By guest blogger Danielle Wilson

Each year, a group of education technology advocates and experts outline what they see as the biggest emerging trends in the field, which they describe in a report. This year's document highlights a number of emerging issues, including the increased use of touch-screen and motion-based technology for learning and the changing role of teachers as personalized learning and "flipped" classrooms become more common.

The Horizon Report 2014 K-12 Edition examines emerging technologies and the possible impact they will have on teaching and learning in schools. In addition to casting a light on various devices, software, learning models, and other technology, it describes the challenges educators and administrators face in using various digital tools and practices.

The report is a collaboration between The New Media Consortium, an international organization that focuses on educational technology, and the Consortium for School Networking, a professional association for education technology leaders. See this previous Education Week story for a look back at earlier predictions put forward by the organizations.

Technology trends are separated into three categories: "fast trends," or those that will occur over the next one to two years; "mid-range trends," those likely to be observed in the next three to five years; and "long-range trends," expected to occur five years from now or more.

The fast trends:

- **Schools are rethinking the roles of teachers**, as pressure increases for digital-learning integration in classrooms, including a shift to "student-centered" learning and flipped classrooms. The report states that in ideal class settings, the teacher will function as the mentor, guiding groups and individual learners through technology-based lessons.

- **Schools are being drawn to "deeper-learning" approaches**, defined as using technologies to foster active learning experiences in and out the classroom, has become a new emphasis in K-12 systems. Schools are looking to use technology to engage students in a way that will give them college and career readiness skills. Those efforts encourage learners to use technology from their everyday lives such as iPads, to create self-directed projects that solve or examine real-world problems.

- **There's an increasing focus on "open" educational resources**, materials that are free of charge and ownership and usage rights, are becoming more prevalent. The report notes that the use of open textbooks that are available through apps and websites, has emerged in K-12 schools in response to rising costs and strict budgets in some regions.

The only mid-range trend identified was:

- **Schools/ classrooms are increasingly using hybrid learning designs** that enable students to participate in physical and virtual learning environments. The report states that these learning models typically involve the student doing group work and project-based activities during the day while they can access videos and reading materials available on the Internet on their own time.

Trends expected in five years or more:

- **The rapid acceleration of "intuitive technology"** is providing a learning experience where learners interact with devices entirely by using natural movements and gestures, the authors of the report say. Motion-based technology through smartphones, tablets, and even game systems allow learners to engage freely. Examples given in the report refer to children using multi-touch walls and interactive displays at museums, and teachers in Virginia using games with motion-based technology improved social and verbal communication skills of students with autism spectrum disorders.

- **Overall changes in the structure of schools** are aimed to create innovative school designs and restructuring school schedules to allow more flexibility and cultivate student creativity. The report notes that the multi-disciplinary nature of project-based learning and other models requires subjects to be linked to one another, without the restriction of bell schedules and classrooms. Students at Venture Academy in Minneapolis go to school in a repurposed printing plant without structured classrooms and at High Tech High in San Diego students work freely throughout the school building, designing structures and producing multimedia.

The authors of the report also describe the challenges schools face in keeping student data safe at a time when "their every move and behavior can be exposed." Schools are seeking ways to internally store data and adopt policies that address privacy issues surrounding cloud computing and other technologies.

Another challenge is maintaining "authentic learning" in classrooms where technology is being used extensively, the authors say. The report notes that the use of "real-life" experiences is still uncommon in classroom instruction. It suggests that students interact with community members so they can gain a better understanding of the science, math and technology fields. The report also suggests that educators should...
members so they can gain a better understanding of the science, math and technology fields. The report also suggests that educators should emphasize how digital tools can be used outside the classroom to help with life skills such as managing personal finances. According to the report, these authentic learning experiences will, "prepare them for further education, careers, and citizenship."