ART 309.002 FALL 2024

Theory in Art Education Practice

A booklet created by ART 309.002 Fall 2024 students summarizing key theories that may inform art education practice and teaching philosophies.

Theory	Student Name
Constructivism	Sara Dyke
Behaviorism	Anney Cosby
Critical Pedagogy & Critical Race Theory	
Feminist Theory	Tzitlalli Gonzalez
Cognitive Theory/Cognitivism	Lindsey white
New Materialism	
SEL Social-Emotional Learning	Abigail Tomlinson
Studio Thinking/Studio Habits of Mind	Madi Bier
Culturally Responsive Teaching/Multicultural Education	
Connectivism Learning Theory	Meghann Gould
Social Learning Theory	

Experiential Learning Theory	Cassie LaFollett
Project-Based Learning	Cylas Fox
Transformative Learning Theory	Melody Barnes
Humanistic Learning Theory	Spencer Clark
Human Capital Theory	Payton Heiden

Editorial Team:

Theory in Art Education: Collective Booklet Project

Guidelines and Rubric (50pts)

In this assignment, we will create a booklet analyzing theories relevant to today's art education practices. You will work as a group to develop one of the sections of the booklet. You will also engage in a 5-minute presentation (10pts) where you share highlights from the theory you investigated with the rest of the class.

Connection to Course Objectives and Teaching Standards:

- *Apply current research in teaching and learning and relevant theoretical concepts in your lesson planning, teaching, and assessment.*

- *Demonstrate effective written, verbal, nonverbal, and visual communication techniques in the art classroom.*

- *Apply research-based classroom management strategies to ensure a safe and democratic learning environment.*

- *Familiarize with learning theories and educational paradigms relevant to art education at the secondary level.*

From Illinois Professional Teaching Standards:

- *Standard 2 - Content Area and Pedagogical Knowledge (2G): understands the theory behind and the process for providing support to promote learning when concepts and skills are first being introduced.*

From CPAST: M. Connections to Research and Theory

- *CAEP R1.1 Discusses, provides evidence of, and justifies connections to educational research and/or theory AND Uses research and/or theory to explain their P-12 learners' progress.*

Assignment Guidelines

- Use authoritative sources like journal articles and trusted online publications.

- Do not plagiarize. This is not a copy-and-paste assignment. You must digest and paraphrase the information you find.

- The total word count should be between 2000 and 3000 words for your team contribution.

- Provide an easy-to-understand summary of the theory.

- Name the theorist who devised the theory and the time frame it developed.

- State how it is used in education.

- Provide an example of how it is used in art education.

RUBRIC

A work reflects a very high level of conceptual understanding of course concepts and/or mastery of specific skills. The work suggests curiosity and engagement with the content indicative of a student's interest in constructing new knowledge. Student insightfully follows assignment guidelines and effectively communicates what she/he/they has learned. Work at this level is free of spelling and grammatical errors, casual vocabulary, and jargon, reflecting serious scholarly integrity.

B work reflects a good level of conceptual understanding of course concepts and/or successful performance of specific skills. The work suggests an interest in the content and a possible desire to know more about the topics under discussion. Student carefully follows assignment guidelines and communicates adequately what she/he/they have learned. Work at this level has few spelling and grammar errors and is free of casual vocabulary and jargon, reflecting scholarly integrity.

C work reflects a satisfactory level of conceptual understanding of course concepts and/or the acquisition of specific skills. The work suggests very basic interest and engagement with course content. Student follows most assignment guidelines and communicates some understanding of what she/he/they has learned. The work barely meets assignment requirements. Work at this level may have several spelling and grammar errors; writing may contain casual vocabulary, jargon, and direct text from outside sources, reflecting minimal scholarly integrity.

D work Reflects less than a satisfactory conceptual understanding of course content or has not achieved a desired skill. The content of the work suggests little or no curiosity and engagement with the course content. Student follows some guidelines, and it is unclear whether she/he/they has understood the content addressed. Work at this level has several spelling and grammar errors, casual vocabulary and jargon, and considerable direct text from outside sources, reflecting minimal or no scholarly integrity.

F work reflects an unsatisfactory conceptual understanding of course content. The content of the work suggests no curiosity or engagement with the course content. Student failed to follow assignment guidelines and did not understand critical content or concepts. Work at this level will have numerous spelling and grammar errors. Writing contains casual vocabulary, jargon, and extensive direct text from outside sources, reflecting no scholarly integrity.

Table of contents **Page #**

Introduction

This booklet was created by Illinois State University ART 309 students in the fall of 2024. This is not intended to be an exhaustive list of theories but a strategic selection of theoretical postures that could be useful when thinking about the values and priorities that inform student teachers and early career educators. After researching and reflecting on the scope and impact of their selected theory, each student engaged in a 10-15 minute presentation where they summarized the most important ideas with their peers. One of the rationales of this assignment is to collectively create a theory handbook students can revisit as needed. During their student-teaching, future teachers may be asked to explain how pedagogical decisions they have made are connected to current research and theories.

This assignment is connected to the course objectives and teaching standards:

- Apply current research in teaching and learning and relevant theoretical concepts in your lesson planning, teaching, and assessment.
- Demonstrate effective written, verbal, nonverbal, and visual communication techniques in the art classroom.
- Apply research-based classroom management strategies to ensure a safe and democratic learning environment.
- Familiarize with learning theories and educational paradigms relevant to art education at the secondary level.
- From Illinois Professional Teaching Standards: Standard 2 - Content Area and Pedagogical Knowledge (2G): understands the theory behind and the process for providing support to promote learning when concepts and skills are first being introduced.
- From CPAST: M. Connections to Research and Theory: CAEP R1.1 Discusses, provides evidence of, and justifies connections to educational research and/or theory AND Uses research and/or theory to explain their P-12 learners' progress.

Effective teachers strive to understand themselves, their students and the culture where they teach. Quite often they make decisions that are informed by specific views about themselves, their students and society. As seen in the examples discussed later in this booklet, educators have drawn ideas from different fields of knowledge including sociology, psychology and philosophy to identify new concepts that may help explain and, possibly, transform their practice.

This booklet covers 17 theories that are relevant to the teaching of art education. The theories covered are Constructivism, Behaviorism, Critical Pedagogy, Critical Race Theory, Feminist Theory, Cognitive Theory and Cognitivism, New Materialism, Social-Emotional Learning, Studio Thinking and Studio Habits of Mind, Culturally Responsive Teaching and Multicultural Education, Connectivism Learning Theory, Social Learning Theory, Experiential Learning Theory, Project-Based Learning, Transformative Learning Theory, Humanistic Learning Theory, and Human Capital Theory.

This booklet examines the work of well-known psychologists such as Jean Piaget, Albert Bandura, and Lev Vygotsky, as well as the work of others such as Paulo Freire, Jilian Hogen, and Kimberly Sheridan. All of the aforementioned people, as well as the work of many others, have created a vast range of research, knowledge, and understanding of human nature, education, and the world as a whole. Each section of this booklet contains six sections answering the following: 1. What is it? 2. Who said it? 3.Key concepts 4. So what? 5. From Theory to Practice: One Example and 6. Reflecting. This allows for a thorough examination of each theory as well as a personal opinion written by each student.

In these summaries, students relied mainly on authoritative sources like journal articles and trusted online publications. Students analyzed and presented the most critical information using engaging and easy-to-understand language and examples, often from their teaching experiences.

[1] Constructivism

What is it?

Describe the general tenets of this theory. What is it about? Is this theory part of a larger worldview, a way of thinking about the world and society? If this is a larger theory, what subtheories or concepts derive from this theory?

Who said it?

Who has made important contributions to this theory over the years? What did they say?

E.g. Judith Butler, ****

Key Concepts

What are this theory's main concepts? How is knowledge acquired according to this theory? What is the best way to approach teaching according to this theory?

So What?

What does it have to do with education/teaching/learning? What does it have to do with art education?

From Theory to Practice: One Example

How can this theory or theoretical framework be applied? What is one example of applying this theory to teaching art?

Reflecting

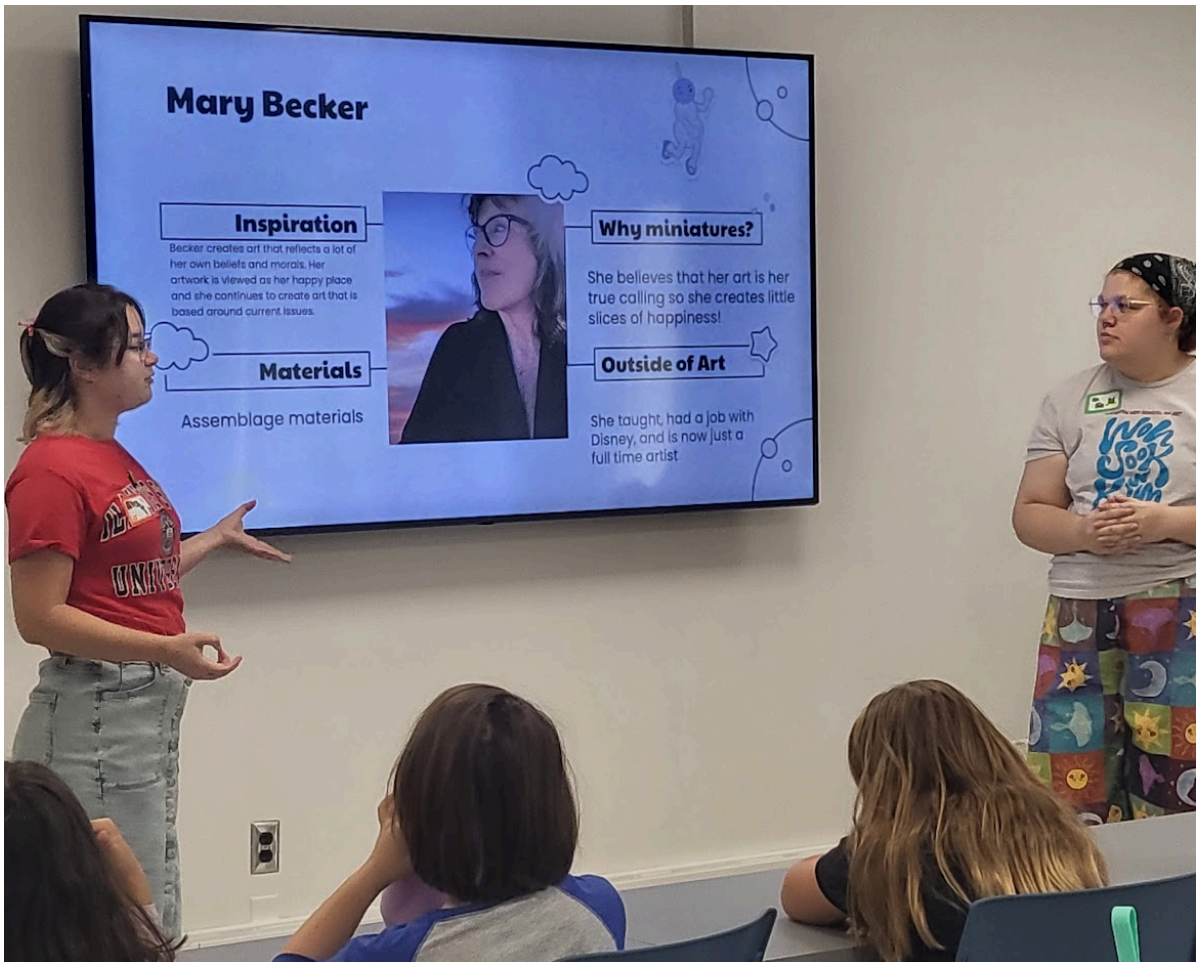
Did you find this theory motivating? Did any of your past instructors use this theory in their classrooms? Have you ever used, or can you imagine using this theory in your own teaching practice? How so?

References

Academic sources and images cited in the text. Use APA style to insert references. Jenna will compile all the references and place them all at the end of this document.

Replace this picture

[1] Social-Emotional Learning



What is it?

Social-Emotional Learning (SEL) is defined by the CASEL as "an integral part of education and human development. SEL is the process through which all young people and adults acquire and apply the knowledge, skills and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions" (2020). This theory has a rather complex definition that has a multitude of components that are essential for success in students and in adults. There are five key competencies in SEL: self-awareness, self-management, responsible decision making, relationship skills, and social awareness. These five components can be referred to as the building blocks of SEL(Hulen & Lipsett, 2022).

SEL is based around a question posed by Dr. Roger P. Weissberg, a founder of SEL. He asked, "How can schools, families, and communities work together to foster positive life opportunities and optimal development for young people?". This theory and practice is focused on creating a positive space in which young people can develop the proper social and emotional skills they need to, striving to create a positive classroom and school culture, and creating conditions and climates that are caring to foster learning that is "caring, culturally responsive, well-managed, participatory, and safe"(Weissberg).

SEL has been present in every relationship, but it hadn't been defined until a group of educational advocates came together to fight for the "missing piece" in education. Social-Emotional Learning places an emphasis on active learning techniques, generalization of skills across

settings, and the development of social decision-making and problem solving-skills that can be applied in many situations(Elias, 1997). This theory was born out of a want to see students succeed and see more educational equity in schools. It is meant to empower young people and address multiple forms of inequity.

Who said it?

There were a number of people who made important contributions to SEL as a whole, as early as 1968. Dr James Comer at Yale University conducted a study between two schools based upon supporting the "whole child". The experiment was successful, each of these schools seeing a decline in behavior challenges and the students exceeded the national average in academics. This was only the beginning for SEL. From 1987-1992, educators and researchers came together, headed by Timothy Shriver(1959-) and Dr. Roger P. Weissberg (1951-2021), and began the program that would pioneer SEL strategies. Dr. Weissburg at the time, along with Dr. Maurice Elias, chaired the "W.T. Grant Consortium on the School-Based Promotion of Social Competence" (CASEL). This team worked to create a framework for bringing social and emotional skills into schools.

1994 was a historic year for SEL. What is described as a "passionate group of people" met to try and address the "missing piece" in the educational field. The number of people involved in this diverse group of researchers, educators, practitioners, and child advocates has no listed number, but all of these people came together to advocate for the belief that schools must attend to all of the emotional and social needs of children. This meeting of passionate people created the Collaborative for Academic, Social, and Emotional Learning, and they pioneered the term "Social Emotional Learning".

"SEL involves evidence-based programs, practices, and policies through which children and adults acquire and apply the knowledge, skills, and attitudes necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions" - Dr. Roger P. Weissberg

Timothy Shriver and Dr. Roger P. Weissberg, founders of SEL

Key Concepts

The main concepts within Social-Emotional Learning focus on development rather than a system for managing behavior. There are five building blocks that make up SEL that help build human development in the classroom. The five building blocks are: sense of self, reciprocal engagement, social awareness, social-emotional regulation, and logical and responsible decision making. Using a building block model reminds us of how growth in these areas builds on itself and in turn, aids the child in succeeding in the classroom

The first building block in SEL is the sense of self. This building block focuses on students exploring who they are and identifying what makes them unique. It encourages students to find what makes them proud about themselves and what their weaknesses are.. This block builds the child's confidence in identifying what they are feeling and why, identifying others emotions, and being able to respond thoughtfully. By having a strong foundation in sense of self, it propels the student further than being able to identify emotions, but to use these emotions and observe their environment. The child develops their perspective on the world and interprets experiences in their life through a negative and positive lens. The sense of self helps children foster a sense of safety and determine where they belong in the world. The sense of self is the basis of the building block tower that is SEL and if the child has a negative sense of self, it could lead to the tower toppling over.

The second building block is reciprocal engagement. Reciprocal engagement or relationship skills is one of the earliest forms of engagement that a child knows. An infant cries for food and the caregiver responds, or when a caregiver tickles a baby's foot and the baby giggles. These are forms of reciprocal engagement. This is a cause-and-effect relationship and it is the foundation for our second building block. These early forms of communication help the child begin to build up their reciprocal interactions, or circles of engagement(Hulen & Lipsett, 2022). Circles of engagement can also be called "serve-and-return responses"(Hulen & Lipsett, 2022). These can be described much similarly to the communicator serving the metaphorical ball to the child and the child returns the ball. It aids strongly in building the sense of self, self-regulation, and social awareness. Strong reciprocal engagement skills help children interact with interactions that may be boring or challenging to them.

The third building block is social awareness. This happens along with blocks one and two, and it is when the child begins to realize that their thoughts are their own and others may not share the same thoughts and beliefs. Children begin to recognize others' emotions and develop a sense of empathy. This is also when children begin to be able to take perspectives of others into consideration/in the classroom, this may look like students recognizing that their peers like different things than they do, having different spiritual or political beliefs, or even being able to tell when one of their classmates is having a good day or bad day. Social awareness can factor into student's behavior if they have a lower social awareness. Hulen & Lipsett discuss a first grader who would grow upset with his teacher when she was happy while he was feeling sad.

The fourth building block is social-emotional regulation. This block is when we begin to recognize our own emotions and respond to the emotions appropriately. Children develop their control of their own attention, begin to develop a growth mindset, thinking before acting, cognitive-executive functioning skills, and flexibility. Social-emotional regulation tends to be the most targeted of the building blocks, however if the students do not have a well laid foundation of the previous three building blocks, these strategies that a lot of educators will use to help students regulate can oftentimes lead the students to feel whatever they were feeling more strongly. Educators are encouraged to first ask questions that engage the students in the first three building blocks before trying to use social-emotional regulation strategies.

The fifth and final building block is all about logical and responsible decision making. This is when the student will merge two ideas together, arrive at their own conclusion, and then act on that. These are cognitive skills that are called cognitive reflexibility and critical thinking(Hulen & Lipsett, 2022). *Students begin to develop a sense of purpose and their values form based on experience. When making decisions, we rely on our values, emotions, and our interpretations of the situation. Students have the same decision making process that we have and it is important to remember that in the classroom. If a student has a weaker set of relationship skills, their decisions may look different than other students who have a strong set of reciprocal engagement skills.*

Within Social-Emotional Learning, teachers are encouraged to help students acquire knowledge by aligning their lessons and curriculum with the SEL standards. Students are constantly using their social and emotional learning as they "Anticipate how their own

arguments may be interpreted and received by taking on the perspectives of others" (CASEL), "Understand others' perspectives to effectively interpret their arguments" (CASEL) which aligns with students' social awareness, "Think metacognitively and organize their own thoughts with given information"(CASEL), utilizing their sense of self, and "Listen actively to further explore the arguments of others" (CASEL) which uses their reciprocal engagement skills. Teachers can utilize these SEL skills that students have and incorporate them into lessons. Using SEL, students can acquire knowledge that is presented to them and then do something with the knowledge. Understanding SEL is important for teachers as it fosters and sustains deep learning. It can be embedded into academic content standards.

Teachers can use the Frame, Coach, Reflect model to help students build knowledge and make clear connections. According to CASEL, Frame references thoughtful scaffolding that teachers can provide for social and emotional competencies that students could use to help reach their learning goals. Coach references teachers providing students with opportunities for students to perform what they have learned. Reflect references having students reflect on what they have learned as it allows students to build meta-cognition and activate their neural pathways (CASEL). This is just one way teachers can teach their students within the classroom and give students the opportunity to acquire knowledge using SEL as a baseline for learning.

So What?

Why should we use Social-Emotional Learning in schools? SEL can be seen as quite controversial amongst certain political groups that don't think socializing and emotions should play a big role in a child's development and learning. However, SEL can be used to help students contextualize the information they are learning and make connections to what they already know, thus strengthening their neural pathways. In an SEL classroom, there are three components and each of these components has a positive effect on how students are learning.

SEL classrooms are supportive classroom climates, utilize the integration of SEL into academic instruction, and have explicit SEL instruction (CASEL). Each of these components encourage learning in specific ways related to both social and emotional skills and academic knowledge. Having a supportive classroom climate makes the student feel emotionally safe and allows them to take academic risks that they may not take in classrooms where they don't feel the same support. If students are not feeling emotionally supported or safe within their classrooms, they may not take the academic risks that are necessary for exploring their knowledge and gaining a deep learning experience.

When integrating SEL into academic instruction, teachers are weaving in academic learning with different opportunities for students to practice emotional and social competencies. This integration can help students' growth mindset flourish and enrich students' academic experience. In the classroom, this may look like assigning small group projects to encourage students to share their different perspectives and learn from their peers about each others' thoughts!

By having explicit SEL instruction within your classroom, this can provide students practice in cultivating, practicing, and reflecting on their social and emotional competencies (CASEL). In a classroom, this could look like giving students the opportunity to discuss how different outcomes during the day make each of them feel, and giving them time to understand and respond to how their classmates are feeling.

When using SEL in a classroom, students feel safer, more motivated, and are encouraged to take the academic risks that they are thinking about. In the original study that led to the founding of SEL, Dr. James Comer found that students who were attending the schools that supported the "whole child" were showing a significant decline in behavior challenges and the students were exceeding the national average in academics (CASEL). Using SEL in classrooms and focusing on modeling your classroom after SEL standards has shown to have a significantly positive impact on the students.

What would this look like in art education? Art is frequently used to help children express how they are feeling or work out solutions and get to the root of their own feelings. Art therapy is wildly popular for young children as art acts as a communication tool for younger children even if they are unaware of it. Art educators have the ability to play a crucial part in the social-development of young people. Creating art is an incredibly complex process that engages students in their social-emotional competencies as they go through the artistic process. As students create art, they are given the opportunity to develop and exercise their SEL skills. As we are teaching students different art techniques, different artists, and different mediums, students are given the chance to engage with social and emotional competencies.

Art as a whole can have incredibly positive effects on students and their social and emotional skills even without the teacher's knowledge of SEL. Applying SEL practices within an art classroom only expands a student's creative horizon as they learn. Creating a safe environment could give students the space to take creative risks and succeed or fail. An SEL centered art classroom is an environment where risks in artmaking are welcomed and encouraged, and failure is part of the growth process. Having students engage in their relationship skills and sense of self could motivate a critique of artwork, each student giving their unique and thoughtful input. Having students create emotion based art and then write a brief statement about how the piece they created conveys what they are feeling. These few examples are all Social-Emotional Learning informed approaches to teaching. Utilizing SEL in art education is almost second nature. Art educators are constantly creating lessons, projects, and conversations that encourage the use and development of social and emotional skills. With the knowledge of Social-Emotional Learning, art educators have the ability to create deep learning opportunities and lasting knowledge within their students!

From Theory to Practice: One Example

Imagine being an elementary school art teacher and one of the kindergarten teachers relays that their class is learning about emotions, how to identify them, and how to start responding to big feelings. The teacher is asking if in the next art project, there could be an incorporation of emotions and what they are. How would you go about doing that?

There are a multitude of ways to incorporate SEL into an art class, most art teachers do this unknowingly. Social and emotional development presents itself differently in art than in other traditional settings. Incorporating SEL into lessons could be as simple as asking students to reflect on their peers' work, asking them to make connections to their own life, how the work evokes their emotions, and how the work was intended to make them feel. SEL can be used at each level of schooling, though it may not seem as obvious as it might for younger students.

Following the five building blocks, a hypothetical lesson could be created for the hypothetical presented at the beginning of this section. Including emotion and how to identify and respond to emotion is not a foreign concept to most artists and art educators. Art can be argued to be an incredibly emotional subject, even without trying.To design a social and emotionally relevant lesson for kindergarteners would begin with figuring out a way to incorporate a sense of self, reciprocal engagement (relationship skills), social awareness, social-emotional regulation, and responsible decision making.

The art teacher could create a project for the kindergarteners that asks them to create an oil pastel drawing that showcases a subject that evokes a strong emotion within them. This could be fear, happiness, sadness, anger, or any other emotion. The first step in this project is asking the kindergarteners to identify an emotion they feel and to find something that makes them feel that way. This is calling on the students' social awareness and their sense of self. As they identify their own emotions, they are creating a response visually and

depicting what is causing them to feel this way. As they start to work on their project, the art teacher could encourage the students to speak with each other about what they are making. This encourages students to practice their relationship skills and self-regulation. Students are engaging with each other, listening to and perhaps expanding on their peers' ideas. Social-emotional regulation can come into play if students have different feelings about the same subject. For example, two students could be depicting a dog. One student explains that they are drawing the big, scary dog that barks at them when they are at the bus stop and makes them feel scared. Another student explains that they are drawing their dog which makes them feel very happy. This can encourage students' social-emotional regulation as they identify what they are both feeling and how to respond appropriately. In this process, students are also practicing responsible decision making with their art choices and with how they interact and respond to their peers.

There are so many scenarios in which SEL can be used within the art classroom and the hypothetical is just one of them. Students are engaging with and practicing SEL constantly, especially in the art room where emotions can play a big part in creating and responding is vital to understanding their peers' work.

Reflecting

This theory was highly motivating to learn about. Having past experience volunteering in a preschool room where a great deal of SEL is happening, research provided a lot of insight into what was happening, how students were responding to certain things, and why they may have been responding this way. There were a number of teaching strategies and techniques that were defined by different sources that encouraged SEL in classrooms that I had noticed myself and my peers already using when we teach.

From my own schooling experience, I cannot recall my teachers explicitly following certain frameworks provided by different sources, but there were aspects that were similar. Especially when I was in elementary school, I recall my early teachers placing an emphasis on using proper social-emotional regulation skills and giving us the space to figure out our sense of self and broaden our social awareness.

Unknowingly, I have used certain strategies presented within SEL. It wasn't something I had to actively think about although in the future I will be more aware of how I am conducting my lesson and creating these connections between my teaching and social-emotional learning. I do imagine myself using SEL in the future just because it seems and feels like a natural way to teach. Art making is an emotional process. I have always wanted to provide students with a safe space to create art, take risks, and discuss their own art in a way that can challenge what others may think. Using art as a developmental tool is something that I have thought about at great lengths and discussed with different people in the education field as well as those in the realm of art therapy.

Social-Emotional Learning is a tool that can be used in schools to aid students in growing their social-emotional competencies, improve academic performance, and bring understanding about certain responses. Learning is deeply fundamentally social and emotional (Farrington et. al). It can be a cultural process and utilizing art can enrich that experience for children.

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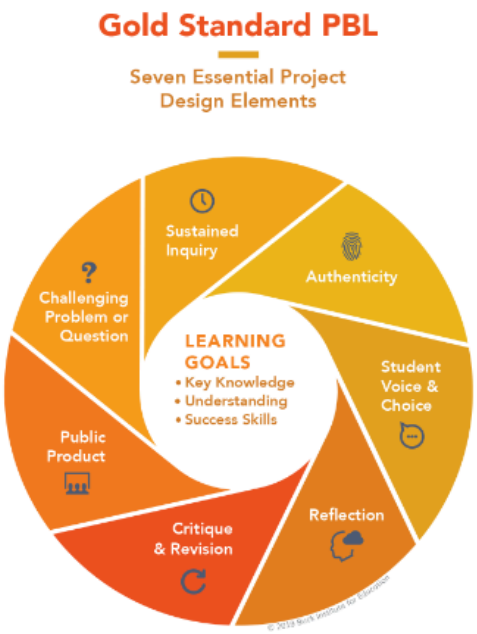
[1] Project-Based Learning



What is it?

Project-based learning is the theory that students learn better when all of their instruction is tied back to one big idea over the unit/semester. They do projects/research that further their understanding of the idea, and then they help further the in-class instruction by presenting their projects to the class. Students benefit by formulating their questions, and by answering them in class. The instructor presents problems/questions to the students that will help tie everything back to their big ideas.

Who said it?

William Heard Kilpatrick, based on the problem-based learning ideas that Dewey presented and the situational learning ideas from constructivism.

The constructivist ideas that John Piaget brought were that students learn through their environment, and the things that they experience, rather than a solely internal occurrence (as others believed at the time).

Kilpatrick took the ideas from both Dewey and Piaget and put together the idea that students would learn better through project-based learning. An idea inherent to project-based learning is scaffolding, and while Kilpatrick may not have used the exact word, his ideas of education support scaffolding. Working each lesson into the subsequent one ensures that student education is based on real-world ideas and that students are not just passively absorbing information.

William Heard Kilpatrick

Key Concepts

The Key concepts of Project-Based learning are summarized in the lesson design principles.

Lesson Design Principles:

- *Sustained Inquiry*
    - *Students are working on the project for weeks to a semester.*
- *Authenticity*
    - *Based in reality/Has touchstones to the real world*
- *Student Voice & Choice*
    - *Students have input on what the topics/problems/questions are*
- *Reflection*
    - *Beyond just learning the information, the instructor and students need to reflect on it so that the knowledge can be put into the context of the big idea as a whole.*
- *Critique & Revision*
    - *Students get a say in how this should be taught/could be taught differently in the future. As well as how they would prefer to be taught in the following lessons;*
- *Public Product*
    - *The product/research/artwork/etc. Should be posted publicly for people outside of the classroom to see. Whether that is online, or in the hallway of the school, it should be somewhere people other than their direct peers can interact with it.*
- *Challenging Problem or Question*
    - *Arguably the most important part, coming up with the problem/question that the sustained inquiry will be about. Students should be able to have a voice in this, and it should also still be open enough that you can hit the learning targets within this problem.*

Some of the Teaching practice tips are:

-Encourage students to find their sources/research

-Ensure you are hitting the learning targets with each project presented to the students.

-Ensure you are using a problem/question that interests the students, and not just one that you can easily fit your learning targets into.

So What?

Project-based learning is based on multiple theories, and well supported, but so what? Where could this be seen in practice in the classroom?

One example is in a chemistry classroom, for an entire semester they focused on the Flint, Michigan water crisis.

They spent weeks researching a topic, that they realized there had not been research into yet, and even published their findings at the end. Scientists still reference the research that they did in this high school chemistry class because they were solving/answering real-world questions.

They used the seven principles of designing a PBL lesson very effectively in this example. They made sure that students had a say, as they got to pick what they specifically wanted to research about the Flint, Michigan water crisis. They made sure there was a public product, with the published lab research that they performed.

This Theory is also one of the easier ones to implement within the classroom. You are still able to present the lessons that need to be taught, it is only changing the way that they are framed to the students. You could make PBL work for nearly any project, as long as you keep the topic within the big idea of that sustained inquiry for your students.

From Theory to Practice: One Example

An example of how this could be used in an art classroom, is in a ceramics class, to ask the students to answer one problem of function with their pieces. Perhaps they will want to redesign the mug handle so it is easier to hold, add a spout in a cup for a straw, or anything.

The students will spend the semester trying to solve one problem with different solutions, and in the process, they will all learn more about ceramics. Include the question of function in each assignment sent to the students.

They could then all pick which of their pieces solves their problems of functionality best, and these would be put on display with explanations of how that problem was solved/why this design is better than the widely accepted one.

This lesson would hit each of the seven ideas of designing for PBL teaching.

Reflecting

My high school physics teacher used a PBL-designed lesson. For the entire semester, we were learning how to build a Rube-Goldberg machine and calculate the speed of a ball moving through it. We posted videos of the Rube-Goldberg machine on YouTube, making it a public product. While I was learning about Project-Based learning, I was thinking back on that lesson for each point that I found about how to design a successful PBL lesson. We were able to reflect in class and had conversations, he would adjust his due dates/assignment requirements based on where the student's understanding was, and everything tied back to calculating the speed of the ball in our Rube-Goldberg machine. I remember that lesson better than a lot of the other ones I was in at the time, maybe not the exact formulas but the basics. That's more than can be said about a lot of other science classes I was in, so I think that is a point in the pro column for PBL theory.

In the future, as an art teacher, I will use PBL theory when designing my lessons. I do like the idea of everything tying back to a problem/question that the students are trying to solve for the unit/semester. I think it helps with engagement because students are also active participants in the creation of the topic. I think in my future classroom, I would have the students all write up on a whiteboard/sticky notes around the room about an art style/movement/material, etc. they would want to learn about. I also think that I would have them involved in voting on possible questions/problems for their sustained inquiries to be about, between an offering of ones provided by me based on the suggestions they made previously.

I think that the "public product" part of PBL will also come into play in my future classroom, at my high school there were specific spots dedicated to student artwork to be displayed, and I hope that most high schools do as well, so I would display my students work in the halls. I also would make an optional "art social media account" lesson, where students could post their art online and I would have information on how to do that/how to be safe online and not share personal information.

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[1] Cognitive/Cognitivism Theory

What is it?

Cognitive theory, otherwise known as cognitivism, is a model in psychology and education that emerged as a corrective theory to combat the limitations that are present within the concept of behaviorism. Behaviorism focuses on external stimuli and behaviors that they cause, cognitivism focuses on the role that mental processes that contribute to reactions/behaviors. This theory puts an emphasis on how people obtain knowledge, process information, and retain information (Jarre). Cognitive theory establishes the concept that our behaviors are rooted in our individual thoughts and beliefs. In education, cognitive theory greatly influences how teaching is approached and how curriculum is designed appropriately based on the age group of the students. Piaget's concept of stages of development allows for teachers to understand how a student thinks and what is an effective way of teaching them, keeping in mind their thought processes. For younger children in the concrete operational stage, hands-on activities with tangible objects help solidify their understanding. Meanwhile, adolescents in the formal operational stage can tackle more abstract concepts and engage in complex problem-solving and discussions due to their ability to think hypothetically and reason abstractly.

Who said it?

Cognitive theory spung about in early psychology but was further developed in the 20th century by Swiss psychologist Jean Piaget. Piaget contrasted the theory that knowledge is innate and advocated for the concept that cognitive development is formed from a combination of both assimilation and accommodation (Scott 2023), His development of the theory established four stages of mental development: sensorimotor, preoperational, concrete operational, and formal operational. These stages signal the developmental stages of children and are used as a marker or intellectual growth or maturity. Piaget's concept of these developmental stages caused a reevaluation of educators' understanding of the cognitive development of children, how to appropriately educate, and gave insight regarding what to expect from a child throughout their developmental years. If cognitive development followed a set genetic timeline, just using rewards wouldn't be enough to teach new concepts. Instead, the child needed to be at the right stage of mental development to grasp these concepts.

Jean Piaget, developer of Cognitive Theory

Key Concepts

The first stage of cognitive development is typically from ages birth to 2 and is defined as the sensorimotor stage. During this developmental period, infants explore and learn about their environment through their motor activities and senses. They engage in activities that involve sight, hearing, touch, and manipulating objects. In this stage infants develop a sense of reflective actions and learn to better understand their reflexes and their effects. Object permanence is a major milestone during these years as young children begin to understand that objects continue to exist even when they are not directly visible (Scott, 2023). Playing peek-a-boo helps infants comprehend this concept by showing them that the person hiding behind their hands still exists, despite being temporarily gone from their field of vision. Students that are in the sensorimotor stage learn best through touch and visual experiences. They explore their surroundings by touching, seeing, and experimenting with objects. This stage marks the beginning of cognitive development beyond solely sensory experiences, as children start to understand their environment in more abstract ways (Thompson, 2019). By engaging in activities that challenge their

senses and motor skills, infants develop a better understanding of object permanence and space. This stage sets the groundwork for future cognitive growth and more complex forms of thinking.

The second stage highlighted within cognitive theory is the preoperational stage. This typically occurs between ages 2-7 and is most noted for the development of language and pretend play. During this stage, young children use symbols to represent words, thoughts and their ideas. They do not yet understand how to manipulate mental information, or adult logic (Valentine-French, 2007). Translating to the emergence of abstract thinking, children begin to engage in pretend play such as using a stick to symbolize a sword or using a kitchen pot as an armor hat. By capitalizing on their developing symbolic thinking and language skills, while addressing their cognitive limitations, educators can create engaging and developmentally appropriate learning experiences involving symbolic play, concrete learning, social interaction, and scaffolding. Teaching children in this way expands their understanding of more abstract concepts and lays a foundation for more advanced cognitive skills in later stages.

The third stage of Piaget's cognitive development theory is from the ages 7 to 11 and is referred to as the concrete operational stage. During this stage, children's cognitive abilities expand significantly, allowing them to think more logically and systematically. They begin to understand complex concepts such as conservation, which is the idea that quantity remains the same despite changes in shape or appearance (Thompson, 2019). They also grasp reversibility, meaning they can recognize that objects can be transformed and then returned to their original state. Additionally, children in this stage develop concrete reasoning skills, which means they can solve problems and make decisions based on tangible objects and real-life experiences rather than abstract ideas.

However, while their logical thinking improves, children in the concrete operational stage still find it challenging to deal with hypothetical or abstract concepts. Their reasoning remains closely tied to concrete experiences and physical objects. For instance, they can solve arithmetic problems involving actual objects but may struggle with abstract mathematical concepts or hypothetical scenarios. To support their cognitive development during this period, it is crucial for educators to focus on teaching problem-solving skills that are grounded in concrete experiences. Activities like puzzles, mathematical problems, and tasks involving organizing and classifying information are particularly effective. For example, using block patterns to solve sequencing problems not only reinforces logical thinking but also helps children understand patterns and relationships.

As children approach the end of the concrete operational stage, they are ready to start transitioning to the next developmental stage, the formal operational stage, which involves abstract and hypothetical thinking. Educators can facilitate this transition by gradually introducing more abstract concepts while still anchoring lessons in concrete examples. This approach helps bridge the gap between the concrete reasoning of the current stage and the abstract thinking required in the subsequent stage. By carefully scaffolding their learning experiences, educators can support children in making this important cognitive leap, preparing them for more advanced reasoning and problem-solving skills as they continue to develop.

The last stage that is seen within cognitive theory occurs between the ages 12 and up, this stage is called the formal operational stage. Adolescents in this stage develop the ability to think both abstractly and hypothetically. They can consider possibilities that are not observable or present and can reason about concepts that are not grounded in concrete reality. For example, they can think about moral,

philosophical, and theoretical concepts that go beyond immediate experiences. This is the stage where the development of deductive reasoning and systemic problem solving is seen (Scott 2023). Adolescents can approach problems in a more methodical and organized way. They can plan and execute complex sequences of operations and think about multiple variables simultaneously, which allows them to solve problems that require considering several factors at once.

So What?

Understanding these stages allows for teachers to help guide students through learning and problem-solving processes, while allowing them to use their own mental capabilities to expand their knowledge and formulate solutions. With knowledge of the stages of development highlighted within Piaget's Cognitive Theory, teachers can tailor age-appropriate activities that work to assist the child into the next stage of development. This involves providing support that is gradually removed as students become more competent. A teacher may initially provide detailed guidance on a more complex task and then reduce direct assistance as students gain a sense of understanding regarding the topic at hand. This theory is built on the concept of self-regulation and teaching students to think on their own. Teachers should help students develop strategies for planning and evaluating their own learning process. Through assessments such as reflections or goal setting exercises, students can be encouraged to participate in self-regulated learning.

Applying Cognitive Theory in education often involves incorporating metacognitive reflection. This is a cognitive process where students become aware of their own learning styles, cognitive processes, and strategies. Metacognitive reflection encourages students to actively think about how they learn, which helps them gain insight into their own cognitive functioning and artistic development (Merkebu, 2023). For example, by reflecting on what inspired their artwork, students can better understand the sources of their creativity. They might consider how they approached a particular technique, what challenges they encountered, and how they overcame these obstacles. This reflective practice allows them to gain deeper insights into their creative processes and decisions. Metacognitive reflection also empowers students to evaluate and adjust their learning strategies. If a student recognizes that a particular method or approach is not yielding the desired results, they can modify their strategies to better align with their individual learning style. For instance, if a student finds that a specific technique for shading is not working well, they might explore different methods or seek alternative resources to improve their understanding and execution. This flexibility and adaptability are crucial for effective learning and skill development.

From Theory to Practice: One Example

In art education, cognitive theory significantly influences practices aimed at enhancing students' skill development, creativity, and critical thinking. By aligning art instruction with cognitive theory, educators can ensure that their teaching methods are developmentally appropriate and engaging for students at various stages of cognitive growth. Cognitive theory provides valuable insights into how students' artistic skills and thought processes evolve over time, enabling teachers to tailor their instruction to match students' current cognitive abilities and skills. For example, younger students in the early stages of cognitive development might begin with simple, realistic drawings. This foundational approach helps them build essential skills and understanding. As students grow and their cognitive abilities become more developed, they can progress to more abstract and complex artistic expressions. Understanding these stages allows art educators to design lessons that are both challenging and achievable, fostering growth and creativity at each developmental level.

Art educators can leverage the principles of cognitive theory to create lessons that effectively build on students' prior knowledge, a strategy known as scaffolding. By breaking down complex tasks into manageable steps, teachers help students gradually develop the cognitive functions needed to tackle more advanced concepts. For instance, a teacher working with young students might start by guiding them through a concrete, realistic drawing exercise. Once students have mastered this basic skill, the teacher can introduce abstraction techniques, such as painting over their initial drawings with abstract methods. This approach not only reinforces their existing skills but also gently transitions them into more complex artistic concepts (Gibson, 2008). Cognitive theory suggests that learning is most effective when it builds upon what students already know, this is a process called scaffolding. In the context of art education, this means that educators should design activities that connect new artistic techniques or concept to students' previous experiences and skills. By doing so, teachers can help students make meaningful connections between their current abilities and new, more abstract ideas, facilitating a deeper understanding and better engagement.

In an art class, metacognitive reflection helps students identify their strengths and weaknesses and encourages them to reassess their work critically. By learning to view their creations through a more reflective and analytical lens, students can make more informed decisions about how to improve and refine their artistic skills (Merkebu, 2023). This process not only enhances their technical abilities but also allows for a deeper appreciation of their creative journey. Understanding their cognitive development and learning processes equips students to be more proactive in managing their own learning. It teaches them to take ownership of their educational experiences, which is a valuable skill both within and beyond the classroom. Cognitive Theory thus provides a framework for teachers to create instructional methods that are tailored to students' developmental stages, promoting effective learning and skill acquisition.

In art education, the application of Cognitive Theory ensures that teaching methods are aligned with students' cognitive abilities and developmental levels. By integrating metacognitive reflection into the curriculum, teachers can help students develop their skills, creativity, and critical thinking more effectively. This approach keeps students engaged and supports their growth by making art lessons relevant to their cognitive stage and learning needs. Overall, Cognitive Theory enriches the educational experience by fostering a deeper understanding of both the artistic process and the broader cognitive development of students.

Reflecting

This theory provides so much insight into what it means to teach relevantly. Understanding how a child thinks is essential for developing lessons that are manageable, challenging, and relevant to their cognitive abilities. In my personal experience, I remember being a kid in art class slowly getting introduced to paint and techniques. As we went up in grade levels, the knowledge that was given to us was more in-depth and technical. Understanding this theory allows me to reflect on this as a way to engage students. As aspects of thinking, perspectives, and learning developed, the teacher adapted lessons based on what my peers and I could comprehend while still being challenged to grow.

For our Saturday art class, we utilize this theory to develop activities that are inline with the 1st graders cognitive functions. We understand what skills and concepts they can grasp and provide new ways to introduce techniques/topics that cater towards the cognitive development stage of an average 1st grader. I certainly see myself using this theory to design a curriculum that utilizes scaffolding to gradually introduce students to new concepts that are engaging and achievable based on the age group.

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