R-12 Integrated Learning Paper

catholic
education
south australia
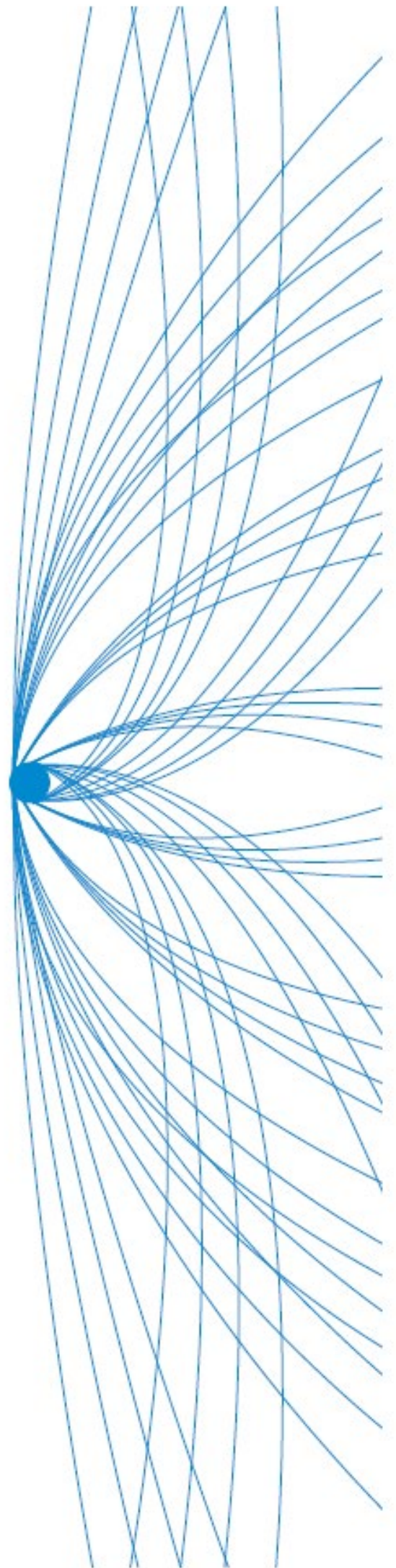
Introduction:

Integrated learning breaks down the boundaries between subject areas and instead integrates the skills and knowledge traditionally defined within those subject areas into an approach to exploring, making connections, and learning about our world. There are many different definitions, theories and frameworks around integrated learning, and the **purpose of this paper is both to clarify and prompt further engagement with integrated learning in CESA schools.**

> If the world we live in is an interconnected and interdependent world, it only makes sense that knowledge be presented as interconnected and interdependent (Drake & Reid 2018).
>
> *Susan Drake*

Young people experience the world as a dynamic, complex place that is built upon rich connections. To comprehend, understand, thrive, and lead in this world requires the capability to learn the deep relationships that exist between all things.

Integrating the curriculum is reflective of developmentally appropriate practice and allows learners to experience the reality of the world around them.

Why integration?

Integration acknowledges and builds on the relationships which exist among all things (Kelly 2001). An integrated curriculum is one that connects beyond traditional subject areas and learning experiences that are designed to be mutually reinforcing. Integrated Learning develops every child's ability to deeply connect and transfer their learning.

At its heart, integration is an equity project that aims to promote learner agency to develop the skills, knowledge, and capabilities required to navigate the world in which they live.

Larry Rosenstock (2008), the founder of High Tech High, explains that for all learners, daily life is not stratified into "the maths part, the science part, the history part, and the English part. Kids don't experience the world that way" (Why Should Schools Embrace Integrated Studies? 2008).

As an extension of this, integration of knowledge and multidisciplinary perspectives are among the top priorities endorsed by professions as well, indicating that integrated learning not only serves learners for today, but for whatever tomorrow holds, also.

Benefits of high-quality Integrated Learning

Increased achievement in standardised, programme-based assessments (Dowden 2007) (Nolan & McKinnon 2003).

Better comprehension of perspectives, disciplines and how they relate (Duerr 2008).

Increased ability to make decisions, think critically and creatively, and synthesise knowledge beyond the disciplines (Mathison & Freeman 1997).

Enhanced ability to identify, assess, and transfer significant information needed for solving novel problems (Mathison & Freeman 1997).

Improved capacity to create information in collaborative environments as a meaningful member of a community (Nolan & McKinnon 2003).

Increased motivation towards learning and finding out about how the world works (Mathison & Freeman 1997).

Growth in self-confidence, independence, and leadership (Boyer & Bishop 2004).

Highly responsive to educational and developmental needs (Dowden 2007).

> "Research indicates that using an interdisciplinary or integrated curriculum provides opportunities for more relevant, less fragmented, and more stimulating experiences for learners"
>
> (Furner & Kumar 2007)

Discussion point: Integrated pedagogies have their foundation in social epistemology. What are your beliefs about knowledge and the role of society?

How is integrated learning reflected in the Living Learning Leading Framework?

Cultivates effective communication through collaboration
IL encourages students to inquire collaboratively, sharing their ideas and communicating their understandings
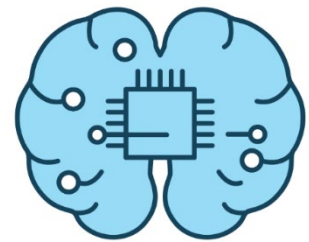
Invites inquisitiveness and innovation
IL encourages students to be problem finders and problem solvers harnessing their curiosity and innovation

Encourages metacognitive and self-reflective practices
IL encourages students to be reflective learners and provides processes to identify ways to build their capacity

Promotes co-construction
IL provides opportunities for teachers and students to flexibility co-construct learning and assessment designs

Fosters leadership abilities
IL offers students autonomy to engage in inquiries which are relevant and meaningful fostering leadership abilities

thriving people, capable learners, leaders for the world God desires

literate, numerate and effective communicators

spiritually aware and inspired by faith

self-aware, collaborative and socially adept

intercultural and globally minded

knowledgeable, inquisitive and innovative

confident and careful creators and users of ICTs

moral, compassionate, ecologically aware

intentional curriculum learning and assessment design

co-constructed learning and assessment design

formative experiences inspired by Catholic faith

dialogue connecting the world and faith

Capabilities intentional curriculum
IL provides opportunities for students to develop and reflect upon their capabilities as a learner

Learner at the centre of design
IL places the student at the centre of the learning design fostering student voice and agency
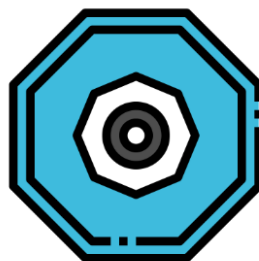
Connected to authentic contexts
IL identifies and connects students with contemporary world issues encouraging authentic learning contexts

Theories of Integrated Learning

Multidisciplinary/Thematic Learning curriculum features a similar theme or a common capability in different subject areas. In this system, each of the subject areas is held separately, but unified by the common theme.

E.g.: the theme of "identity" could be explored in geography (mapping), history (nationality), literature (characterization), science (classification) and so on.
(Drake & Reid 2018)
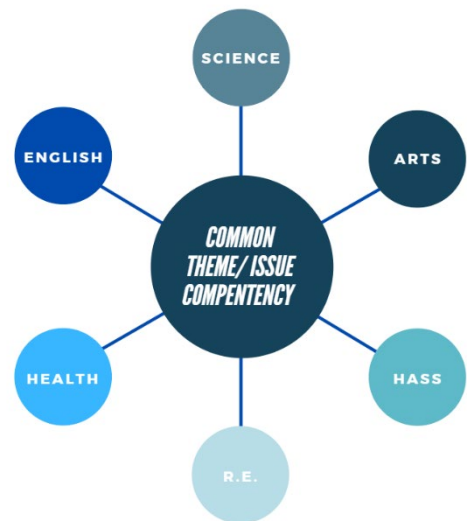
Interdisciplinary learning is an approach to learning that identifies links across different subjects or disciplines to enhance understanding. It promotes acknowledging different perspectives, and application in new and different ways.

E.g.: Embedding achievement standards in science, mathematics, and English when exploring a central question.
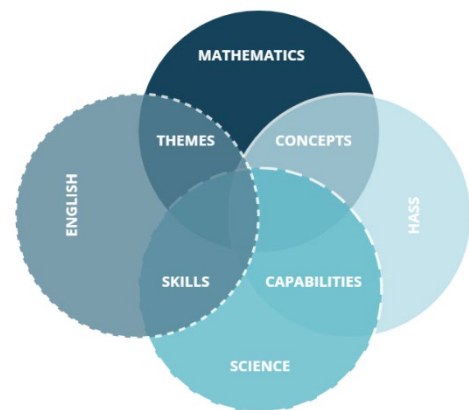
Transdisciplinary learning is all about perspectives and connections. Learners explore a relevant concept, issue or problem through the lens and expertise of multiple disciplines, integrated to form new knowledge and deeper understanding.

E.g.: considering how a scientist will tackle an issue, as well as how the problem could be explored linguistically, philosophically and spiritually, to create a meaningful whole.
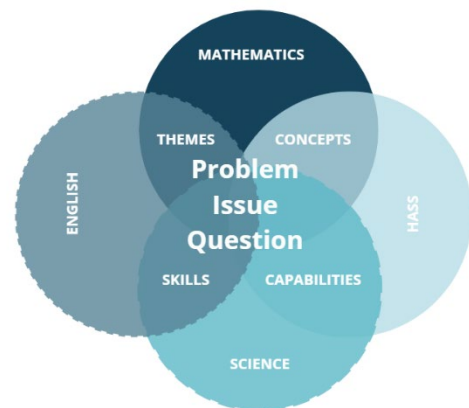
Each of the three theories presented demonstrates how disciplines and their knowledge and skills relate within an integrated structure. The selection of a theory reflects the school context and the intention and purpose of the integrated learning experience.

Discussion point: With contrasting theories of integrated learning, consider what value each of these theories has. Which one/s would be right for your class, your school, and your context?

Approaches to integration

Approaches to integration are often themselves related and intertwined. Educators use these and many other approaches when designing high quality integrated learning. Each approach is non-linear and has a unique purpose and structure, and thoughtful design, selection, implementation, and review of appropriate models leads to high quality learning for all young people. Below are some of the approaches that can be used:

Experiential learning can be represented as a cycle where learning begins with experiences that allow participants to observe, review and reflect on what they have practiced, and then critically reflect to consciously link their experiences to theory or previous experiences.
(Bartle 2015)

Project Based Learning involves students gaining knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge. Students develop deep content knowledge, skills, and dispositions, as well as key capabilities.
(Evans 2019)
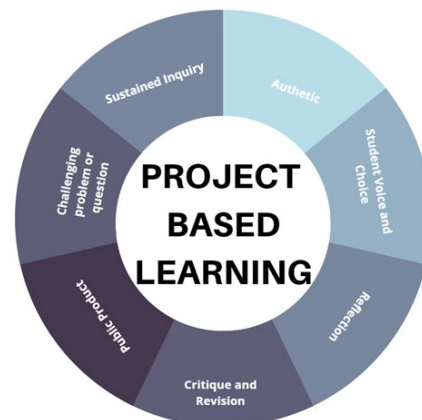
Design Thinking is a human centric approach to identifying and solving complex problems authentic local and global issues. The goal of design thinking is to innovate new solutions which create value for others. This approach draws on the balance of knowledge, mindsets, and capabilities.
(Stanford d.school 2020)
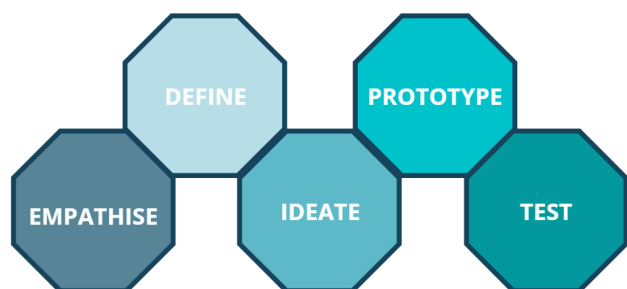
Engineering Design Process is a process in which students utilise engineering philosophies to solve authentic design challenges and problems. Students transfer knowledge from other subject areas to apply and support them in engineering their solutions.
(Engineering Design Process 2020)
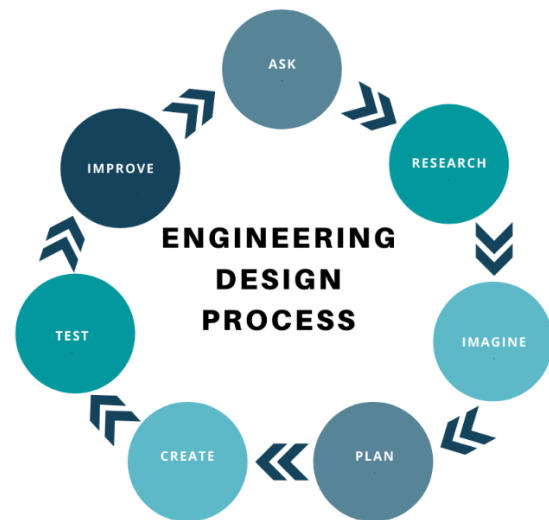
Problem-Based Learning is a student-centric approach to education in which complex real-world problems are used as the vehicle to promote student learning of concepts and principles experientially. Origins of problem centred educational philosophy can be traced back to the ancient works of Aristotle, Socrates and Plato who explored the importance of active learning, questioning and critical thinking (Savin-Baden & Major 2004).

PROBLEM BASED LEARNING
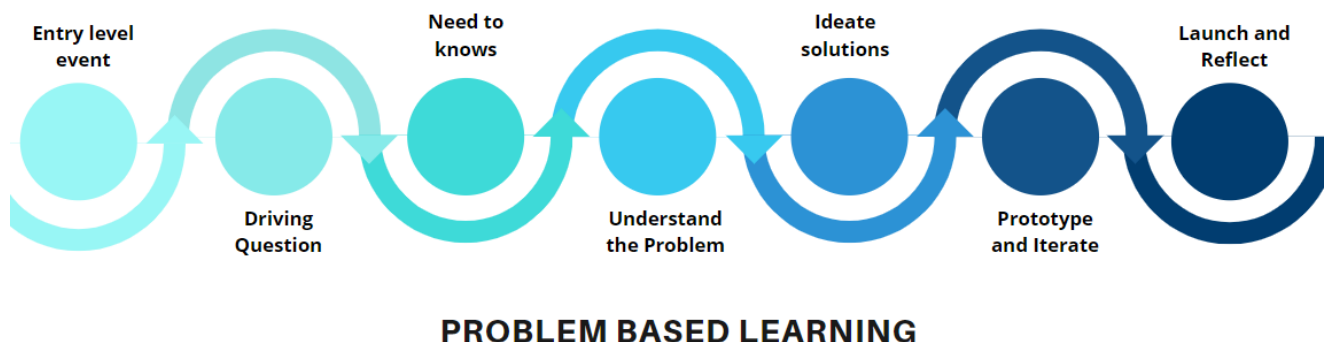
Discussion point: All approaches have their merits. A common question is: "How do I assess when using an integrated approach?". How can assessment for, of, and as learning be considered in the learning design of each approach?

e.g.: Co-constructing a rubric at the define phase of the design thinking process
Creating a peer review/feedback phase when prototyping in PBL
Use a portfolio of evidence from a variety of integrated experiences to demonstrate growth

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