Join the dots: Connections-based learning

~ Sujata C

Connections based learning is a non-traditional form of learning where knowledge is not simply and passively transferred from teacher to student. It is driven by inquiries and can take place in a non-formal way. One also comes across phrases like *connected learning*, *connected education*, etc., with reference to this form of learning.

In order to get some clarity, let's look at the big picture. We have already completed two decades of the 21st century, and the stark reality of this new world is that we are globally connected – or rather hyper-connected with highly advanced technology at our disposal. This is bringing about continuous change, making the world smaller and rather fluid. With each passing day we are becoming aware of newer ways and means of connecting with each other. The world has become a knowledge society where lifelong learning is the norm.

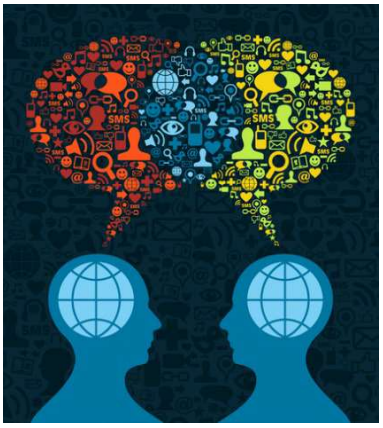
Already many of the old bastions of the last century have fallen by the wayside. Rather than opt for routine boring jobs, more and more people are turning their

© Oxford University Press

passion into profession. Today's world is constantly transforming itself, so much so that five years from now people will be employed in jobs that do not exist today. Even current jobs may become redundant by then. This reality makes new demand on new teaching and learning styles.

Meanwhile our teaching and learning styles also have undergone change. We have done away with neat rows in classrooms, we have discovered that competition is passé, and collaboration is key to the future. It is hence necessary to leverage the connections-based approach to learning to benefit from the existing contemporary realities. Technology has given access to information like never before, and a new ecosystem of learning has developed right before our eyes.

Old **20th century education paradigm**	**New** **21st century education paradigm**
Teacher-centred Textbooks Test-based	Student-centred Inter-disciplinary Assessment-based

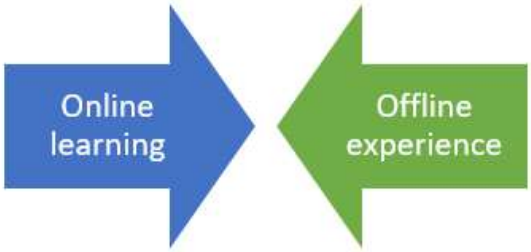


The COVID-19 pandemic is the most recent phenomenon that has reshaped our world. It is a time of quarantine, containment and social distancing. Lockdown has curtailed life like never before. But we have been through other emergencies that disrupted learning before – armed conflict, extreme weather, communal riots, and so on. While the scale of this crisis is global; the world has come together to share advanced technology that has helped us stay in touch, something that was virtually impossible for the previous generations. Families are caring for one another by sharing useful

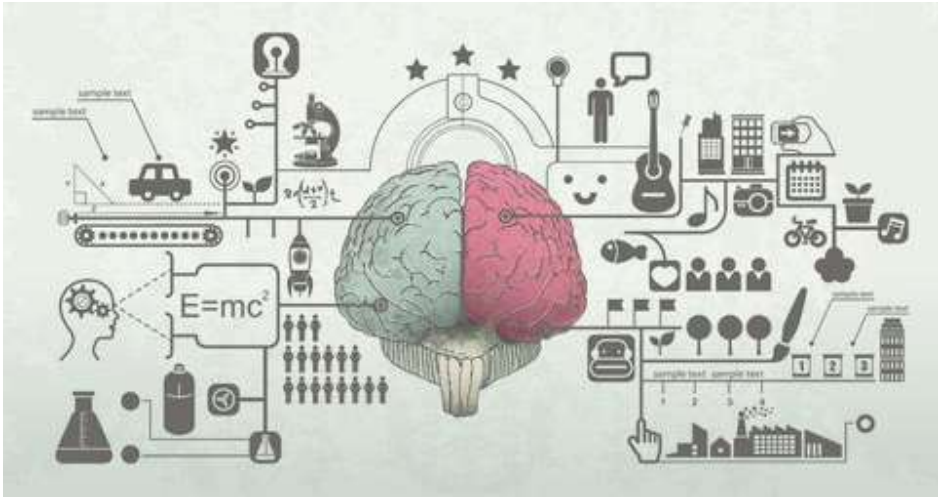
© Oxford University Press

information, motivational messages, riddles and jokes. Technology has stepped forth to keep relationships intact and strengthen the social fabric.

Classrooms have shifted online wherever it is possible. As a result, children are spending more time in the digital world. It is the role of teachers to help students strike a healthy balance between the digital world and the real world. What is learnt in the virtual world must translate into real world experience; only then learning will be effective. It is important to eliminate any disconnect between the two. Students need their teachers' help and support to grasp the meaning of concepts based on their own experiences. Hands-on learning will come back into focus in the days to come.

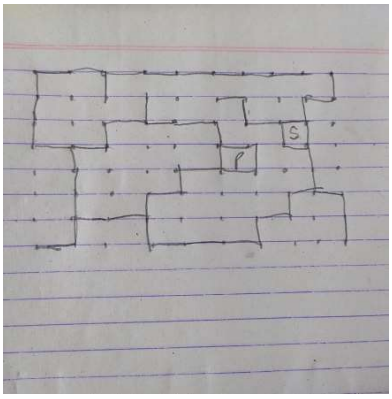


From cognition to connection: Learning is a crucial function of the brain. The cognitive ability of children is used to the maximum extent during the school going years as these are the peak years of learning in life. Psychologists define cognitive ability as a general mental capability that comprises reasoning, problem solving, planning, abstract thinking, complex idea comprehension, and learning from experience. Cognitive ability impacts the academic skills of a child – reading, writing, mathematical calculations, etc. Making connections is a cognitive ability of the brain that enables construction of new knowledge. It forms the foundation for evolution. The concepts of virtual reality, social computing, wearable computing, and touch technologies evolved from making connections and creative thinking.



© Oxford University Press

Join-the-Dots games: We all remember the join-the-dots games that we used to play as children. There were two types of games. One game involved joining the dots to complete the picture. In the other game we used to make dots on the last page of our rough notebook when we got a free period. You had to join the dots to make a box. The one who squared the most boxes won the game.



On the face of it, these games are very simple, but they help the brain to stay sharp and observant. These games also help develop better hand-eye coordination. It is a good idea to have a join-the-dots activity related to every lesson being taught, whenever possible. It will add an element of fun to the lesson. A game played at the end of the lesson that takes the child back to the lesson can make learning fun. The child's drawing skills will improve and help the younger ones reinforce numbers as well. People of all ages can play this game. Playing this game regularly wires the brain into thinking about joining dots all day. This keeps the brain ticking and hence sharp.

Connecting existing knowledge with the world: There are many ways of approaching connections-based learning. One way of approaching it is to connect world happenings with literature, history, civics, science, math and art that we are teaching. Making connections is central to innovation. A simple example would be that of a honeybee going from flower to flower. It is connecting the flowers while collecting nectar, and thereby pollinating each flower and helping it to move forward in its life cycle. By connecting, we transfer knowledge and fertilise the mind for creating new knowledge and innovative solutions. The associative memory of the brain establishes the relationship between unrelated items. Asking questions and combining knowledge across subjects improve the brain's aptitude for association and coming up with solutions. This ability is going to be in great demand in the years to come when the world will face newer challenges.

© Oxford University Press

Language-based connections: Connections in languages bring clarity and make for better understanding. Similes are a tool of expression that relies on connections. Take two sentences: *He is very brave* and *He is as brave as a lion*. The second example gives a clearer picture and makes for interesting reading. Metaphoric expressions add spice to language. The fun of language increases when the expression is new and unexpected.

How to solve real-world problems:

1. Examine the problem from inside out.
2. Empathise to get to know what is necessary or in demand.
3. Define the problem to formulate a problem statement.
4. Ideate and examine the problem inside out.
5. Find traditional solutions for the problem – think inside the box.
6. Find offbeat solutions for the problem – think outside the box
7. Evaluate the solutions and see which is likely to be more effective.
8. Make a sketch of a product on a drawing board.
    - Develop a prototype.
    - Test it out – get feedback.
    - Integrate feedback into solution.
    - Go back to the drawing board and try to improve if the solution fails.

Connect with experts: The world is full of experts who know and are ready to share their knowledge with those who are interested. For example, a student interested in martial arts can connect through social media with well-known masters and seek their guidance. Another student might have already seen a video of how someone makes water out of air. The teacher then has to act as a facilitator of connecting with the expert through social media and organise a video conference or Skype call to interact with the expert to transfer that knowledge. Students in the process learn how to connect and communicate, how to implement a project and bring about positive change in society. This kind of learning is real world, rewarding as well as powerful. It is also life-long and there is no age bar to it. To get an idea watch this film to see how one oil rig maker chose to make a difference to society by learning new skills.

Knowledge sharing is core to a knowledge society. It inculcates a community spirit that is essential for a healthier society. Remember to make provision for students' interests when selecting projects.

© Oxford University Press

Advantage of connections-based learning:

- Helps students understand connections
- Improves the curiosity quotient in students and forces them to think
- Improves critical thinking and communication skills
- Gives students a 360-degree perspective
- Student-centred
- Encourages collaboration and cooperative learning
- Creates a community of learners
- Makes thinking outside the box natural
- Gives creative and simple solutions to complex problems

Connections-based learning forces students to engage actively in the learning process, explore, ask questions, work as a team, join the dots, and most importantly, solve real world problems together.

Sujata C is a writer and editor with more than thirty years of experience. She writes on children, environment, society, as well as technology. She has also been a copywriter with advertising agencies for over fifteen years.

© Oxford University Press

Lesson Plan: Connections-based learning

~ Sujata C

Teachers can try out simple games to complex projects to help students get an idea of learning through connections. Lockdown has forced us to learn new skills. Approach everything with an open mind and avoid pre-judging while doing the activities.

1. Ask your class to list out the new skills they have learnt in the recent past. If nothing new has been learnt, ask them to do so.
2. Make a Before-After chart of life with the COVID-19 crisis in mind.
3. Get your class to chronicle the ways they socialised during lockdown. Compare ways in which previous generations stayed in touch.
4. Work out similes with new expression for old ones: everyone is aware of *smooth as silk*, is there a new way of saying the same thing? (language-based connection)
5. Create a plan of interior decoration for a restaurant from the history lesson on cave man (art-based connection).
6. Create a plan for theme-based cakes from fairy tales.
7. Choreograph a dance on the theme of the sun and its planets.
8. Compare ancient monetary systems and new age digital ones. This will give them an idea of how things evolve.
9. What is the connection between chemistry lab and happiness?
10. 'Hamlet–to be or not to be'–what would a modern-day version of 'Hamlet' be like?
11. Create a group, throw a challenge and make a pyramid with Lego toys.
12. Make a bridge or crane using a Meccano set.
13. Use play dough to create some solutions for simple challenges.

Sujata C is a writer and editor with more than thirty years of experience. She writes on children, environment, society, as well as technology. She has also been a copywriter with advertising agencies for over fifteen years.

© Oxford University Press

Cognate (adjective)

Pronunciation: /ˈkɒgneɪt/

Meaning: Related to or descended from a common ancestor

Origin and additional information: The word originated in the early 17th century from Latin *cognatus*, (*co-* meaning 'together with' + *natus* meaning 'born'). It is also used as a noun form like a cognate word or blood relative.

Word section: The word *cognate* is deeply embedded in linguistic studies which identify cognates as words that have a common etymological origin, in other words, they are inherited from a shared parent language. Not all cognates would evolve into new words with similar meanings. Indeed, they could evolve into words which are similar, different and even opposite in meaning.

Cognates could be existing across languages or even within a single language. In the case of the latter, they are also called "doublets". However, even within the same language, cognates or doublets may have completely different meanings. For example, the English words *ward* and *guard* (*wer-*, "to perceive, watch out for"), or *shirt* and *skirt* (*sker-*, "to cut"). Interestingly, *grammar* and *glamour* form one of the lesser known doublet pairs in the English language.

Linguists have often called out on words which are assumed to have a common origin but were found to be unrelated on linguistic examination. Such words are called false cognates. For example, English *much* and Spanish *mucho* appear similar and even have similar meaning but they originate from different roots.

Usage:

© Oxford University Press

1. *English mother and German Mutter are cognate words.*
(Source: https://www.lexico.com/definition/cognate)

2. *The Christian concept of passive heroism places a high value on endurance, which in Shakespeare's ethic is cognate with constancy and hence with truth.*
(Source: https://www.lexico.com/definition/cognate)

3. *Globally, this will put 17 million telephone repairmen, and another 48 million people who work in cognate branches of the phone industry, out of work.*
(Source: https://www.lexico.com/definition/cognate)

© Oxford University Press