

The Essential Skills of 21st Century Classroom (4Cs)

“I’m calling on our nation’s governors and state education chiefs to develop standards and assessments that don’t simply measure whether students can fill in a bubble on a test, but whether they possess 21st century skills like problem-solving and critical thinking and entrepreneurship and creativity.”

– President Barak Obama

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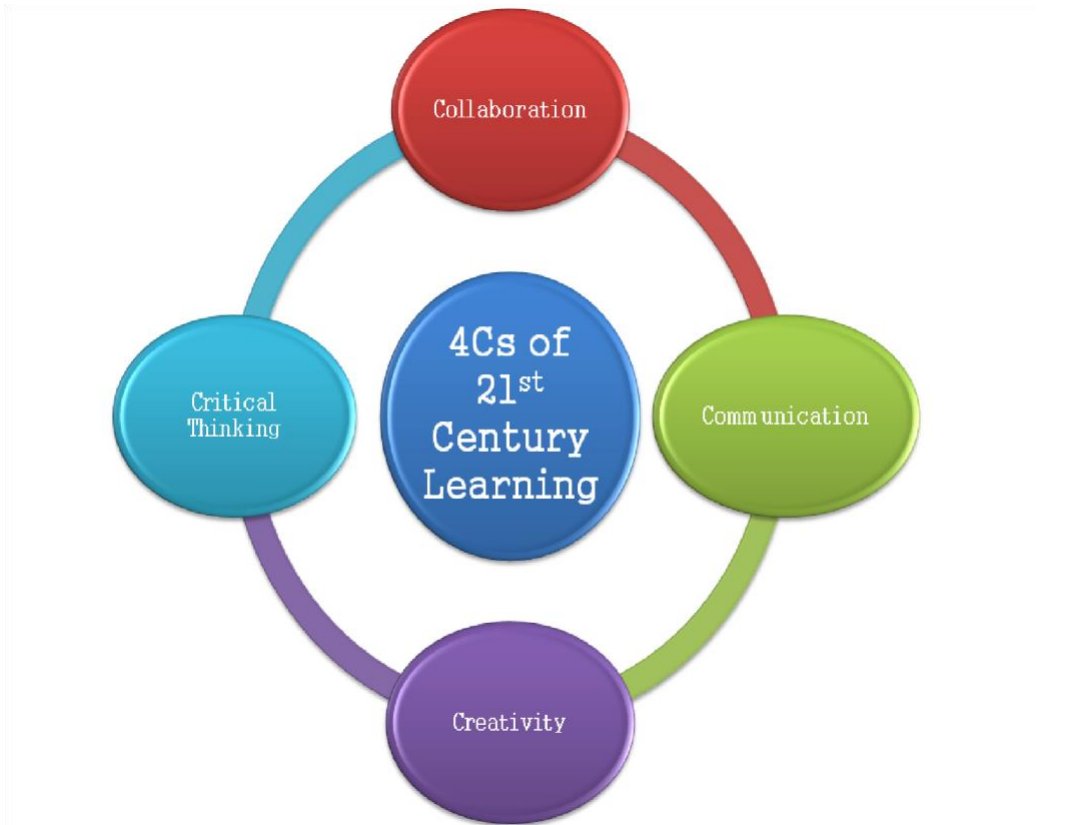
Today's National Education systems was built for an economy and a society that no longer exists. In the manufacturing and agrarian economies that existed 50 years ago, it was enough to master the "Three Rs" (reading, writing and arithmetic). In the modern "flat world," the "The Rs" simply aren't enough. If today's students want to compete in this global society, however, they must also be proficient **communicators, creators, critical thinkers, and collaborators** (the "**Four Cs**").

Life today is exponentially more complicated and complex than it was 50 years ago. This is true for civic life as much as it is for work life. In the 21st century, citizenship requires levels for information and technological literacy that go far beyond the basic knowledge that was sufficient in the past. With a host of challenges facing our communities, along with instant connectivity to a global society, civic literacy couldn't be more relevant or applicable to the curricula in our schools. Global warming, immigration reform, pandemic diseases, and financial meltdowns are just a few of the issues today's students will be called upon to address. Today's students must be prepared to solve these challenges.

In addition, workforce skills and demands have changed dramatically in the last 20 years. The rapid decline in "routine" work has been well documented by many researchers and organizations. At the same time, there has been a rapid increase in jobs involving nonroutine, analytic, and interactive communication skills. Today's job market requires competencies such as critical thinking and the ability to interact with people from many linguistic and cultural backgrounds (cultural competency).

It is clear that the “Four Cs” need to be fully integrated into classrooms, schools, and districts around the country to produce citizens and employees adequately prepared for the 21st century.

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1 21st Century Learning. (2016, December 28). Retrieved from https://noadaniel7.wixsite.com:https://noadaniel7.wixsite.com/bobblog/single-post/2016/12/28/Walking-21st-Century-Learning-with-TTalk?utm_medium=social&utm_source=twitter

1. Critical Thinking

“Critical thinking has long been a valued skill in society. Today, every student – not just the academically advanced – needs it. While critical thinking and problem solving used to be the domain of gifted students, now it’s a critical domain for every student.” (Roekel, n.d.)²

Critical thinking has been essential skill in every century and profession. However, technology has changed the critical thinking platform. *Critical thinking is looking at problems in a new way and linking learning across subjects and disciplines.* Teaching critical thinking and problem solving effectively in the classroom is vital for students. Learning critical thinking leads students to develop other skills, such as a higher level of concentration, deeper analytical abilities, and improved thought processing.

Today’s citizens must be active critical thinkers if they are to compare evidence, evaluate competing claims, and make sensible decisions. Today’s 21st century families must sift through a vast array of information regarding financial, health, civic, even leisure activities to formulate plausible plans of action. The solutions to international problems, such as global warming, require highly developed critical thinking and problem-solving abilities. In everyday work, employees must employ critical thinking to better serve customers, develop better products, and continuously improve themselves within an ever-changing global economy. (Roekel, n.d.)³

² Roekel, D. V. (n.d.). Preparing 21st Century students for Global society. Retrieved from [www.nea.org: http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf](http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf)

Critical thinking and problem-solving can be defined in many ways.

1. Reason effectively

- a. Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation.

2. Use systems Thinking

- a. Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems.

3. Make judgements and decisions.

- a. Effectively analyze and evaluate evidence, arguments, claims, and beliefs.
- b. Analyze and evaluate major alternative points of view.
- c. Synthesize and make connections between information and arguments.
- d. Interpret information and draw conclusions based on the best analysis.
- e. Reflect critically on learning experiences and processes.

4. Solve problems

- a. Solve different kinds of unfamiliar problems in both conventional and innovative ways.
- b. Identify and ask significant questions that clarify various points of view and lead to better solutions.

*** Critical thinking also draws on other skills, such as communication and information literacy, to examine, then analyze, interpret, and evaluate it.**

2. Creativity

“In the past, Americans perceived creativity and innovation as secondary in our national curriculum. Today, creativity and innovation are key drivers in the global economy.” (Roekel, n.d.)⁴

The 21st century is a fun time to be creative. Though the traditional ways of creativity are still available, with the emergence of technology there are tons of new possibilities made available. ***Creativity is trying new approaches to get things done, innovation, and invention.*** Instead of just painting a picture, you can animate it or arrange a piece of music on a computer without ever learning how to play an instrument. All that said, it’s still up to you to put things through the creative process.

In today’s world of global competition and task automation, innovative capacity and a creative spirit are fast becoming requirements for personal and professional success. Sir Kenneth Robinson, a leading thinker and speaker on creativity said, “Creativity is as important in education as literacy and we should treat it with the same status.” In a world in which good design is increasingly used as a means of differentiating objects of mass production, creative design skills are highly desired in the labor force.

⁴ Roekel, D. V. (n.d.). Preparing 21st Century students for Global society. Retrieved from [www.nea.org: http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf](http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf)

Howard Gardner cites “the creative mind” as one of the five minds we’ll need in the future. To cultivate such a mind, he says, we need education that features, “exploration, challenging problems, and the tolerance, if not active encouragement, of productive mistakes.”

Creativity can be defined as follows:

1. Think Creatively

- a. Use a wide range of idea creation techniques (such as brainstorming)
- b. Create new and worthwhile ideas (incremental and radical concepts)
- c. Elaborate, refine, analyze, and evaluate original ideas to improve and maximize creative efforts.

2. Work creatively with others

- a. Develop, implement, and communicate new ideas to others effectively.
- b. Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work.
- c. Demonstrate originality and inventiveness in work and understand the real-world limits to adopting new ideas.
- d. View failure as an opportunity to learn; understand that creativity and innovation are part of a long-term, cyclical process of small successes and frequent mistakes.

3. Implement innovation

- a. Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur.

- * Creativity can be closely intertwined with some other skills such as critical thinking and problem-solving. Innovation today has a social component and requires adaptability, leadership, teamwork, and interpersonal skills. Increasingly, today the capacity to innovate is linked to the ability to connect with others and with a facility for communication and collaboration.

3. Collaboration

“collaboration is essential in our classrooms because it is inherent in the nature of how work is accomplished in our civic and workforce lives. Fifty year ago, much work was accomplished by individuals working alone, but not today. Much of all significant work is accomplished in teams, and in many cases, global teams.” (Roekel, n.d.)⁵

Collaboration is about working together to reach a goal and putting talent, expertise, and smarts to work. Just like with communication, technology has made collaboration easier. Actually, technology takes collaboration a step farther, making types of collaboration possible that weren't before technology. As the world goes more interconnected, collaboration will become a more and more essential skill that it already is, which is why it makes the list of the 4Cs for 21st Century skills.

Generally, collaboration has been accepted as a skill that's essential to achieve meaningful and effective results. In the past decade, however, it has become

⁵ Roekel, D. V. (n.d.). Preparing 21st Century students for Global society. Retrieved from [www.nea.org: http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf](http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf)

increasingly clear that collaboration is not only important but necessary for students and employees, due to globalization and the rise of technology.

Various scholars and authors have emphasized the importance of collaboration. Author James Surowiecki, for example, explains how we use the “wisdom of crowds” in the new economy by saying that ‘under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them.’ Surowiecki underscores the importance of collaboration by remarking that “.....a large group of diverse individuals will come up with better and more robust forecasts and make more intelligent decisions than even the most skilled ‘decision maker.’” *Diversity brings multiple individual and cultural perspectives into the collaboration.* Not only does a collaborative effort creates more holistic results than individual efforts, but it also creates knowledge for a greater number of people.

As a result of students working collaboratively, the group can generate more knowledge, making collaboration a key ingredient to student success in today’s global society.

Collaboration can be defined as:

1. Demonstrate ability to work effectively and respectfully with diverse teams.
2. Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal.

3. Assume shared responsibility for collaborative work, and value the individual contributions made by each team member.

4. Communication

“Expressing thoughts clearly, crisply articulating opinions, communicating coherent instructions, motivating others through powerful speech – these skilled have always been valued in the workplace and in public life. But in the 21st Century, these skills have been transformed and are even more important today.”

(Roekel, n.d.)⁶

Communication is about sharing thoughts, questions, ideas, and solutions. In the technological age, it’s much easier and, at the same time, harder to communicate. Technology has provided with more convenient ways to communicate, but sometimes the various ways can become overwhelming. Without effective communication, there’s no way to get anything done inside the classroom or anywhere, which is why this is an essential 21st Century skill.

Students must be able to effectively analyze and process the overwhelming amount of communication in their lives today. Which information sources are

⁶ Roekel, D. V. (n.d.). Preparing 21st Century students for Global society. Retrieved from [www.nea.org: http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf](http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf)

accurate? Which ones are not? How can they be used or leveraged effectively? The power of modern media and the ubiquity of communication technologies in all aspects of life make teaching strong communication skills even more important. While education has always emphasized fluent reading, correct speech, and clear writing, there is evidence that students are not mastering these most basic skills. In the report, *Are they really ready for work?* Employers note that although oral and written communication are among the top four skills they seek in new hires, all graduates are lacking in these areas. High school graduates fare the worst, with 72 percent of employers citing this group's deficiency in writing English, and 81 percent citing their deficiency in written communication.

Communication skills are especially critical in the expanding service economy – estimated to be 81 percent of jobs – where relationships with customers and fellow employees are of vital importance. Linguistically and culturally effective listening, empathy, and effective communication skills are essential skills for every person in the service economy.

Communication can be defined as follows:

1. Communicate clearly

- a. Articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills in a variety of forms and contexts.
- b. Listen effectively to decipher meaning, including knowledge, values, attitudes, and intentions.
- c. Use communication for a range of purposes (e.g. to inform, instruct, motivate, and persuade)

- d. Use multiple media and technologies and know how to assess impact and their effectiveness a priority.
- e. Communicate effectively in diverse environments (including multilingual and multicultural)

While it is important to emphasize communication skills, it can be difficult to separate them from other Cs – especially collaboration. As represented in the 21st Century skills Framework, communication competencies such as clearly articulating ideas through speaking and writing are closely related to collaboration skills, such as working effectively with diverse teams, making necessary compromises to accomplish a common goal, and assuming shared responsibility for collaborative work. Communication cannot be effective unless the message is received and understood.

Research backs up the importance – and interconnection – of communication and collaboration as well. In her work with young children, professor Carol Seefeldt found that “social skills and communication skills go hand in hand. Children who look at the child they are talking with, who understand turn taking when communicating, and who know how to solve verbal conflicts, are those who make and keep friends easily.”

(academy, n.d.)⁷



⁷ Roekel, D. V. (n.d.). Preparing 21st Century students for Global society. Retrieved from [www.nea.org: http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf](http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf)