Paving the Way to Success

By Patrick Cooney

The economic world that our students will be entering is one marked by rapid change. Jobs consisting of routine tasks, be they cognitive or manual, are increasingly done by machines or cheaper labor elsewhere in the world. To thrive in this new economy, workers have to be adaptable, have a broad base of knowledge, be creative problem-solvers and be able to communicate and work well with others. In other words, workers need to be really good at all of the non-algorithmic skills computers *aren't* good at yet.

The best definition we've found for this complex set of skills comes from the book *Becoming Brilliant*, by learning scientists Roberta Michnick Golinkoff and Kathy Hirsh-Pasek, who label these skills the 6 Cs. They define the 6 Cs as follows:

- **Collaboration**, or the ability to work and play well with others, which encompasses a wide range of "soft skills" necessary for success in the modern workplace;

- **Communication**, or the ability to effectively get your point across and back it up with evidence, both verbally and in writing, and the ability to *listen* and be empathetic;

- **Content**, by which they mean *deep* understanding and a broad base of knowledge in a range of subject areas, rather than simply surface knowledge of reading and math skills;

- **Critical Thinking,** which they define as the ability to sift through mountains of information and get a sense of what's valuable and not;

- **Creativity,** which they define as the ability to put information together in new ways;

- and **Confidence**, which encompasses capacities like grit, perseverance, and a willingness to take risks.

These are the skills students will need in order to complement rather than be replaced by machines, solve today's problems, and create new solutions to problems we can't yet envision.

But how do we prepare students to be competent in this set of outcomes, a far broader set than we typically think about in k-12 classrooms? And how does this type of education look different than what's currently happening?

Let's start with what a 21st century education is not. When people imagine a 21st century education, computers are often the first thing that comes to mind: personalized learning platforms, flipped classrooms, one-to-one computer-to-student ratios. And indeed, all of these strategies can be used to deliver a 21st century education.

However, students don't need computers to engage in any of the 6 Cs listed above, and if used incorrectly they can be counterproductive. We've seen schools where "personalized learning platforms" simply take the mindless, skill-building exercises students would normally do in a textbook and transfers them to a computer screen. And we've seen kids plopped in front of a computer to progress through material at their own pace, only they lack the requisite skills needed to access the material, and the motivation to engage in the work in the first place.

Paving the Way to Success

This isn't a 21st century education. No matter how sophisticated the platform, if digital tools lead to students spending a large portion of their day working alone on a narrow-band of skills, rather than building deep understanding, working collaboratively with classmates on meaningful projects, and being asked to think critically about the information they're presented, then computers can in fact *hinder* the development of the 6 Cs.

On the contrary, students don't *require* computers to engage in any of the 6 Cs listed above. In his book *Helping Children Succeed*, author Paul Tough provides a great description of what a 21st century education looks like through his description of Expeditionary Learning (EL) schools. EL schools are built around a project-based learning model, in which students work in groups on relevant and rigorous long-term projects, and present the final results of their project to authentic audiences. This model encourages students to collaborate and communicate, to think critically in their research and create novel solutions to problems, and to actively learn content and stretch outside of their comfort zones. This is an educational model tailor-made for developing the 6 Cs, yet doesn't require the latest technology.

However, technology can surely *help*. The trick is leveraging our amazing technological tools to *enhance* what's currently being delivered in our schools. While a project-based, deeper-learning model of education does not require technology, technological advances can make projects more engaging, more relevant, and more meaningful, by opening up new worlds for students, and making content come alive. We just need to use our revolutionary technological tools for revolutionary purposes, rather than for simply delivering a stale educational model in the digital realm.

What a 6 Cs education does require, with or without the latest technology, are teachers competent in the 6 Cs themselves. They must be eager to collaborate with others, to borrow and try out ideas in their own classrooms; know what good, evidence-based writing looks like, and be able to do it themselves; have deep content knowledge and be curious life-long learners, developing exciting new projects for their students to tackle; be able to think critically about information they're presented, and push their students to adopt the same critical lens; create novel solutions to complex problems; and be willing to take risks and redesign their pedagogical approach when necessary.

Back-mapping one step further, if our teachers are to be masters of the 6 Cs, they must also receive an education that pushes them to develop these competencies. *Becoming Brilliant* author Kathy Hirsch-Pasek demonstrates how this can be done through her approach to her own psychology courses at Temple University. In those courses she pushes students to learn actively, with students collaborating on group projects, leading discussion groups, writing evidence-backed essays, and monitoring their own development of the 6 Cs throughout the semester. And they do all this while developing mastery of key main ideas in psychology as well as "learning to learn" skills. To develop 6 Cs educators, we need to teach them in a style compatible with the 6 Cs.

The 6 Cs pave the way to success in the 21st century, and are the skills we must develop in both our teachers and the students they teach. We need classrooms in which students gain the skills they'll need to thrive in and adjust to a world we can hardly forecast, in which machines will continue to get smarter and smarter, and in which humans will be called upon more and more to display the most human of actions: to work together, to talk and to listen, to seek understanding, to be discerning, to be creative, and to take risks and develop solutions to problems we can't yet imagine.