



A MULTIDISCIPLINARY APPROACH IN EDUCATION FOR 21ST CENTURY SKILLS

* Dr. Bhavana Mangesh Kadam

* In-charge Principal, Guardian College of Education (B.Ed.), Kondhwa, Pune.

Abstract:

The four pillars of Learning are knowledge, skills, understanding and Aptitude. According to UNESCO's Learning: The Treasure within (1996), education throughout life is based on four pillars: learning to know, learning to do, learning to live together and learning to be. The commons movement (learning to study, inquire and co-construct together, learning to collectively mobilize, learning to live in a common world & learning to attend and care) is one suggested strategy presented by David Bollier of The Next System Project for leveraging mutuality, cooperation and collective action for a better world. There's no limit to learning and the multidisciplinary educational approach mentioned in the NEP 2020 is the correct step taken towards promoting the same! In a multidisciplinary curriculum, multiple disciplines are used to study the same topic. Although the NEP 2020 has asked institutions to pay attention to it, stakeholders are still in a dilemma about its advantages & challenges. A 21st century skills-based curriculum pivots away from content acquisition and rote memorization to focus on the skills and abilities that will best serve our generation of young minds. Each 21st century skill is broken into one of three categories: Learning skills, Literacy skills & Life skills. Altogether, these categories cover all 12, 21st Century skills that contribute to a student's future career. With 21st Century skills, students will have the adaptive qualities they need to keep up with a business environment that's constantly evolving. Essentially, a multidisciplinary approach in education requires significant changes in the way curriculum is designed and taught. Schools need to equip themselves with experienced staff who can deliver such an approach and ensure they have the necessary resources. Additionally, there needs to be greater collaboration between different departments and institutions to ensure successful implementation. Lastly, many school systems lack the infrastructure and support needed to successfully integrate multidisciplinary learning.

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Introduction:

"The capacity to learn is a gift; the ability to learn is a skill; the willingness to learn is a choice."

Brain Herbert

When learning is talked about it is important to get in tune with the four pillars that help you gain a foothold and then foundation in the learning. These pillars help you get set for life and bring in marvellous ways to reach successful outcomes.

The 4 pillars that we are talking about are Skills, Knowledge, Understanding and Aptitude. How do these help? Let's have a look:

Knowledge:

Knowledge brings into focus the concepts and the laws that help build a great foundation on learning anything. When knowledge is strong, skill building is possible.

Skills: Skill based learning is one of the most amazing ways to have a greater correlation between learning and real-world application. With skills, one can be better adjusted to the world of work or can help one gain better entrepreneurial success.

Understanding:

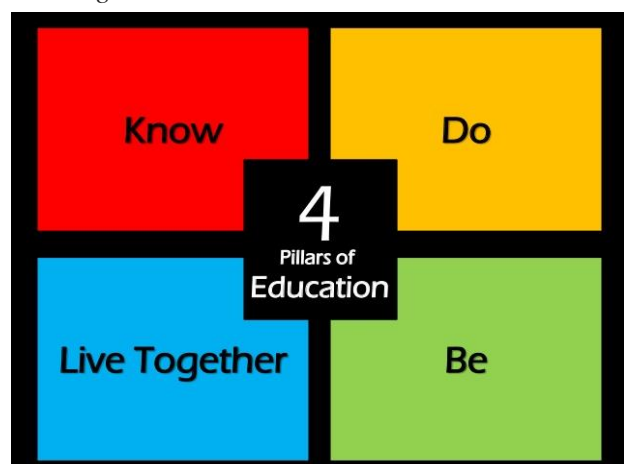
Without understanding where to apply a particular skill set or where to bring out the knowledge component is

not possible. Understanding acts as a linkage with other people too, especially in working as a team.

Aptitude:

Have you noticed some people working hard but never being able to do some tasks well? That could be because of aptitude. Identifying aptitude for learning something or a particular field of study is very important.

While these are the four pillars of learning that are useful for every learner - these coincidentally also correspond to the 4 pillars of education too. According to UNESCO's *Learning: The Treasure within* (1996), education throughout life is based on four pillars: learning to know, learning to do, learning to live together and learning to be.



- **Learning to know**, by combining a sufficiently broad general knowledge with the opportunity to work in depth on a small number of subjects. This also means learning to learn, to benefit from the opportunity's education provides throughout life.
- **Learning to do**, in order to acquire not only an occupational skill but also, more broadly, the competence to deal with many situations and work in teams. It also means learning to do in the context of young peoples' various social and work experiences which may be informal, as a result of

the local or national context, or formal, involving courses, alternating study and work.

- **Learning to live together**, by developing an understanding of other people and an appreciation of interdependence - carrying out joint projects and learning to manage conflicts -in a spirit of respect for the values of pluralism, mutual understanding and peace.
- **Learning to be**, so as to develop one's personality and be able to act with ever greater autonomy, judgement and personal responsibility. In that connection, education must not disregard any aspect of a person's potential: memory, reasoning, aesthetic sense, physical capacities and communication skills.

So, we have:

Learning to know correlates with the knowledge of the learner Learning to do correlates with the skills of the learner Learning to live together correlates with the understanding of the learner Learning to be correlates with the aptitude of the learner

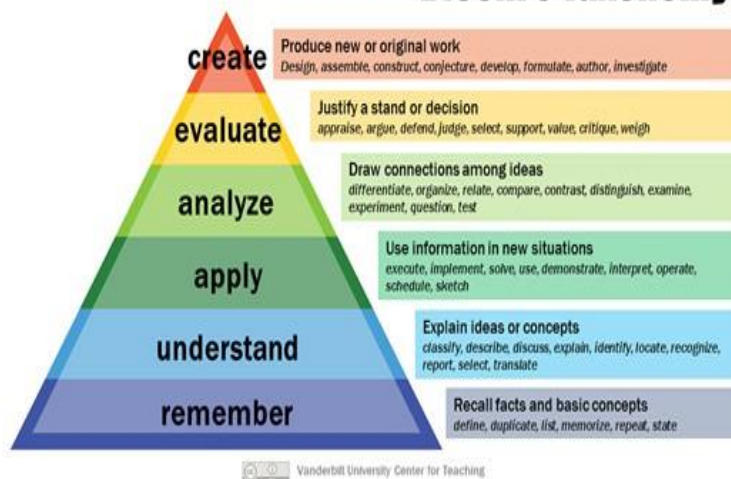


The first two pillars of education are more prevalent than the last two because educators have easier access to resources and ways to achieve learning objectives

and there is more familiarity with them. The resources on knowledge and ways to teach skills are also available

to teachers who are in the formal system and in non-formal settings of education. The learning to live together and the learning to be components are at an advanced level of learning (see below Bloom's taxonomy and its hierarchical learning model described in Armstrong, 2010). They require further engagement of educators and students alike in terms of analysis, evaluation, and creating new knowledge (Armstrong, 2010). As mentioned, they entail a wider involvement of the immediate communities and stakeholders to model and reinforce the types of behaviors, values, and principles that strengthen the ability to live together, to be which also requires personal development, and to aspire towards higher states of consciousness (Nasser, [et.al.](#) 2021). Both pillars, in fact, aim at promoting a healthy and inclusive human development, especially elevating the spiritual and psychosocial aspects of learning. As such, in education settings, whether formal or informal, there is a need for a more intentional approach and emphasis on these two pillars.

Bloom's Taxonomy



Change, complexity – also fragility, precarity and

uncertainty – are very much with us 25 years later. The COVID pandemic has held up a mirror and shown us that we remain far from making our societies more just, equitable and inclusive. It is also clear that we still have much work to do to avert ecological catastrophe. But, COVID has also reinforced the conviction of many that mutual support, the cooperative sharing of resources, and collective action provide the right moral coordinates and give good reason for hope. The commons movement is one suggested strategy for leveraging mutuality, cooperation and collective action for a better world. Presented by David Bollier of The Next System Project as “at once a paradigm, a discourse, an ethic, and a set of social practices,” the commons has been held up as holding great promise for transforming societies. Important here is the common as what is shared, communing as what is done together, and the common good as what is built and cared for by individuals together.

No commons simply exists on its own. A commons needs to be nurtured, at times protected. And if we accept that “commoning” skills and competencies are high among those needed in the present for the futures we want to create, we might consider reorienting the Delors “four pillars” around the commons. Reworking each of these pillars in relation to building capacity for commoning actions and strengthening the common good offers a compass and map well suited for the collective challenges of our present historical juncture.

Learning to study, inquire and co-construct together:

Reworking the “learning to know” pillar in this way would point educators towards constructivist pedagogical approaches and towards viewing their students as learning communities. It would highlight the knowledge commons as an intergenerational resource and conversation that has been built and nurtured across millennia.

Learning to collectively mobilize:

The Delors Commission's discussion of "learning to do" almost exclusively narrowed to the issue of putting learning into practice in the workplace. Focusing educational efforts on empowering learners to take action together surfaces the importance of deliberation, cross-cultural communication and coalition building.

Learning to live in a common world:

Setting "learning to live together" as a key pillar puts education on the right track. Orienting this pillar towards learning to live in a common world elevates the importance of education that engages with our common humanity and with the natural world of which we are a part.

This change enables us to reshape common living as intertwined and a fundamentally shared experience.

Learning to attend and care:

When the Delors Commission presented "learning to be", it placed great emphasis on the development of one's personality and being able to act with independence, judgment and personal responsibility. Applying a common framing to the pillar of education that emphasizes the development of the complete person, we would do well to think in terms of learning to attend and care. A communing paradigm would take problems of caring-about, caring-for, caregiving and care-receiving as inextricably social and moral questions that call for individuals to take action together and share responsibility. Considering this one of the fundamental pillars of education would put our relationships with one another and with a more-than-human world at the center of educational practice. This piece has suggested that core educational foundations can be usefully reworked to value and empower individuals as they also leverage mutuality, cooperation and collective action for a better world. The Delors four pillars can be updated to better support educators who are working to design meaningful learning experiences. Using a common framework to

foreground what we share together, what we do together, and what we build together helps us reimagine the skills and competencies most needed in the present for the futures we want to create.

"Your brain has a capacity for learning that is virtually limitless, which makes every human a potential genius."

Michael J. Gelb

Regardless of what field we talk about, this quote on learning by Michael hits the nail on the head. There's no limit to learning and the multidisciplinary educational approach mentioned in the NEP 2020 is the correct step taken towards promoting the same!

What Is Multi-Disciplinary Education?

A multidisciplinary curriculum means studying the same topic from the viewpoint of more than one discipline. It is also called cross-disciplinary which indicates the aim to cross boundaries between disciplines.

Multidisciplinary approach is a method of curriculum integration that highlights the diverse perspectives that different disciplines can bring to illustrate a theme, subject or issue. In a multidisciplinary curriculum, multiple disciplines are used to study the same topic. That's why in today's hyper-competitive world, limitless learning, a unique educational system that promotes a multi-disciplinary approach to help students follow their passion is vital. Although the National Education Policy 2020 (NEP 2020) has asked institutions to pay attention to it, stakeholders are still in a dilemma about its advantages & challenges.

Advantages of Multidisciplinary Approach in Education:

- 1: The Privilege to Choose
- 2: Reach Within to Discover Passion
- 3: Pragmatism & Flexibility
4. Promotes collaboration and teamwork
5. Holistic Education

6. Real World Problem Solving
7. Multidisciplinary Approach Enhances Creativity
8. Comprehensive Understanding
9. Develops Critical Thinking Skills
10. Offers Versatility
11. Prepares Students for Higher Education

The Challenges of Implementing a Multidisciplinary Approach in Education:

- Essentially, a multidisciplinary approach in education requires significant changes in the way curriculum is designed and taught.
- Schools need to equip themselves with experienced staff who can deliver such an approach and ensure they have the necessary resources.
- Additionally, there needs to be greater collaboration between different departments and institutions to ensure successful implementation.
- Lastly, many school systems lack the infrastructure and support needed to successfully integrate multidisciplinary learning.

What Is a 21st-Century Curriculum?

Today's world requires a multi-dimensional approach to the learning experience. A 21st-century skills-based curriculum pivots away from content acquisition and rote memorization to focus on the skills and abilities that will best serve our generation of young minds. Student engagement and hands-on, interdisciplinary learning are championed over conferring information. The 21st-century classroom focuses on a creative, collaborative approach to learning. In a computer programming class, students play musical chairs to solve a coding task. They write a few lines of code, move chairs, write a few lines on that person's screen, then repeat the process. Compared to completing the coding task on their own, students learn more by seeing how their peers approached the problem and found a solution.

The Three 21st Century Skill Categories:

Each 21st Century skill is broken into one of three categories:

Learning skills

Literacy skills

Life skills

Learning skills (the four C's) teaches students about the mental processes required to adapt and improve upon a modern work environment.

Literacy skills (IMT) focuses on how students can discern facts, publishing outlets, and the technology behind them. There's a strong focus on determining trustworthy sources and factual information to separate it from the misinformation that floods the Internet.

Life skills (FLIPS) take a look at intangible elements of a student's everyday life. These intangibles focus on both personal and professional qualities.

Altogether, these categories cover all 12, 21st Century skills that contribute to a student's future career.

Category 1. Learning Skills (The Four C's)

The four C's are by far the most popular 21st Century skills. These skills are also called learning skills.

The 4 C's of 21st Century Skills are:

Critical thinking: Finding solutions to problems

Creativity: Thinking outside the box

Collaboration: Working with others

Communication: Talking to others

Arguably, critical thinking is the most important quality for someone to have in health sciences. In business settings, critical thinking is essential to improvement. It's the mechanism that weeds out problems and replaces them with fruitful endeavors. It's what helps students figure stuff out for themselves when they don't have a teacher at their disposal.

Creativity is equally important as a means of adaptation. This skill empowers students to see concepts in a different light, which leads to innovation.

In any field, innovation is key to the adaptability and overall success of a company.

Collaboration means getting students to work together, achieve compromises, and get the best possible results from solving a problem. The key element of collaboration is willingness. All participants have to be willing to sacrifice parts of their own ideas and adopt others to get results for the company.

That means understanding the idea of a “greater good,” which in this case tends to be company-wide success.

Communication is a requirement for any company to maintain profitability. It’s crucial for students to learn how to effectively convey ideas among different personality types.

That has the potential to eliminate confusion in a workplace, which makes your students valuable parts of their teams, departments, and companies.

But when employees communicate poorly, whole projects fall apart. No one can clearly see the objectives they want to achieve. No one can take responsibility because nobody’s claimed it.

Without understanding proper communication, students in the 21st Century will lack a pivotal skill to progress their careers.

Category 2. Literacy Skills (IMT)

Literacy skills are the next category of 21st Century skills.

They’re sometimes called IMT skills, and they’re each concerned with a different element in digital comprehension.

The three 21st Century literacy skills are:

Information literacy:

Understanding facts, figures, statistics, and data

Media literacy:

Understanding the methods and outlets in which information is published

Technology literacy:

Understanding the machines that make the Information

Age possible

Information literacy is the foundational skill. It helps students understand facts, especially data points, that they’ll encounter online.

More importantly, it teaches them how to separate fact from fiction.

In an age of chronic misinformation, finding truth online has become a job all on its own. It’s crucial that students can identify honesty on their own. Otherwise, they can fall prey to myths, misconceptions, and outright lies.

Media literacy is the practice of identifying publishing methods, outlets, and sources while distinguishing between the ones that are credible and the ones that aren’t.

Just like the previous skill, media literacy is helpful for finding truth in a world that’s saturated with information.

This is how students find trustworthy sources of information in their lives. Without it, anything that looks credible becomes credible.

But with it, they can learn which media outlets or formats to ignore. They also learn which ones to embrace, which is equally important.

Last, technology literacy goes another step further to teach students about the machines involved in the Information Age.

As computers, cloud programming, and mobile devices become more important to the world, the world needs more people to understand those concepts.

Technology literacy gives students the basic information they need to understand what gadgets perform what tasks and why.

This understanding removes the intimidating feeling that technology tends to have. After all, if you don’t understand how technology works, it might as well be magic.

But technology literacy unmask the high-powered tools that run today’s world. As a result, students can

adapt to the world more effectively. They can play an important role in its evolution. They might even guide its future.

Category 3. Life Skills (FLIPS)

Life skills is the final category. Also called FLIPS, these skills all pertain to someone's personal life, but they also bleed into professional settings.

The five 21st Century life skills are:

Flexibility:

Deviating from plans as needed.

Leadership:

Motivating a team to accomplish a goal

Initiative:

Starting projects, strategies, and plans on one's own

Productivity:

Maintaining efficiency in an age of distractions

Social skills:

Meeting and networking with others for mutual benefit.

Flexibility:

is the expression of someone's ability to adapt to changing circumstances.

This is one of the most challenging qualities to learn for students because it's based on two uncomfortable ideas:

Your way isn't always the best way

You have to know and admit when you're wrong
Flexibility requires them to show humility and accept that they'll always have a lot to learn — even when they're experienced.

Still, flexibility is crucial to a student's long-term success in a career. Knowing when to change, how to change, and how to react to change is a skill that'll pay dividends for someone's entire life.

Leadership is someone's penchant for setting goals, walking a team through the steps required, and achieving those goals collaboratively.

Entry-level workers need leadership skills for several reasons. The most important is that it helps them

understand the decisions that managers and business leaders make.

Then, those entry-level employees can apply their leadership skills when they're promoted to middle management (or the equivalent). This is where 21st Century skill learners can apply the previous skills they've learned.

It's also where they get the real-world experience they need to lead entire companies.

As they lead individual departments, they can learn the ins and outs of their specific careers. That gives ambitious students the expertise they need to grow professionally and lead whole corporations. True success also requires initiative, requiring students to be self-starters.

Initiative only comes naturally to a handful of people. As a result, students need to learn it to fully succeed. This is one of the hardest skills to learn and practice. Initiative often means working on projects outside of regular working hours.

The rewards for students with extreme initiative vary from person to person.

Sometimes they're good grades. Other times they're new business ventures.

Sometimes, it's spending an extra 30 minutes at their jobs wrapping something up before the weekend. Regardless, initiative is an attribute that earns rewards. It's especially indicative of someone's character in terms of work ethic and professional progress. Along with initiative, 21st Century skills require students to learn about **productivity**. That's a student's ability to complete work in an appropriate amount of time.

In business terms, it's called "efficiency."

The common goal of any professional — from entry-level employee to CEO is to get more done in less time. By understanding **productivity strategies** at every level, students discover the ways in which they work

best while gaining an appreciation for how others work as well.

Social skills are crucial to the ongoing success of a professional. Business is frequently done through the connections one person makes with others around them.

This concept of networking is more active in some industries than others, but proper social skills are excellent tools for forging long-lasting relationships. While these may have been implied in past generations, the rise of social media and instant communications have changed the nature of human interaction.

As a result, today's students possess a wide range of social skills. Some are more socially adapt than others. Some are far behind their peers. And some lucky few may be far ahead, as socializing comes naturally to them.

But most students need a crash course in social skills at least. Etiquette, manners, politeness, and small talk still play major roles in today's world.

That means some students need to learn them in an educational setting instead of a social setting.

What's the Demand for 21st Century Skills?

While 21st Century skills have always been important, they've become essential in a worldwide market that moves faster by the day.

- These skills all double back to one key focus.
- Someone's ability to enact and / or adapt to change.
- This is because any industry is capable of changing at a moment's notice. Industries are now regularly disrupted with new ideas and methodologies.
- Those industries that haven't been disrupted aren't immune though. They just haven't been disrupted yet.
- With that in mind, the world has entered an era where nothing is guaranteed.
- As a result, students need to learn to guide the change that'll inundate their lives. At the very least, they need to learn how to react to it.

- Otherwise, they'll be left behind.
- This is especially true as customer demand accelerates in all industries along with expectations for newer features, higher-level capabilities, and lower prices.
- In today's marketplace, falling behind means becoming obsolete.
- That's a familiar concept to all of today's students as tomorrow's advancements make today's miracles quaint or unimpressive.
- Today, the only consistency from year to year is change.
- That's why many teachers like are incorporating the 21st Century Skills Assessment into their courses.
- With 21st Century skills, students will have the adaptive qualities they need to keep up with a business environment that's constantly evolving.

Few Best practices and strategies for effective implementation of 21st century Skills:

- Build staff capacity to demonstrate 21st century skills in support of student learning.
- Develop strategies to support teachers with implementation of 21st century skills.
- Assess students' 21st century learning skills.
- Equip educators with data to proactively identify and support students who are off track.

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