Thank You for a GREAT UCET Conference!

What an amazing conference it was! One UCET attendee said, “Just want to thank you for the opportunity to attend the UCET Conference on Friday. I was amazed at the work being done with technology on the elementary level. Attended several great speakers. And of course the Nearpod T-Shirt was icing on the cake. Thank you again for an enlightening experience.” Said another, “The keynotes were amazing! I never knew Thurl Bailey was a musician as well as a basketball player! His message struck home. Ginger Lewman and Travis Allen shared great ideas and resources. Thank you for another great conference!”

As an organization, we wish to sincerely express our thanks to the University of Utah for hosting this year, all the great vendors who participated with us, the army of wonderful volunteers, and to each of you that attended. We hope you were able to take away some new skills and ideas that you can use in educational settings.

Congratulations to the new UCET Board Members & President:

Thank you to the nearly 400 UCET attendees who voted on Friday for the four new elected board members and president elect. This year the voters selected the following educators for the UCET board:

- Nathan Smith - Director of Technology Integration at Utah State University
- Pam Turley - Technology Curriculum Specialist, Nebo School District
- Tricia Jackson - Online Learning Administrator, Park City School District
- Daniel Potter - Teacher (English), West Lake High School - Lehi, Utah

And for president, Dani Sloan - Technical Trainer, UEN (Utah Education Network)

2017 Theme - by Michael Hakkarinen

When you look around your school, classroom, or district do you feel like the implementation of instructional technology is appropriately planned and prepared? In other words are #UCET4Success - yeah, it’s a pun.

The theme is in planning, the location is being set, and the dates are still in pencil, but the hashtag is ready and we look forward to seeing everyone next year for #ucet17 to show us how you are #UCET4Success.
Project ReimaginED

It’s time to rethink learning: Technology has changed everything we do, from how we communicate to how we work. Fortunately, it has also given us the means to change the way we — and our students — learn. Now it’s on us to harness that power to bring education into the digital age. Project ReimaginED is your opportunity to collaborate with your fellow educators to redesign your classroom activities to meet the Common Core and ISTE Standards. Within this new social learning community, K-12 teachers and coaches collaborate and share with standards experts and other community members.

Participation is free, so bring colleagues from your school and work together in our community platform to deepen your understanding of the standards and get support in applying what you learn to what you do every day.

Join forces to transform education.

http://connect.iste.org/communities/community-home?CommunityKey=ca0b064c9-11bd-4e9f-a89c-1cda5754da9a

Sally Ride EarthKAM @ Space Camp Announces Spring 2016 Mission

Registration is open for the Spring 2016 mission for the Sally Ride EarthKAM @ Space Camp program taking place April 12-16, 2016. During the mission, students worldwide may submit requests to have a camera aboard the International Space Station capture an image of a specific location on Earth. Related resources, including images and activities, are available for use in the classroom. The optional online activities are targeted at middle school students but are adaptable for other grade levels. All students and educators are welcome, including participants in afterschool programs.

For more information and to register for the upcoming mission, visit https://www.earthkam.org/.

Please submit questions about the Sally Ride EarthKAM @ Space Camp program via https://www.earthkam.org/contact.

2016 National Academy of Engineering - Engineering for You Video Contest 3

The National Academy of Engineering, or NAE, is launching the Engineering for You Video Contest 3, or E4U3.

This year, participants are tasked with creating a 1- to 2-minute video focused on mega-engineering. Mega-engineering projects typically address important needs of large populations and/or societies, require teams working across countries and cultures on a solution, and involve at least three disciplines including engineering.

The competition is open to all individuals or teams in the following competition categories:
- Middle school students and younger (grades K-8)
- High school students (grades 9-12)
- Tertiary education students (two-year college through graduate school, full or part time)
- The general public

The main prize is $25,000, and videos will be accepted through May 31, 2016.

For more information, visit http://www.nae.edu/e4u3/.

Questions about the E4U3 Video Contest should be directed to E4Uvideocontest@nae.edu.
Blended learning is combining traditional face-to-face teaching styles with online instruction. This has been becoming more common in schools all over the country in the past few years. Several of these programs not only create more personalized instruction for the students but saves school districts money. The premise of blended learning involves students rotating from traditional classrooms to online stations. Not only has blended learning made it’s way into public education, it has also been incorporated in several universities.

Youtube has become a major resource for teachers implementing this teaching style. They record their lectures, post them on youtube, and require their students to watch the lectures before coming to class. Now, instead of using the allotted class time lecturing, the professor helps students understand the material and work through homework problems. This “flipped” learning style helped the students grasp difficult material much faster than students in traditional classrooms. The test scores from the blended learning environment were higher than those of the traditional teaching style. Although the blended teaching style doesn’t appeal to everyone, the majority of students who took these courses prefer them over the traditional classroom.

Math and science subjects are the most common blended learning courses in universities right now. Students will go to their lectures, learn the material, and then complete their homework and quizzes online. Several textbooks come with access codes that give students admittance to an online course containing all their homework and assignments. Many of these access codes even include an online version of the textbook, which deters students from purchasing a physical copy of the text.

Blended learning is becoming much more common in education and although it decreases the work for teachers, since assignments are automatically graded, it can take away from the experience for the student. Some forms of blended learning can be extremely beneficial whereas others can make learning more difficult. The issue that needs to be focused on now is figuring out the best strategy for combining traditional and online learning.
$1500 Connecting Knowledge Grants

Ideaphora is offering four “Connecting Knowledge” Grants worth up to $1,500 each to educators who demonstrate creativity, innovation and the ability to foster students’ critical thinking skills by teaching with digital content and knowledge mapping. The four winning educators will earn a stipend toward attendance and travel to a professional development conference, a free yearlong subscription to Ideaphora for themselves and their students, and the opportunity to publish their work and gain recognition among their peers.

Concept mapping enables students to interact with digital content, including open education resources such as YouTube videos and Wikipedia articles, in ways that deepen their understanding of the information presented, develop higher order thinking skills and personalize learning. Ideaphora is the only browser-based knowledge mapping tool that seamlessly integrates with online content to support digital literacy and college and career readiness. Students can create concept maps right alongside the content they are watching or reading without distraction.

If you or someone you know, would like to enter, follow these three simple steps:

- Sign up to participate in the free Ideaphora Classroom Pilot Program, if you haven’t already enrolled.
- Use Ideaphora with students to support a classroom lesson or learning activity.
- Fill out the online application and provide samples of students’ maps.

Proposals are open until June 1, 2016, at 11:59 p.m. PT. Submit your application or share with a colleague. For more information and to apply, visit http://info.ideaphora.com/grant-form. Good luck!

National Science Foundation’s Innovative Technology Experiences for Students and Teachers

The National Science Foundation is accepting proposals for the Innovative Technology Experiences for Students and Teachers, or ITEST, program. This program supports the development, implementation and selective spread of innovative strategies for engaging students in experiences that do the following:

- Increase student awareness of STEM (science, technology, engineering and mathematics) and ICT (information and communications technology) careers
- Motivate students to pursue the education necessary to participate in those careers
- And/or provide students with technology-rich experiences that develop their knowledge of related content and skills (including critical thinking skills) needed for entering the STEM workforce.

ITEST projects must involve students but may also include teachers. The ITEST program is especially focused on broadening participation of students from traditionally underrepresented groups in STEM fields and related education and workforce domains. ITEST strongly encourages projects that actively engage business and industry partners. The resulting relationships better ensure that the students’ experiences foster the knowledge and skill sets needed for emerging STEM-related occupations.

Proposals are due Aug. 10, 2016.

For additional information about the program, including anticipated awards, visit http://www.nsf.gov/pubs/2015/nsf15599/nsf15599.htm. Please direct questions about this opportunity to DRLITEST@NSF.gov.

National Science Foundation’s Advancing Informal STEM Learning Program

The National Science Foundation is accepting proposals for the Advancing Informal STEM Learning, or AISL, program. This program seeks to advance new approaches to evidence-based understanding of the design and development of STEM learning opportunities for the public in informal environments; to provide multiple pathways for broadening access to and engagement in STEM learning experiences; and to advance innovative research on and assessment of STEM learning in informal environments.

Proposals are due Nov. 8, 2016. For additional information about the program, including anticipated awards, visit http://www.nsf.gov/pubs/2015/nsf15593/nsf15593.htm. Please direct questions about this opportunity to DRLAISL@NSF.gov.
Algodoo - Free Physics Simulation

http://www.algodoo.com/

Algodoo gives you the opportunity to play with physics. It’s quite powerful, including the ability to plot forces over time. It is a free application for Macintosh and Windows computers. There is a paid mobile application for iOS devices (currently $4.99)

Algodoo is a unique 2D-simulation software from Algoryx Simulation AB. Algodoo is designed in a playful, cartoony manner, making it a perfect tool for creating interactive scenes. Explore physics, build amazing inventions, design cool games or experiment with Algodoo in your science classes. Algodoo encourages students and children’s own creativity, ability and motivation to construct knowledge while having fun. Making it as entertaining as it is educational. Algodoo is also a perfect aid for children to learn and practice physics at home.

I’ve used this with students of all ages from pre-school to college. It is fun and addicting! Go to YouTube and look for algodoo - and you’ll find many creations posted there! The videos below are brief tutorials on how to use Algodoo, and demonstrate some things you can do with it. Click any thumbnail to watch the tutorial.
Welcome to Planet eBook, the home of high-quality — FREE — classic literature. At the link above are listed their entire list of free books, all of which you’re free to download, read and share. Get to it!

From their website: “Welcome to Planet eBook, the home of free classic literature. We offer an assortment of classic novels and books in electronic form which you are free give to your friends, classmates, students, anyone!

Existing free eBooks on the Web tend to be well beneath the quality of paper books, making them more difficult and less pleasurable to read. At Planet eBook we’re trying to change this. Our goal is to publish a small selection of high-quality eBooks — each a genuine alternative for readers wanting to enjoy reading a book without having to pay for it.”

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The Portable Freeware Collection

www.portablefreeware.com/all.php

This site links to hundreds of portable freeware. What is portable? From their website: “In recent years, the term “portable” has quickly come to be associated with apps that you run off a USB memory stick. However, to me, “portable” has always meant that I could easily move apps from one machine to another without too much inconvenience.

To summarize, I have learnt that the ideal definition of “portable” means:

- It must run without installation.
- It must run on older versions of Windows which might not have been updated.
- It must not have any coupling with Internet Explorer, audio/video codecs, DirectX etc.
- It must not write settings to the registry or local filesystem.
- It must not leave any trace on the host machine at all, even when the app crashes (hereby referred to as “stealth”).
- It must run with guest access rights.
- It must be able to compensate for USB memory stick drive letter changes.”

As I checked through the site, it is still being updated - with changes as recent as a day ago. Portable apps are great, because they can run directly from your flash drive without having to install them on the host.
The Future Of Live Streaming Is Here

The YouTube video at left shows new technology - a small, new 360 degree camera that attaches to your smartphone and lets you stream live 360 degree video, or capture it and post it on YouTube, which also supports 360 degree video! The video is from USA Today.

https://youtu.be/XkpTg3omtyk

Technology in the Classroom: A Student Perspective

By: Devin Hinkson

We live in a world full of choices, especially when it comes to technology. In fact, there is more information uploaded to the internet in one day than we possibly could read, watch, or listen to even if we spent 24/7 for the rest of our lives doing so. That is a lot of options! Certainly not all of that information is useful. So how do we decide which information is worth our time? How do we know which uses of technology will be most beneficial to us, and as a teacher, how can you know which technology will be most beneficial to incorporate into your classroom?

I want to outline a few things that, from a student perspective, can contribute or can detract from teaching instead of contributing to it. I believe that teachers are innovative, resourceful, and know how to apply principles and so I don’t want to give a list of do’s and don’ts, but I want to outline principles that will help guide teachers and students to greater more effective learning and teaching. Ask yourself these questions occasionally:

• Am I using too much technology/am I allowing it to interfere with learning?
• Am I using enough technology?
• Is the technology I am using really the most effective option for what I am trying to teach?
• Are my students really learning from this technology? If not, what is a better option?
• Is the technology I am using worth the effort it takes to use it?
• Do I feel that just because technology is available that it’s the best teaching resource?
• Do I sufficiently engage students in interactive activities without technology? (Studies show that sometimes technology can be a hindrance rather than a help).

Technology can be overwhelming sometimes, and occasionally it’s a good idea to disconnect and have more human interaction. Some technology facilitates mentally passive activities, rather than mentally engaging ones. Throughout the years technology has been changing and improving. In elementary school, high school, and college, I have seen many different uses of technology which have been both effective and ineffective. The best teachers, in my opinion, were those who didn’t let technology get in the way of their teaching and were focused on the students’ learning rather than getting through lesson plans.

However, don’t be afraid to experiment and change levels of technology usage. Your needs will not be the same as someone else’s. I hope this can help you as you teach, and help you to be connected with technology while not becoming disconnecting with people. Technology was invented to help us. It can be a powerful learning tool, or can become a distraction. I hope you can find the best ways to use technology, and that it will facilitate learning in your classroom.
2016 Award Winners for the Utah Coalition for Educational Technology - UCET

Congratulations to the following winners of the #UCET16 Awards! Read more about these outstanding educators and find a list of all nominees on the UCET Award Page.

Carl Lyman
USOE
ISTE Making It Happen Award

Guy Durrant
Daggett School District
Outstanding Leader Award

Crystal Van Ausdal
Mountain Heights Academy
Outstanding Teacher Award

Maria Jones
Canyons School District
Outstanding Young Educator Award

Add-ons for Google Docs & Sheets

You use Google Docs and Sheets to get all sorts of stuff done -- whether you’re staying up late to finish that final paper or just getting started on a new project at the office. But to help take some of that work off your shoulders, try add-ons—new tools created by third-party developers that give you even more capabilities in your documents and spreadsheets. Click the video above or the link below to learn how!

https://youtu.be/lZqX6ocwHWU
Kaizena - Give Audio Feedback to Your Students

Website: https://kaizena.com/
Free iOS Apps for iPad/iPhone: https://itunes.apple.com/us/app/kaizena-fast-personal-feedback/id1025198506?mt=8&ign-mpt=uo%3D4

From their website: “Kaizena makes it easy to give your students faster feedback on their work.
• Save time and provide more personal feedback by using your voice instead of text
• Share feedback privately with students one-on-one
• Access and review feedback anytime, anywhere, on Kaizena.com or on your iPhone, iPad or iPod
• Students can share their work with you anytime for feedback, from thousands of apps and Kaizena.com
• Enable your students to give feedback to each other, all in a safe environment
• When you provide feedback, students can receive notifications in the app, on the web, and by email.

What the Research Says: The Education Endowment Foundation discovered that feedback is the most effective teaching practice, equivalent to 8 additional months of class time per year. Research has shown that feedback is more effective than one on one tutoring, reduced class sizes, and teaching assistants.

Why Kaizena Exists: High quality feedback means students are not only getting feedback, but also timely feedback, personalized feedback, peer feedback, actionable feedback, continuous feedback. Every teacher wants to help their students improve, but it’s impossible for them to focus so deeply on the art of high quality feedback with every student for every skill in every class.

Our mission is to empower students to improve skills through feedback from their peers and teachers.”

The site and apps are free to use. Laura Heintz, an elementary school teacher, said, “Connect to your Google Drive and you can add feedback with voice to any google doc. Throw away the red pen and leave feedback for your students. Genius.”
Draft 2 of the New ISTE Standards for Students Released Recently

https://docs.google.com/document/d/1r9KATQ_X6JP-Tu50NxQ53LIAc96UZr3wUftg_RuYBM/edit
https://www.iste.org/explore/articleDetail?articleid=645

Were you aware that the ISTE technology standards for students was being revised? They focus more on our students becoming innovators, collaborators, and communicators and creators. You can read the entire draft at the first link above. An ISTE article talking about the new standards is the second link.

Briefly, the new student standards are:

1. **Empowered Learner**: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals.

2. **Digital Citizen**: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act in ways that are safe, legal, ethical and self-aware.

3. **Knowledge Curator**: Students make meaning for themselves and others by critically curating resources through the use of digital tools.

4. **Innovative Designer**: Students use a variety of technologies within a design process to solve problems by creating new, useful and/or imaginative solutions.

5. **Computational Thinker**: Students identify authentic problems, work with data and employ algorithmic thinking to propose and automate solutions.

6. **Creator and Communicator**: Students communicate clearly and express themselves creatively for a variety of purposes using the tools, styles, formats and digital media appropriate to their goals.

7. **Global Collaborator**: Students use digital tools to broaden their perspectives, increase empathy and understanding and work effectively in teams.

There are a couple of talks Tony Wagner gave that would well be worth your time to listen to. Tony Wagner is the first Innovation Education Fellow at the Technology & Entrepreneurship Center at Harvard. Prior to this, he was the founder and co-director of the Change Leadership Group at the Harvard Graduate School of Education for more than a decade.

Tony Wagner also listed five ways that our traditional education must change in order to provide the kind of environment in our schools that fosters these skills. Can you name them?

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**The four C’s of Innovation**

- Critical Thinking
- Collaboration
- Communication
- Creative Problem Solving

**When is technology most effective?**

- When it helps to engage students in meaningful, relevant, participatory experiences.
- When it promotes collaboration, provides students with a larger audience for their work, or connects them with peers or experts in meaningful ways.
- When it makes work easier for students and teachers
- When it allows students to be creative, innovative, and personalize their work.
- When it helps students visualize and better understand concepts.
DARPA’s New Grand Challenge

by Jordan Haws - USU Student

The Defense Advanced Research Projects Agency (DARPA - an agency in the US Department of Defense) possess periodic challenges with cash rewards as a prize. They do this to harness and outsource ingenuity to help solve problems quickly and make the world a better (and cooler) place. DARPA has announced its challenge for 2017 to be the Spectrum Collaboration Challenge. The challenge winner will be the team or group that can most efficiently use the Radio Spectrum to its best efficiency, with a prize of $2 million.

This announcement may not make much sense at first if you didn’t pay much attention in physics classes, but here the basics of radio waves will be discussed, and help make sense of how important this challenge and it’s results will be.

Radio waves are waves of energy, just like visible light, micro waves, or x-rays. The human eye is an amazing thing, but we can only see a small part of energy waves around us. Imagine if the rainbow could extend beyond red on the one side, and violet on the other. We obviously can’t, but if we could see that extension of the rainbow, we would see these other types of waves. So, all waves have a wavelength, which means if you could lay it out flat, you could measure how long it is from one peak of a wave to the next. So, visible light is around the 5nm range, or .000000005 meters from one peak to the next (that is really, really small).

By perspective, x-rays are much smaller than light. So small that we can shoot it through a person and sense what comes out on the other side. Bone is dense enough that it doesn’t let it pass, so we can see broken bones! Radio waves are on the opposite end, they are much longer that light. Radio waves can be anywhere from 1mm in length to 30 km from one peak to the next. That seems like a pretty big space for all radio waves, but surprisingly, we use all those wavelengths in the US, and have them very carefully allotted to many different people and purposes. Previously waves have been referenced by length, but now, they will be related by frequency. For example, the radio spectrum ranges from 9 kHz (or the waves happens 9,000 times per second) to 300 GHz (300 million times a second).

So, here is where we start wrapping around to the DARPA challenge. For simplicities sake, radio waves will be compared to car traffic. The amount of lanes on a freeway is comparable to the spectrum, or the number of different frequencies that can be held in the radio wave highway.

As a fun side note, have you ever noticed that FM radio stations only broadcast on odd frequencies (FM ranges from 88 kHz to 108 kHz)? Check next time you are in your car. Still using the metaphor, the reason there are no FM frequencies on even numbers is that is the space between cars. The lanes are right up next to each other, but there needs to be space between each car so there are no collisions. Collisions in radio frequencies would give garbled static, and no one wants that. So they give each other some wiggle room.

Anyways, just like how on a freeway, not every lane is always full all the time, even though all the radio ‘lanes’ (frequencies) are spoken for, they don’t all use them all of the time. Sometimes there is an open lane. This DARPA challenge is to find a way to automate the radio wave spectrum so that if anyone is not transmitting on a given frequency, others can use that frequency, or lane, temporarily. In the traffic metaphor, sometimes there are packed lanes, with other lanes wide open not being used. The challenge is to best direct the radio traffic so that as much information, or cars, can be sent as possible.

The Spectrum Collaboration Challenge will go from 2017 to 2020, and then the winning system will hopefully be implemented after testing and getting the proper approval. Some things like radios won’t change, but if the problem is solved, we will be able to use a lot less space to put across a lot more information.