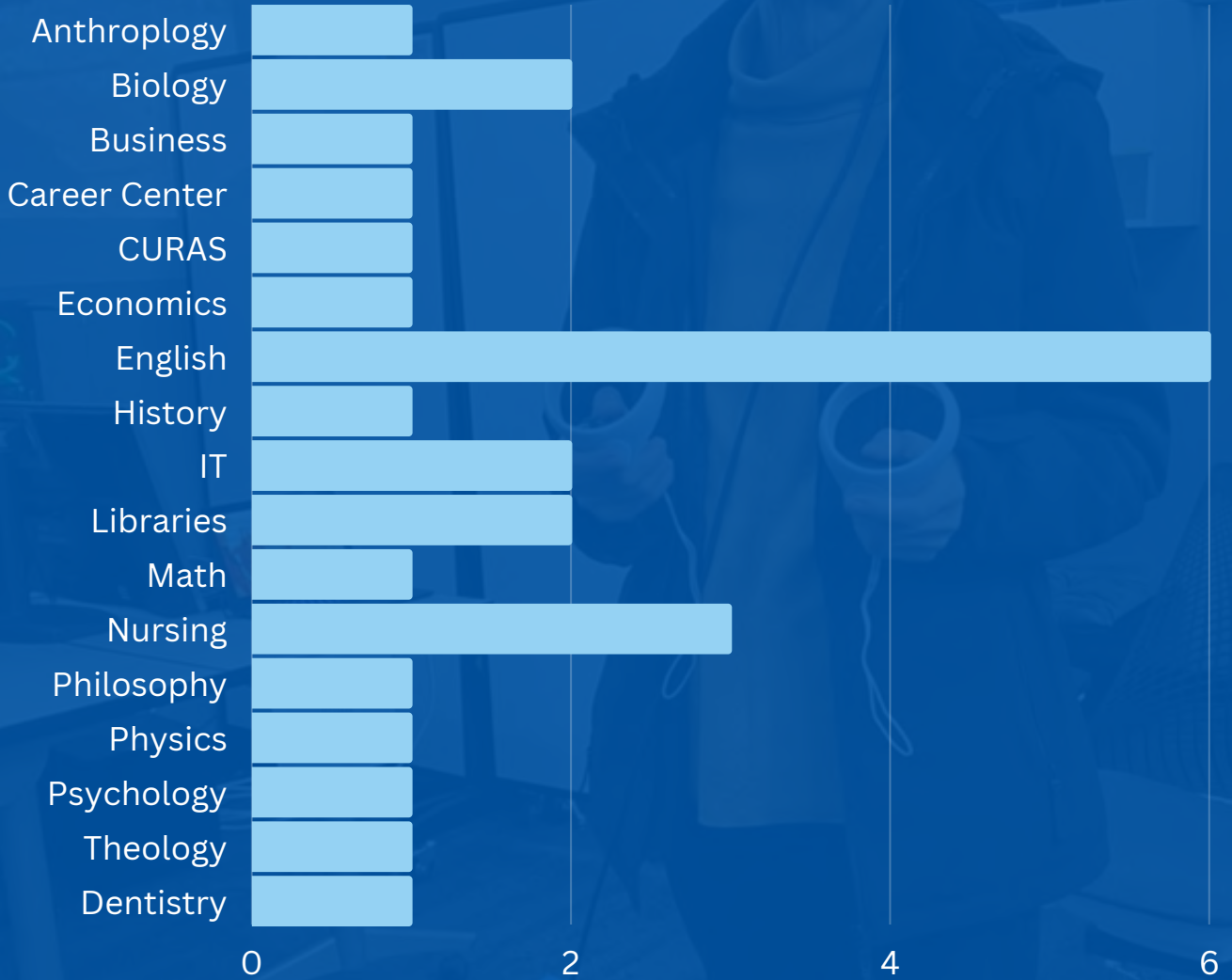
Consultation

Attendees: 0 5 10 15 20 25
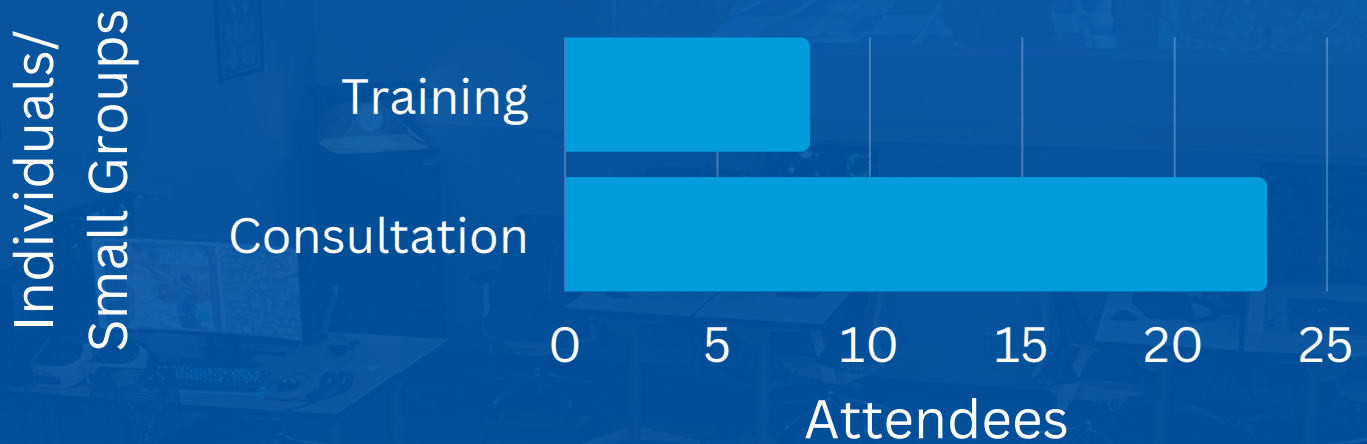
Faculty consultations and individual training for this first year included 31 unique faculty/staff members from 17 different areas.
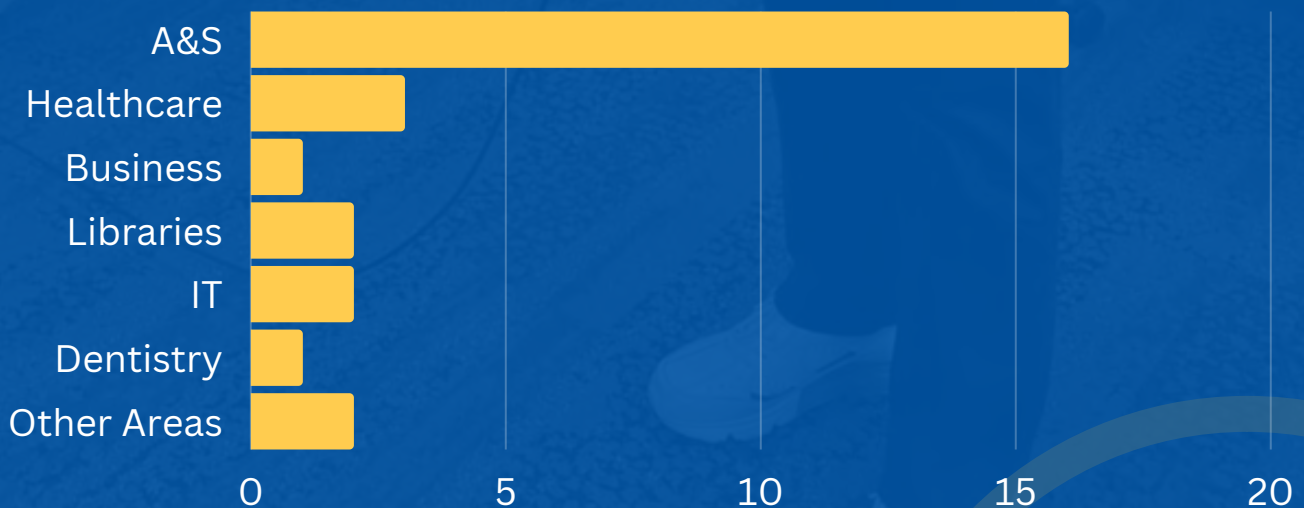
Consultations were primarily discussions about activities for classes, available technologies, or data visualization projects.

Individual or small group training was provided on how to use different types of software, generally for multimedia productions.

# Unique Faculty/Staff Consultations

| Department | Count |
|---|---|
| Anthroplogy | 1 |
| Biology | 2 |
| Business | 1 |
| Career Center | 1 |
| CURAS | 1 |
| Economics | 1 |
| English | 6 |
| History | 1 |
| IT | 2 |
| Libraries | 2 |
| Math | 1 |
| Nursing | 3 |
| Philosophy | 1 |
| Physics | 1 |
| Psychology | 1 |
| Theology | 1 |
| Dentistry | 1 |

# Number by College/Division/Group

| Group | Count |
|---|---|
| A&S | 16 |
| Healthcare | 3 |
| Business | 1 |
| Libraries | 2 |
| IT | 2 |
| Dentistry | 1 |
| Other Areas | 2 |

# Course Activities

The second priority for the IDEA Hub as identified by the environmental scan was "Supporting the Curriculum." As a result, the involvement of the IDEA Hub in this area greatly expanded. In addition to the curricular consultations with faculty, the IDEA Hub developed and hosted fourteen events linked to their spring 2022 semester courses.

The following chart displays this increase through student participation in these course-related events. The result is a 408% increase in students served for spring 2022 compared to the average for the five previous years.

# University Student Attendees
# IDEA Hub Curricular Activities
# 2017-2022



Bar chart showing university student attendees:
- 2017: 48
- 2018: 19
- 2019: 165
- 2020: 132
- 2021: 43
- Jan-Jun 2022: 414
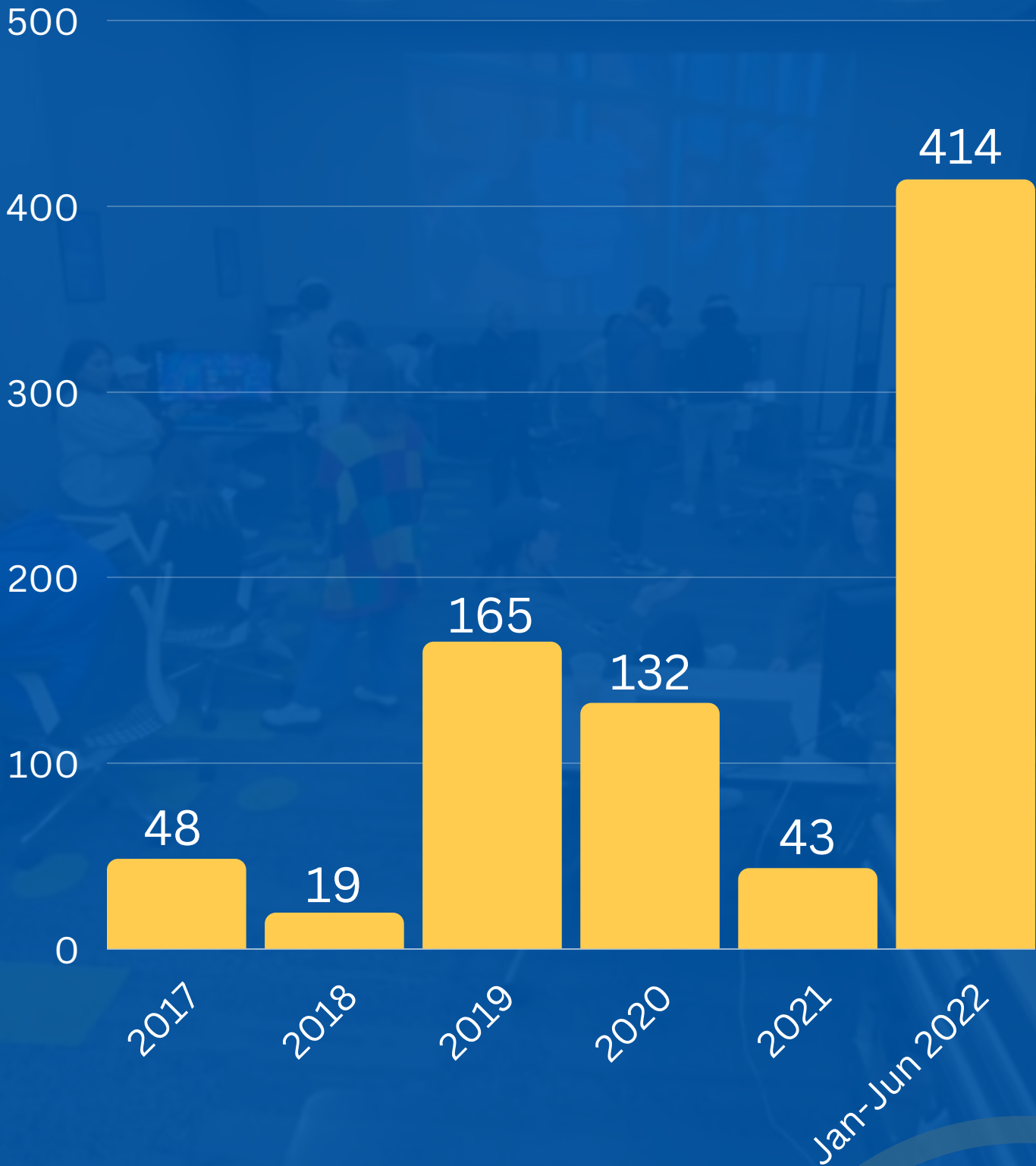
# Curricular Activities

The fall semester of 2021 was primarily focused on planning, the environmental scan, establishing an advisory committee as well as improving the lab's web presence. With those things completed, time for working more closely with faculty and their curricula became available.

The initial course events in the IDEA Hub were the result of faculty consultations that started during the fall semester. Brainstorming sessions yielded plans for the events that were developed and presented by the IDEA Hub. Students visited the IDEA Hub where they experienced those activities. The primary ones for the spring semester were:

## Haitian Experience

- Students visited 10 stations that were setup in the IDEA Hub. They included a variety of activities such as videos on dance/music/carnivals, Haitian art; Haitian architecture, Little Haiti in Miami; interactive historical timeline; interactive earthquake map; interactive Haitian maps; Osselets game with 3D printed "goat knuckles," game of Warri, and Haitian dominoes.
- Four classes visited with a total of 91 students.
- Content from the stations was placed in eight BlueLine courses which added access to these materials to 92 more students.
- Classes included Global Literatures (ENG 221), Creative Writing and Justice (ENG 180), and Contemporary Composition: Creative Writing (ENG 153).

## Nursing Virtual Reality Escape Room

- Working in groups, senior nursing students visited the IDEA Hub to take part in a virtual reality escape room that required collaborative efforts to make the right medical decisions to "escape" the virtual experience. This effort was led by one of the IDEA Hub interns.

# Curricular Activities

- Approximately 100 total nursing students participated
- Nine of these events were held during the spring semester.

## Incarceration Experience

- The spring Sources and Methods of Justice (ENG 332) class came to the IDEA Hub during the spring semester to learn more about incarceration in the United States.
- Stations included videos on solitary confinement, U.S. Prison Statistics, Zimbardo Stanford Prison Experiment, Francis Greenburger The Marshall Project, PBS Prison State, notebook with articles associated with The Sentencing Project, Virtual Reality "After Solitary," a mockup of a solitary confinement prison cell, interactive map of the "Total Prison Population in the US 2021, interactive map "Incarceration Project Worldwide," and a visiting defense attorney for Q&A with students.
- 25 students attended.
- Content was added to a BlueLine course and provided to the class.

# Course Activities Feedback
## *Responses are direct quotes.*

"First of all, I want to thank you for putting together the Haiti presentation for our students. I know this was a tremendous amount of work, but rest assured your efforts were appreciated and have already had an impact. Like you, Lisa, I have learned so much about Haiti--its struggles and treasures-- and my students have embraced every bit of information."

- Mary Longo, Ph.D.

"I (along with many others I'm sure) found the game of Osselets to be really fun! I had not played Jacks before so it was my first experience with a game like it. I can see myself playing that game with my siblings during the summer when we want to be outside. I also appreciated the interactive map that was made, it was nice to be able to visualize the things we have been talking about in terms of locations in regard to each other. I really liked watching the slideshow of carnivals and dances, I think that looking at those pieces of culture when people are the happiest, can tell you so much about a group of people."
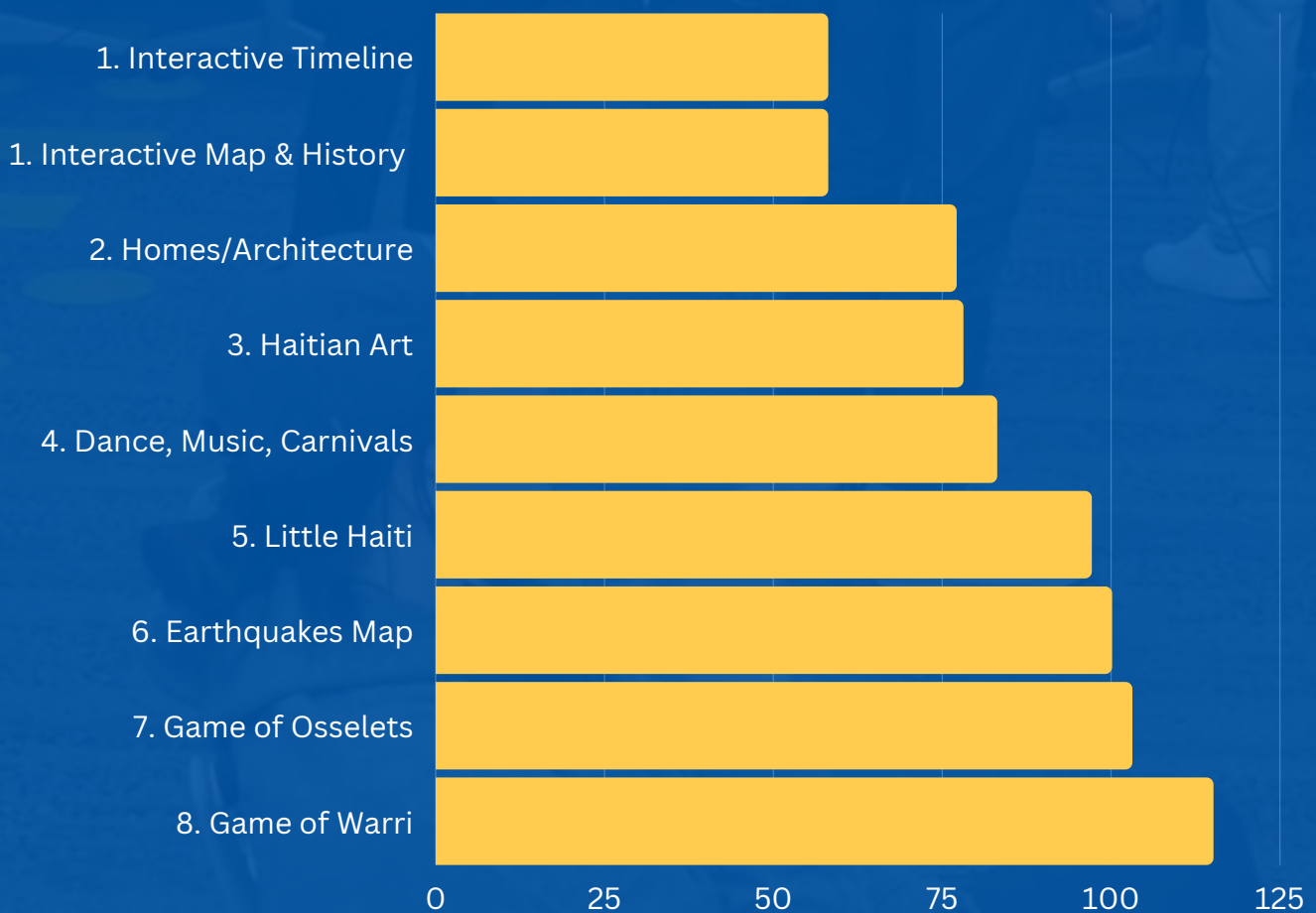
-Student Participant

"I really enjoyed the trip to the RadLab [IDEA Hub]! I felt as though it enhanced my knowledge of the geography and culture of Haiti. I found the images of the architecture to be very interesting. From the bright colors, to the mansions, to the homes made of sticks and clay, the location on the island proved to be a deciding factor in what the homes looked like. Along those same lines, I found the huge interactive map useful in getting a better understanding of the population disbursement. It looked as though a majority of the population lives in Port-au-Prince. When we zoomed in on the map we saw rows and rows of houses. That image compared to the spread-out coastal Royal Caribbean Resort was a little disheartening. I also enjoyed the images of the carnivals and dances, seeing the joy as people gathered and embraced tradition. Overall, I thought the trip to the RabLab [IDEA Hub] helped me immerse myself into Haitian culture."

-Student Participant

# Haitian Experience Survey: Part 1

**A survey was completed by participants for the Haitian Experience. The first part asked students to rank nine stations from most useful (Rank 1) to least useful (Rank 9). Twenty-three students responded. The rankings for each station were added together with the overall most useful station(s) receiving the lowest number (since most useful had a ranking of 1) to the highest number for the overall least useful (since least useful had a ranking of 9).**

**The chart below displays the combined rankings for most useful (top) to least useful (bottom) stations.**

| Station | |
|---|---|
| 1. Interactive Timeline | |
| 1. Interactive Map & History | |
| 2. Homes/Architecture | |
| 3. Haitian Art | |
| 4. Dance, Music, Carnivals | |
| 5. Little Haiti | |
| 6. Earthquakes Map | |
| 7. Game of Osselets | |
| 8. Game of Warri | |

Horizontal axis: 0, 25, 50, 75, 100, 125

# Haitian Experience Survey: Part 2

For the second part of the survey, students were asked to choose up to three "What were some of the things that you liked about your visit to the IDEA Hub? These included:

- the interactive nature of the activities (Interactivity)
- the usefulness of the content (Usefulness)
- the ease of access to the IDEA Hub (Ease of Access)
- working with others in my class (Working with Others)
- playing and experimenting with new ways of learning (Playing & Experimenting
- discovering even more about Haiti (More about Haiti)
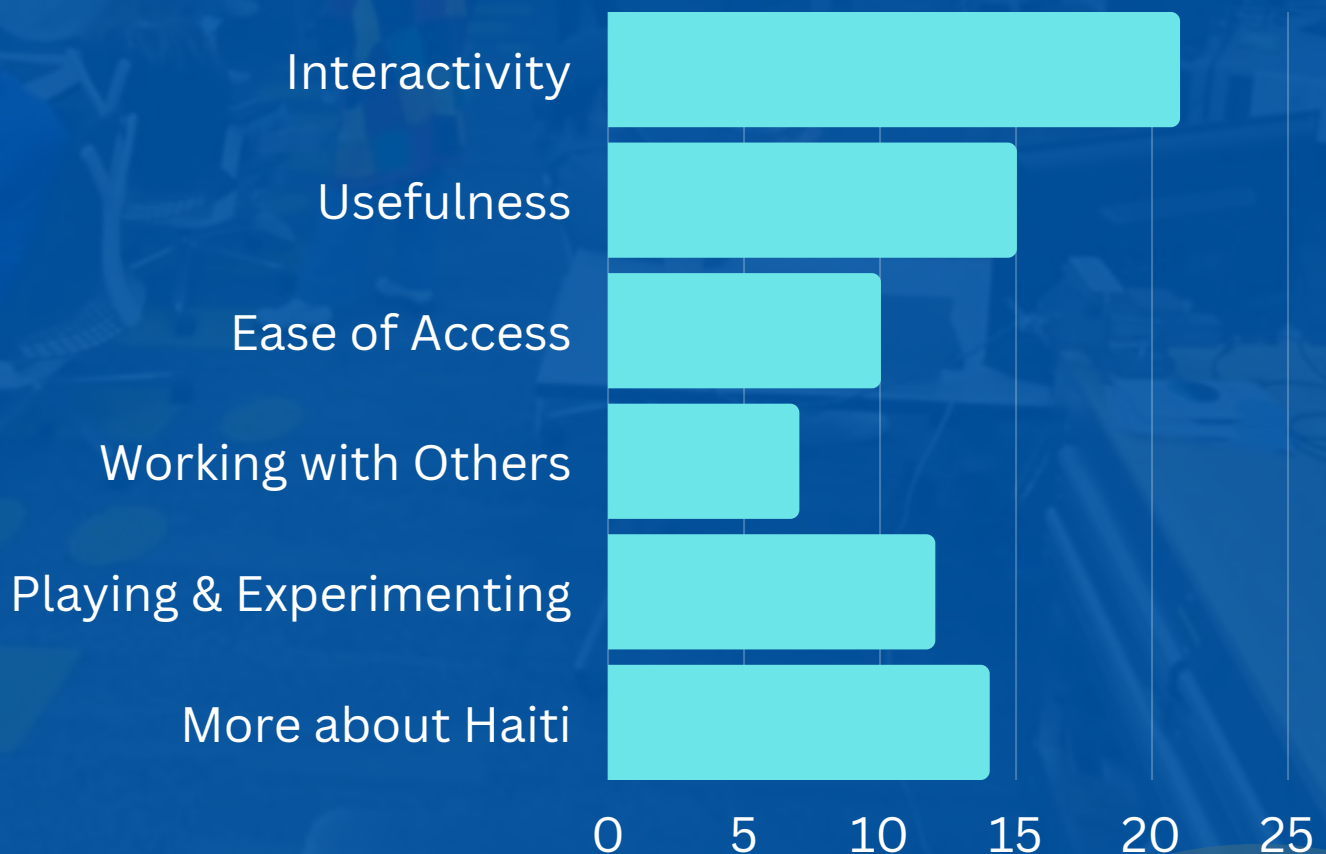
# Haitian Experience Survey: Part 3

Students were asked, "What are some ways that we can improve your future experiences with the IDEA Hub?" Below are direct quotes from these students.

"I think the Radlab [IDEA Hub] was a great experience"

"I really enjoyed my visit to the Rablab [IDEA Hub]! I have walked by but never been inside. I truly thought it helped solidify my view of Haiti in a more comprehensive way. I don't have any concrete suggestions, but I really appreciate all the work that went into it! "

"It was a great experience, especially for my first time visiting! "

"Teach more about the technology."

"I think having an activity where everyone could participate simultaneously could be a good addition"

"More interactive"

"I think VR would have been very cool."

"As of now I don't really have any suggestions, really enjoyed being able to stop by with my peers."

"Make students more aware that it's there."

"Everything went perfect but the RadLab [IDEA Hub] should have more interaction activity so we would learn even more about Haiti."

"I really enjoyed my time in the Radlab [IDEA Hub] and would love to use its services again! "

"For the map with Haiti's history, it went too fast to read what happened and to see the location. Also, if you could get a street view of Haiti (like Google street view), it would be a lot more interesting for me."

"More instructions for games to make them easier to play and understand! "

"I thought this activity was very useful to our study and ultimately to our presentation. Thank you so much! I don't have any suggestions for improvement, I though you all did a great job!"

"Maybe if it were more connected to some of the Danticat stories in some ways? Also the importance of families to Haitians would be beneficial! "

"knowing when its open, and when we can go there"

"Do more presentations!"

"I thought it was set up really well, I would try to make some of the stations more in depth and have examples of how to run some of the stations but other than that it was really fun and very informative. "

"It was all good."

"I thought overall the visit went very well and off the top of my head I cannot think of any improvements. "

"Perhaps in some of the stations like the interactive timeline or maps, provide short tutorials, either in written or video form, on how to create that ourselves."

"I really enjoyed my time!"

# Additional Comments on Course Activities

"I am from Dr. Rettig's Global Literature class. We visited you in the RadLab [IDEA Hub] where you set up various aspects from the Haitian culture for us to see and learn from. I personally loved the experience you created for us in the RadLab [IDEA Hub] and we were asked to make a group presentation based on one of the stories from Krik? Krak! While our story stood out a lot and it was hard for us to incorporate the ideas from the RadLab [IDEA Hub] into our paper/presentation, I thought I would send you over what we worked on together as a group for a few weeks before presenting. Once again, thank you so much for setting it up for us, it was a wonderful experience!"

"We are just a few of the students who were a part of Dr. Rettig's class that went to your IDEA Hub presentation on prisons and prison life on Thursday, March 31st. We wanted to email you to express our appreciation for showing us everything that you had been working on. Obviously, the VR experience was one of the coolest things we had ever done, and on top of that was also incredibly eye-opening to the conditions of what prisoners must go through. It was also interesting, albeit somewhat depressing, to use the interactive map and understand just what people mean when they say that the United States is the "prison capital of the world." Seeing just how many prisoners we have compared to any other country was a depressing fact, but one that made us want to change the way justice is done in this country. Overall, going through the presentation was an incredibly salient experience and one that we surely will not forget for a long time."

"My name is Mary Dudley, and I was in the ENG 332 class that visited the IDEA Hub on Thursday March 31st. I just wanted to thank you for your time and all your hard work! It was so amazing to be able to experience a little piece of prison life through the VR and the prison cell set up. It was also so amazing to talk with your son. It was so interesting to hear his perspective on the legal system and his experience with the way in which justice is carried out in America. I can't imagine how much time and effort went into everything, and I really deeply appreciate everything you did!"

# Additional Comments on Course Activities

"We would personally like to thank you for the abundance of stations you provided for us on our visit to the Idea Hub! We, as a group, liked the map station. It was very interesting to see the percentages of incarcerated men and women, especially since women did not exceed 20%. The VR experience was unparalleled in letting us experience what prison life is like. Again, we thank you for this opportunity to experience something we hopefully never will and wish you all the best."

"I just wanted to say thank you so much for all the hard work you put in for the RadLab [IDEA Hub] when my Sources of Justice class came in to look at prison life. It was truly a great experience and overall just fun! We learned so much about the subject, and really got to put into practice all that we have been reading. Thank you for taking our suggestions and really putting our ideas to life. All of y'all are such a great resource and addition to Creighton learning. And, I personally also was a part of the class that looked at Haitian life. I'm not sure if Dr. Rettig mentioned how many people used that experience in our presentations, my group included! So, I just wanted to say how thankful my class was, and me personally, for all of the hard work. We really appreciated it!"
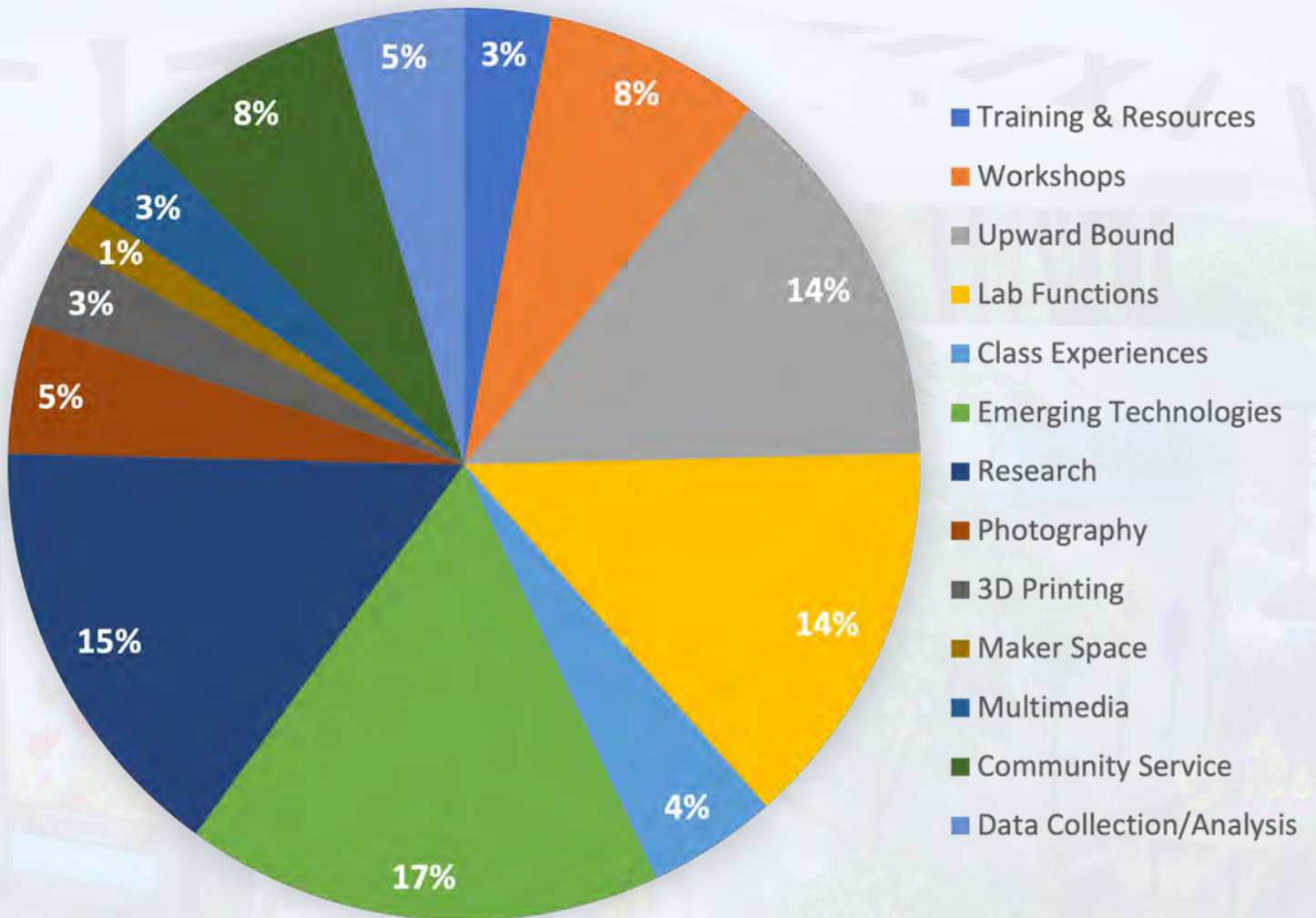
# IDEA Hub Projects

During the 2021-2022 fiscal year, the IDEA Hub worked on 65 projects in 13 different categories. The chart on the following page displays the percentage of total projects devoted to each category.

13 Categories

65 PROJECTS

# Projects 2021-2022



**Legend:**
- Training & Resources
- Workshops
- Upward Bound
- Lab Functions
- Class Experiences
- Emerging Technologies
- Research
- Photography
- 3D Printing
- Maker Space
- Multimedia
- Community Service
- Data Collection/Analysis

Pie chart percentages: 3%, 8%, 14%, 14%, 4%, 17%, 15%, 5%, 3%, 1%, 3%, 8%, 5%

Projects in the IDEA Hub during the 2021-2022 fiscal year expanded in the offerings of workshops, class experiences, makerspace, and data collection/analysis compared with previous years.

# Virtual Worlds

Projects in the IDEA Hub included explorations into new technologies. One area that will play a major role in the future of education is the exploration and creation of virtual worlds. The World Economic Forum discusses how VR will "reshape the future of education": https://www.weforum.org/agenda/2022/05/the-future-of-education-is-in-experiential-learning-and-vr/

In addition to hosting virtual reality experiences for students within the IDEA Hub, several projects associated with virtual worlds have been completed in 2022. This has included research and testing of several platforms for visitation and creation of virtual worlds. Through this research, Sansar has stood out as a very promising option.

## Fr. Carlson's Fables Museum

One of the virtual worlds that has been created was a museum for Fr. Carlson's fables collection. Included in the "castle" museum are a number of displays of artifacts from that collection. The virtual artifacts were created from the actual artifacts. The purpose of this project was to test the environment (Sansar) and use techniques in photogrammetry that were developed as part of a project with the IDEA Hub's major donor, Canon. The museum was completed during this fiscal year.

To expand information to those unable to use Sansar, an animated 3D virtual guide was created with narration using an artificial intelligence voice. This guide provides an overview of the museum.

# Fr. Carlson's Fables Museum

# #PlantWildflowers Initiative

The IDEA Hub applied for and received an honorarium from the #PlantWildflower Initiative sponsored by HHMI Tangled Bank Studios and PBS Nature. As a part of this project, a Wildflowers Pavilion was created in Sansar. This included a walking path through the wildflowers and a "theater" where visitors can gather, talk, and together watch a film about pollinators.

# #PlantWildflowers Initiative

# 360° VR Empathy Projects

The IDEA Hub worked with Dr. Teryn Sedillo to develop an empathy project for dentistry. Dr. Sedillo wanted dentistry students to gain empathy for patients with autism spectrum disorder (ASD). To do this the IDEA Hub took 360° photos at the School of Dentistry and created a virtual reality experience where dental students could experience some of the triggers that are common for those with ASD. This included a variety. of sounds, changes in lighting, and close proximity to dental professionals.

The photos below display some of the scenes from that experience.
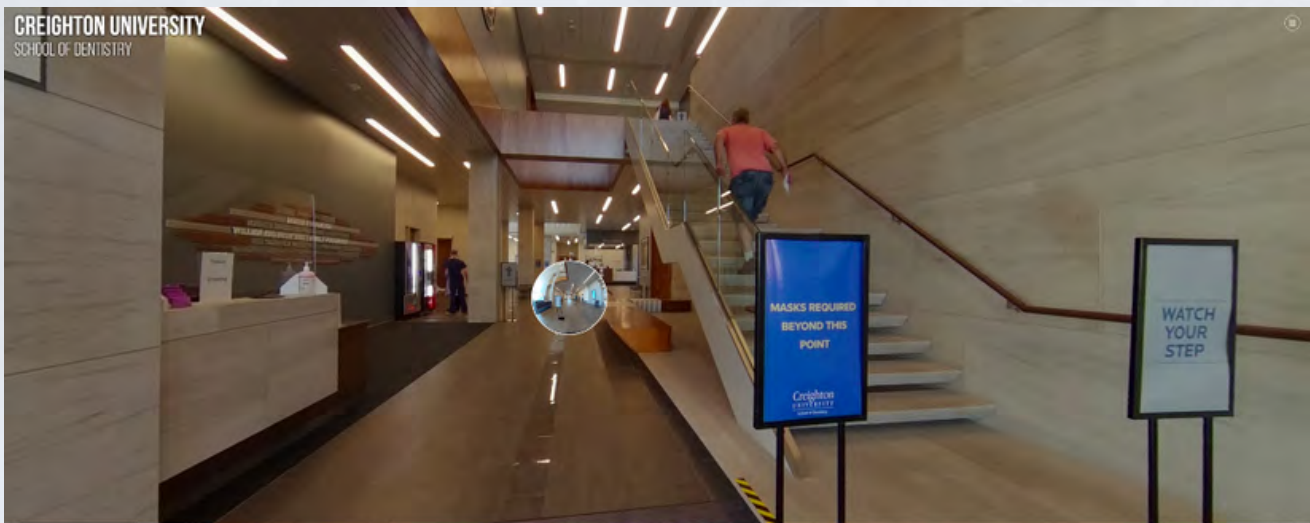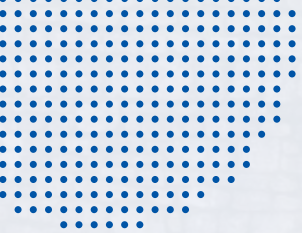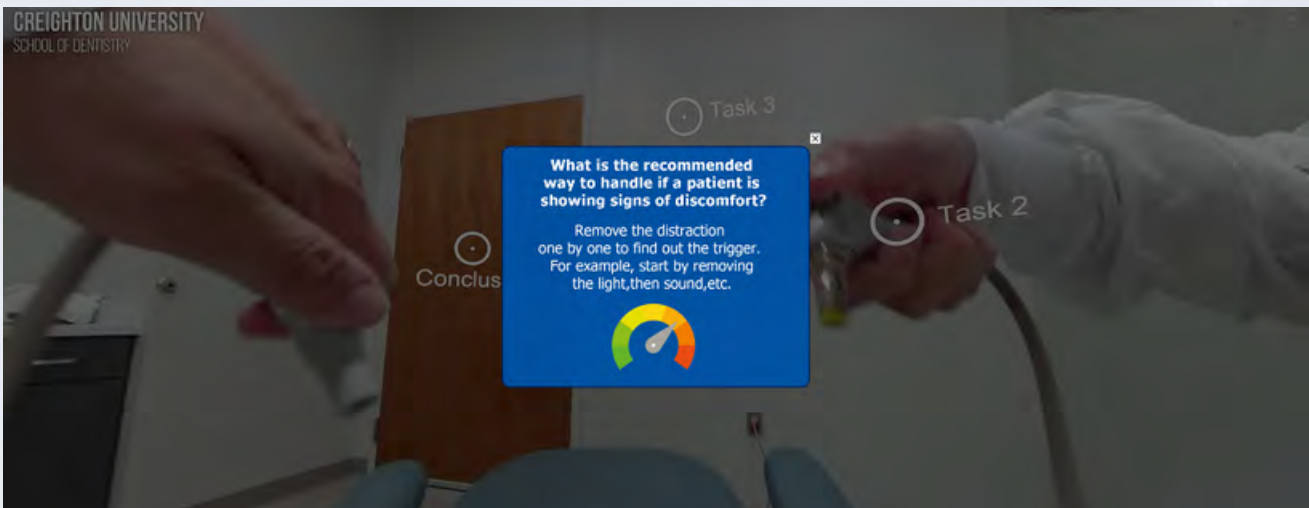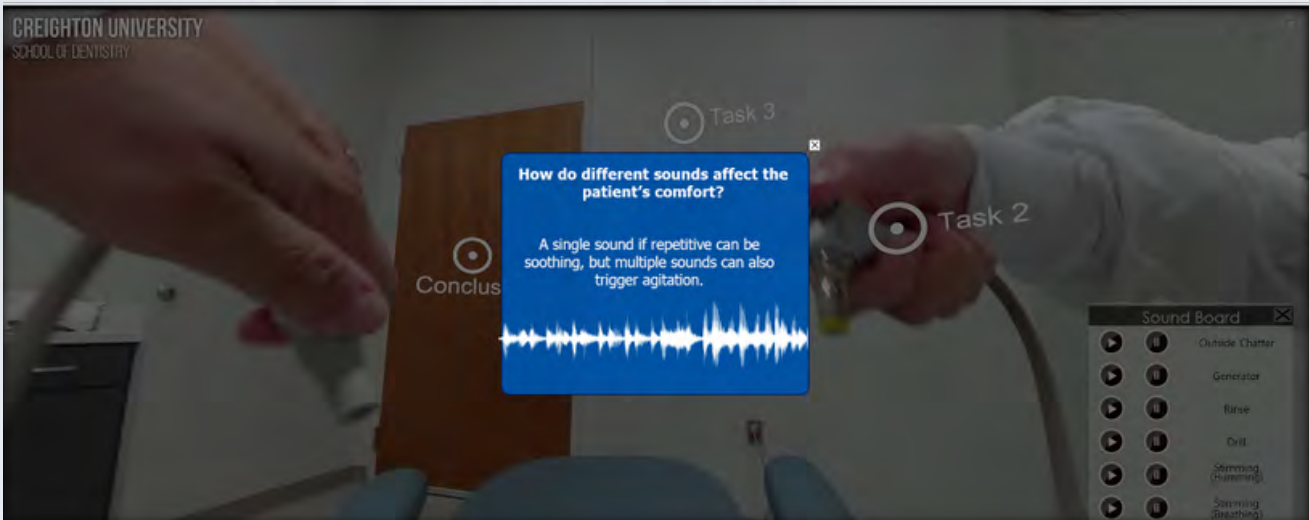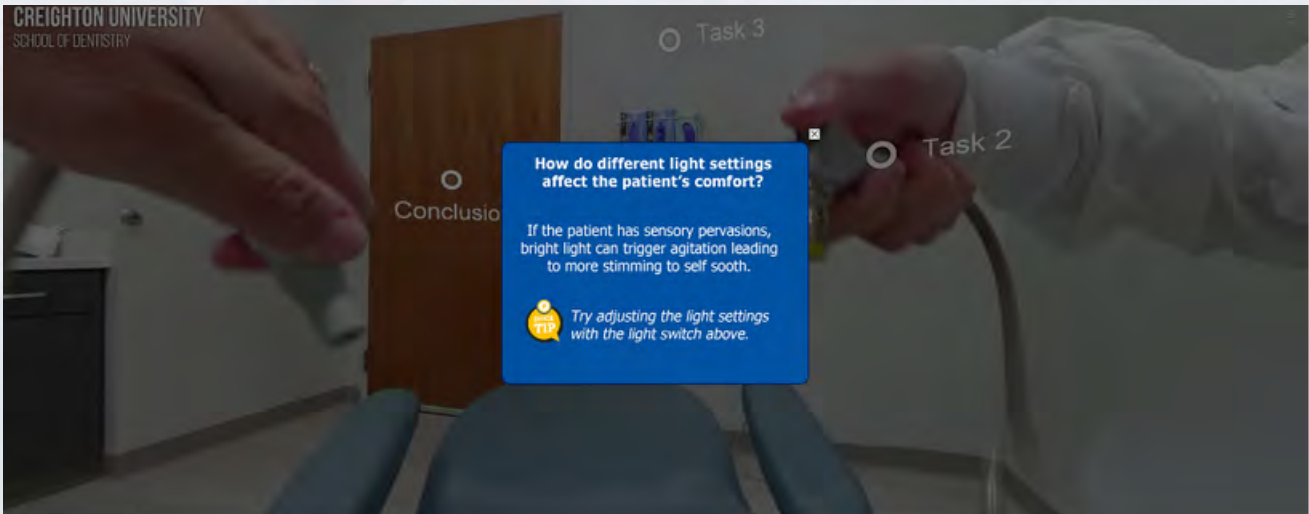
# 360° VR Empathy Projects

# 360° VR Empathy Projects

# 360° VR Empathy Projects

The IDEA Hub met with Dr. Pat Sullivan who oversees the hospital's PATCH (Patient Assistance Team at Children's Hospital & Medical Center). This program works with children that have autism spectrum disorder and other developmental, neurological, and behavioral issues. In this program, children are assessed and provided with individual care plans tailored to their specific needs.

Dr. Sullivan visited the IDEA Hub to discuss potential collaborations associated with using VR to help health care professionals better relate to the experiences of their young patients. She was able to experience the dental VR developed by the IDEA Hub that had the same goal of increasing empathy for health care professionals for such patients. She was amazed with it and wrote a proposal for a collaborative project to develop a similar experience for health care professionals at Children's Hospital. This provides an outstanding opportunity for our interns to be involved in a project that makes a difference. The project has been approved by both Creighton and Children's Hospital to move forward for the fall semester.

# Outreach Activities

The IDEA Hub is involved with outreach activities, especially with K-12 students. This has been identified as a priority by the environmental scan. During the 2021-2022 fiscal year, the IDEA Hub offered an elective technology course for Upward Bound students and hosted Loyola Scholars in a station based event.

# Upward Bound

Upward Bound is a federally funded program for high school students who meet specific requirements and are the first in their families who plan to attend college. During the summer of 2022, the IDEA Hub offered an elective course for the five-week, four days per week summer program. Two sections were taught with a total of 10 students.

The following are the list of projects that were completed for this course.

- IDEA Hub Scavenger Hunt
- Pepper's Ghost Hologram Project
- Virtual Reality and Worlds
- Roblox
- Augmented Reality Project
- Photospheres
- Introductory Design Thinking Activity
- Real World Design Thinking Project
- Seed Bombs and Introduction to #PlantWildflowers Project
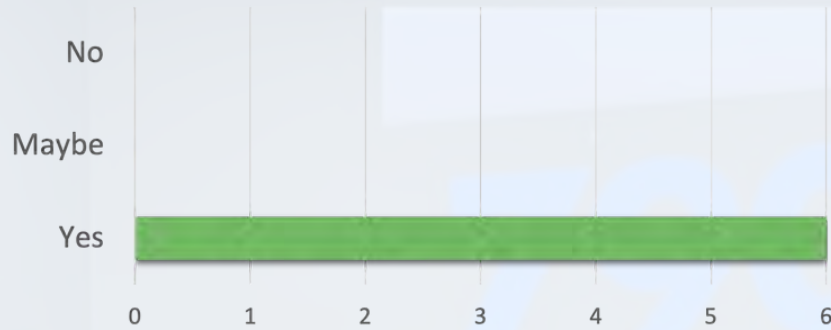- 3D Printing

The following are the results of a survey provided to the students at the end of the program.
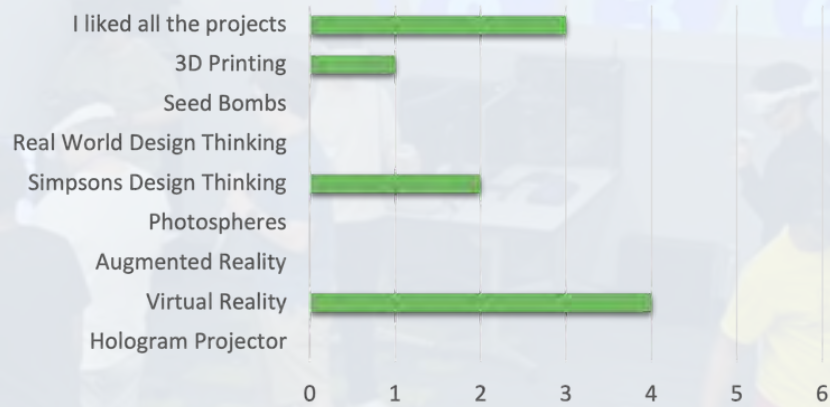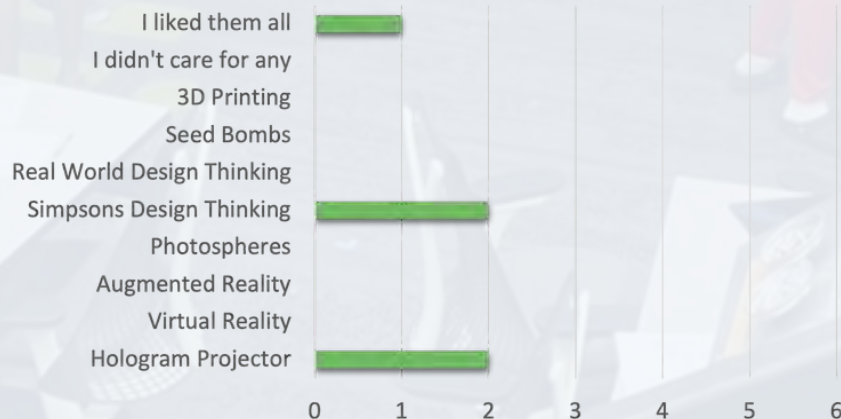
## The course met my expectations.

# Upward Bound

## If a similar course were offered next year, I would be interested in taking it.

| Response | Value |
|----------|-------|
| No | 0 |
| Maybe | 0 |
| Yes | 6 |

## My favorite project was

| Project | Value |
|---------|-------|
| I liked all the projects | 3 |
| 3D Printing | 1 |
| Seed Bombs | 0 |
| Real World Design Thinking | 0 |
| Simpsons Design Thinking | 2 |
| Photospheres | 0 |
| Augmented Reality | 0 |
| Virtual Reality | 4 |
| Hologram Projector | 0 |

## My least favorite project was

| Project | Value |
|---------|-------|
| I liked them all | 1 |
| I didn't care for any | 0 |
| 3D Printing | 0 |
| Seed Bombs | 0 |
| Real World Design Thinking | 0 |
| Simpsons Design Thinking | 2 |
| Photospheres | 0 |
| Augmented Reality | 0 |
| Virtual Reality | 0 |
| Hologram Projector | 2 |

# Upward Bound

## What did you like best about the class?

I got to be hands on in class.

I enjoyed the work we were given and how we had something every day.

THE TECHNOLOGY

I liked how involved it was and fun.

ENVIRONMENT

## What did you like the least about the class?

I liked everything.

Nothing

N/A

No complaints

Nothing

## What other types of projects would have interested you?

idk

MAYBE PC GAMES

HACKING

Building a computer

## What suggestions do you have for the course?

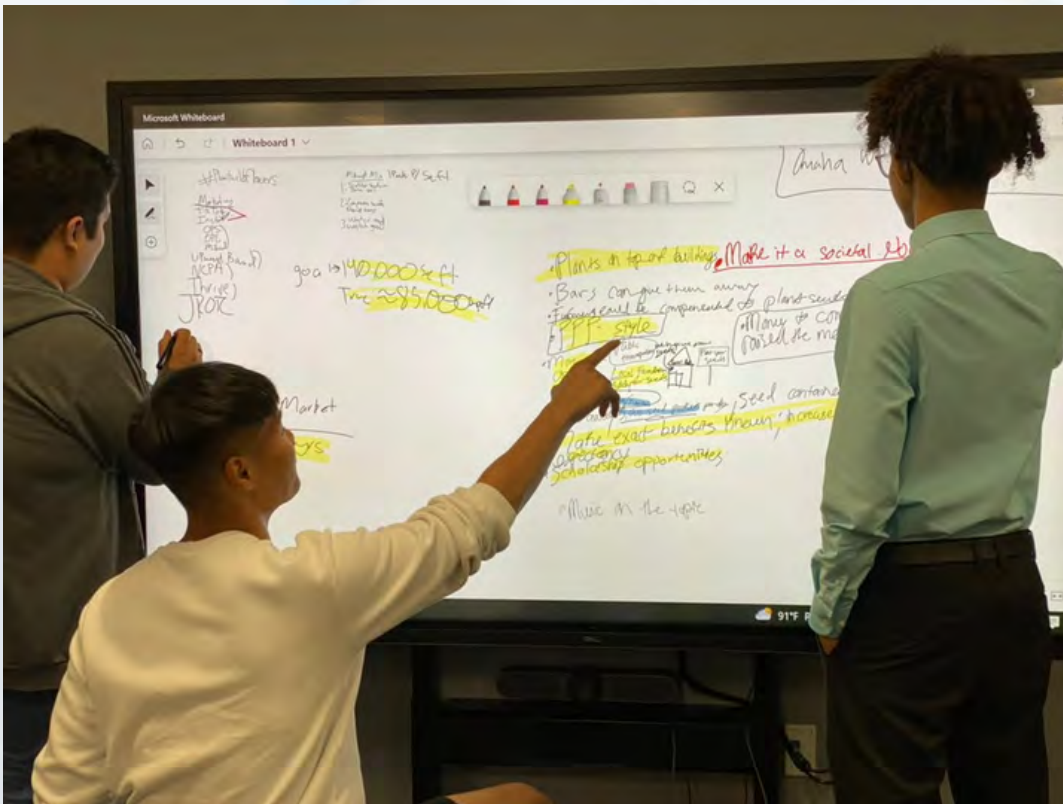None; the autonomy of the class was perfect.

Nothing

Great

# Upward Bound

# Upward Bound

# Loyola Scholars

Fifteen sixth grade students who are a part of the Loyola Scholars Program visited the IDEA Hub on June 24th. Loyola Scholars is a Creighton Prep program that provides academic and leadership opportunities for gifted, middle school males who come from families with demonstrated financial need.

The IDEA Hub prepared four stations for these students to experience the following:

- Virtual Reality - First Contact: helps students become familiar with the VR controls
- Virtual Reality - The Lab: variety of activities to experience
- Xbox Kinect Dance: allows students to see how tech gear can track movements
- Platformer Toolkit: video asset that lets students tweak movements of a character

Interns were available at each station to assist students.

# Loyola Scholars

# Loyola Scholars

# Services Offered

One of the concerns brought up in the environmental scan was the breadth of services offered and whether the IDEA Hub was equipped to handle all. Two things were done to better address this issue. The first was a facilitated workshop with the IDEA Hub Advisory Committee to define and refine those services and the second was the hiring of an IDEA Hub Coordinator to better develop a Library Makerspace.

# Advisory Committee Workshop

On May 11, 2022, the IDEA Hub conducted a facilitated workshop with Dan Walsh, MSW, MPA, Director of Academic Service-Learning, Global Engagement Office. Seven members of the committee were available for the workshop.

The Session Objectives as provided by Dan Walsh, were the following.

- confirm group agreement on service areas
- generate a set of ideas for scope of services
- build practical team consensus on the future of the IDEA Hub

## Engaging Technologies

The result of the workshop was the identification of four areas of service. The areas include the following under the umbrella of "Engaging Technologies." Below each area is a list of projects/activities in the IDEA Hub that correlate to that area.

### Emerging Technologies

- Explore new technology solutions & applications
- Discover new tools for instruction
- Support new technology experimentation

- virtual reality
- virtual worlds
- 360° experiences
- continual research
- experimentation

## Faculty-Student Collaboration

- Faculty advisors for projects
- Conduct research/scholarship with tools & support
- Graduate-level opportunities

- Faculty/intern projects
- Graduate level intern opportunities
- Research with tools and support

## Curriculum & Pedagogy

- Introduce faculty to innovative technologies and resources
- Support faculty with engaging technologies
- Use new technologies in academic program development

- Haiti class experiences
- Incarceration experience
- Training on video tools
- Virtual reality escape room
- Added content to courses

## Community Connectedness

- Collaborate with community partners
- Engage with K-12 members of the community
- Develop academic & clinical partnerships

- Upward Bound
- Loyola Scholars visit
- Children's Hospital empathy project