PSYCHOLOGY OF ARCHITECTURE

LESSON PLAN

Courtesy of Anh Duy Pham
Have you ever walked into a building and felt your mood change? Has the design, layout, or color scheme of a space had a noticeable impact on your state of mind?

During this mini-unit, students will have the opportunity to learn about the emotion of spaces, or how buildings “feel” to observers. They will use that knowledge to create their own virtual space. Through a goal-oriented research and design project, students will learn about the study and practical application of emergent theories of architectural psychology.

In this lesson, we will explore the following questions:

- What is the psychology of architecture?
- How do different physical spaces change the way we feel?
- How does architecture change our cognitive abilities, physical well-being, and social aptitude?

By the end of this lesson, students should be able to use the built-in tools and assets of Twinmotion to design virtual space with a distinct psychological purpose.

Link to Introductory Video: https://youtu.be/Be5lqkOzhHA
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LESSON INFORMATION

Lesson Title: Psychology of Architecture
Content/Grade: Psychology. Grades 10-12
Lesson Timeframe: 2 weeks

AUTHOR CONTACT

Author, Organization/Role: Shawn Adler, Cliffside Park High School, Teacher
Email: sadler@cliffsidepark.edu
Twitter: @Lethrup

DESCRIPTION OF CLASS/LEARNING ENVIRONMENT

This class is a non-Honors, inclusive 11th-12th grade college preparatory Psychology class, taught at a public school in a working-class town in Northern New Jersey. The class of 30 students is primarily African-American and Latino, and is divided roughly evenly between the genders. Class length is 40 minutes.

Students have one-to-one computing with district-wide use of Google Chromebooks. Computer labs are available for more serious computing needs.

Ideal set-up should include student access to computers, as well as open, flexible seating for the purpose of efficient work flow.

LESSON OVERVIEW

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**DESIRED RESULTS**

**ESSENTIAL QUESTIONS/BIG IDEAS**

What is the psychology of architecture?
How do different physical spaces change the way we feel?
How does architecture change our cognitive abilities, physical well-being, and social aptitude?
How can you use a visualization tool such as Twinmotion to design and share concepts related to the psychology of architecture?

**LEARNING OUTCOMES/OBJECTIVES**

Students will discover and identify facts about the emergent field of architectural psychology.
Students will learn research methods associated with psychological surveys.
Students will incorporate their discoveries to utilize Twinmotion to visualize and design spaces.
Students will synthesize their knowledge of the course content to share projects.
LESSON PLAN

LEARNING ACTIVITIES

The emergent field of architectural psychology offers a window for exploration into the ways that built and designed spaces make us feel, including questions about how physical spaces can affect our cognitive, social, and emotional well-being. Spaces can be designed to both enhance and lessen many aspects of personality. But how?

This unit is built around four foundational educational invitations for students to discover, become, share, and change through the hands-on application of learned psychological precepts.

An invitation to discover:

Individually and in groups, students will discover facts about architectural psychology, the aim of which is to “explore the impacts of architecture on humans, their feelings and behavior, and to formulate recommendations for the planning and design of buildings.”

Students will discuss how schools, offices, and buildings can be better designed to promote learning and growth.

Students will read scientific papers related to discoveries in the field of building psychology. They will incorporate this information into discussions and surveys centered on their own building.

An invitation to become:

This unit allows students the opportunity for what Ernest Morrell calls “an invitation to become.” By teaching students the basic tenets of psychological research and Twinmotion, teachers help students assume the roles of researcher, psychologist, and architect.

Twinmotion tools offer two vital components lacking in most other academic endeavors:

1. A clear purpose (design)
2. A defined audience

An invitation to share:

Students will work through research and design with the goal of sharing it with their classmates.

An invitation to change:

Finally, students will be asked to test their hypothesis through survey and statistical analysis.
LEARNING ACTIVITIES

WEEK ONE

Monday
Invitation to notice: What is architectural psychology? How do certain spaces make us feel? Scaffold student understanding through article jigsaw.

Tuesday
Invitation to notice: What design choices in your own school affect mood and performance? Student campfire.

Wednesday
Invitation to become: Write and deliver a color survey, testing self-reported mood through various colors.

Thursday
Invitation to discover: Analyze results from color surveys, exploring deeper facts about the ways physical spaces affect mood.

Friday
Invitation to discover: Group research and share into other aspects of physical spaces that can affect performance.

WEEK TWO

Monday
Twinmotion workshop: Using the program to create virtual spaces.

Tuesday
Twinmotion workshop: Using the program to create virtual spaces.

Wednesday
Build a space: Using previous discoveries regarding the architecture of spaces, design a space that compels users to feel a particular way.

Thursday
Short-form essay: In a short-form written essay, students will describe their goal and the methods they will use to achieve this effect.
Friday
Gallery walk, share, and student testing: Using surveys, students will discover and analyze how their hypothesis measured up to self-reported emotions of visitors to their virtual spaces.

DELIVERABLES
1. Completed Building Twinmotion file
2. An essay explaining key features of their building and intended emotion
3. Survey for “visitors” to rate emotion
4. Reflection essay on component success

EXTERNAL RESOURCES

Twinmotion: Getting Started playlist: Kaltura.com

Twinmotion Support Community: Epic Games
https://twinmotionhelp.epicgames.com/s/?language=en_US

Architectural Psychology: The Influence of Architecture on our Psyche:
https://medium.com/archilyse/l-the-influence-of-architecture-on-our-psyche-f183a6732708

The Psychology of Architecture by John Lerner, Wired:
https://www.wired.com/2011/04/the-psychology-of-architecture/

The hidden ways that architecture affects how you feel, BBC:

The Psychological Impact of Architectural Design by Natalie Ricci, Claremont McKenna College:
https://scholarship.claremont.edu/cgi/viewcontent.cgi?article=2850&context=cmc_theses

https://docs.google.com/forms/d/e/1FAIpQLScKbbhFiC40IsfXhyDEdXRw9-BbRJloNng_tKQ5N00-QA-hcQ/viewform?usp=sf_link
**ASSESSMENT**

Students will provide:

1. Completed Building Twinmotion file
2. An essay explaining key features of their building, including a hypothesis about how their building will make others feel
3. Survey for “visitors” to rate emotion
4. Reflection essay on component success

**RUBRIC**

*The Psychology of Architecture Rubric*

<table>
<thead>
<tr>
<th>Project Content/ Learning Objectives</th>
<th>DEVELOPING</th>
<th>COMPETENT</th>
<th>PROFICIENT</th>
<th>DISTINGUISHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project does not convey the required information or understanding as it pertains to the learning objectives.</td>
<td>Project shows a basic understanding of the subject and demonstrates learning objectives.</td>
<td>Project reflects understanding of the subject and demonstrates desired learning objectives.</td>
<td>Project reflects understanding and synthesis of the subject, and mastery of the material that meets and exceeds the learning objectives.</td>
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<table>
<thead>
<tr>
<th>Project Aesthetics/ Architectural Design</th>
<th>DEVELOPING</th>
<th>COMPETENT</th>
<th>PROFICIENT</th>
<th>DISTINGUISHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project requires more attention to the look and feel of the experience as well as the general design. It is unclear how the design is intended to impact mood.</td>
<td>Project shows some attention to aesthetics and thoughtful design but is incomplete or lacking in some aspects of layout and design. Effort to convey mood is present but could be more clearly demonstrated.</td>
<td>Project is well organized and pleasing to the eye, and is easy to navigate and understand. Demonstrates thoughtful design. The author conveys mood through the design.</td>
<td>Project is well organized, makes good use of space, and great use of available and user-created assets. The world is inviting and thoughtful, and intentional design is apparent. It is easy for the visitor to understand the mood being conveyed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DEVELOPING</td>
<td>COMPETENT</td>
<td>PROFICIENT</td>
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<tr>
<td><strong>Survey</strong></td>
<td>Survey does not provide the audience with a clear understanding of what they are being asked.</td>
<td>Survey provides a general sense of what is being asked but either guides the user to certain responses or is lacking in detail.</td>
<td>Survey provides clear guidance and asks questions that will help the author prove or disprove their hypothesis.</td>
<td>Survey is well organized and professionally designed. It is clear that great thought went into the questions to help the user convey their mood based on the visual representation. The questions provide the author with good data to analyze.</td>
</tr>
<tr>
<td><strong>Essay / Reflection</strong></td>
<td>Essay is disorganized and does not provide a clear explanation of key features and how they are intended to impact mood. Reflection is lacking and requires more thought to demonstrate understanding by the author.</td>
<td>Essay explains the basic idea behind the purpose of the architectural design as it pertains to impacting mood, but explanation lacks clarity. Reflection lacks depth and could better demonstrate the author’s learning from the activity and the data.</td>
<td>Essay provides a thoughtful description of the architecture and intended impact on mood. The hypothesis is clear. The reflection demonstrates an understanding of the project goals and component success.</td>
<td>Essay does a wonderful job of clearly explaining the intended impact on mood based on the architectural design. Hypothesis is clear and relates well to the explanation of intention. Student reflection is well written and expresses a clear understanding of the learning that took place.</td>
</tr>
</tbody>
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STANDARDS MAPPING

APA PSYCHOLOGY STANDARDS

1.1 Describe the scientific method and its role in psychology.

1.2 Describe and compare a variety of quantitative (e.g., surveys, correlations, experiments) and qualitative (e.g., interviews, narratives, focus groups) research methods.

1.3 Define systematic procedures used to improve the validity of research findings, such as external validity.

3.1 Define descriptive statistics and explain how they are used by psychological scientists.

3.2 Define forms of qualitative data and explain how they are used by psychological scientists.

3.3 Define correlation coefficients and explain their appropriate interpretation.

3.4 Interpret graphical representations of data as used in both quantitative and qualitative methods.

3.5 Explain other statistical concepts, such as statistical significance and effect size.

3.6 Explain how validity and reliability of observations and measurements relate to data analysis.

1.2 Discuss psychological research on basic human emotions.

1.3 Differentiate among theories of emotional experience.

CCSS.ELA-LITERACY.W.9-10.2
Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

CCSS.ELA-LITERACY.W.9-10.4
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.W.9-10.6
Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology’s capacity to link to other information and to display information flexibly and dynamically.
INTERDISCIPLINARY AND 21ST CENTURY CONNECTIONS

Students are invited to make connections to their daily lives as well as their other academic content-area classes, including:

- English literature, by way of character examples
- Art, in discussion of colors and emotions
- Science, through scaffolded discovery of research methods
- Mathematics, through introductory experience with data and statistics

Multiple departments and teachers therein have assisted with the formation of this unit plan, which offers an unparalleled opportunity for a cross-discipline approach through co-teaching.

Students discover connections to their daily lives by responding to introspective questions written in their psychology journals. These questions touch on multiple modern themes including: the formation of identity, the growth and development of our minds throughout our lives, what it means to have feelings, and how best to manage them.

Competency in technology is integral to successful completion of this unit.

MODIFICATIONS AND ACCOMMODATIONS

The teacher makes repeated use of multi-modalities within sometimes difficult concepts including, but not limited to: movie clips, TED talks, short-form videos, online study guides, and point-by-point breakdowns.

All material is placed on the Google Classroom, and is available to students at any time, for any reason, for the duration of the unit and beyond.

Students have the opportunity to showcase their talents in many design sizes, from simple four-walled spaces to more elaborate designs.

ADDITIONAL TEACHING MATERIALS:

Please include other teaching materials as separate documents (handouts, etc.)