Ken Robinson - How to Escape Education’s Death Valley - TED Talk - April 2013

http://www.ted.com/talks/ken_robinson_how_to_escape_education_s_death_valley.html

Thank you very much.

I moved to America 12 years ago with my wife Terry and our two kids. Actually, truthfully, we moved to Los Angeles -- (Laughter) -- thinking we were moving to America, but anyway, it’s a short plane ride from Los Angeles to America.

I got here 12 years ago, and when I got here, I was told various things, like, “Americans don’t get irony.” Have you come across this idea? It’s not true. I’ve traveled the whole length and breadth of this country. I have found no evidence that Americans don’t get irony. It’s one of those cultural myths, like, “The British are reserved.” I don’t know why people think this. We’ve invaded every country we’ve encountered. (Laughter) But it’s not true Americans don’t get irony, but I just want you to know that that’s what people are saying about you behind your back. You know, so when you leave living rooms in Europe, people say, thankfully, nobody was ironic in your presence.

But I knew that Americans get irony when I came across that legislation No Child Left Behind. Because whoever thought of that title gets irony, don’t they, because -- (Laughter) (Applause) — because it’s leaving millions of children behind. Now I can see that’s not a very attractive name for legislation: Millions of Children Left Behind. I can see that. What’s the plan? Well, we propose to leave millions of children behind, and here’s how it’s going to work.

And it’s working beautifully. In some parts of the country, 60 percent of kids drop out of high school. In the Native American communities, it’s 80 percent of kids. If we halved that number, one estimate is it would create a net gain to the U.S. economy over 10 years of nearly a trillion dollars. From an economic point of view, this is good math, isn’t it, that we should do this? It actually costs an enormous amount to mop up the damage from the dropout crisis.

But the dropout crisis is just the tip of an iceberg. What it doesn’t count are all the kids who are in school but being disengaged from it, who don’t enjoy it, who don’t get any real benefit from it.

And the reason is not that we’re not spending enough money. America spends more money on education than most other countries. Class sizes are smaller than in many countries. And there are hundreds of initiatives every year to try and improve education. The trouble is, it’s all going in the wrong direction. There are three principles on which human life flourishes, and they are contradicted by the culture of education under which most teachers have to labor and most students have to endure.

The first is this, that human beings are naturally different and diverse.

Can I ask you, how many of you have got children of your own? Okay. Or grandchildren. How about two children or more? Right. And the rest of you have seen such children. (Laughter) Small people wandering about. I will make you a bet, and I am confident that I will win the bet. If you’ve got two children or more, I bet you they are completely different from each other. Aren’t they? Aren’t they? (Applause) You would never confuse them, would you? Like, “Which one are you? Remind me. Your mother and I are going to introduce some color-coding system, so we don’t get confused.”

Education under No Child Left Behind is based on not diversity but conformity. What schools are encouraged to do is to find out what kids can do across a very narrow spectrum of achievement. One of the effects of No Child Left Behind has been to narrow the focus onto the so-called STEM disciplines. They’re very important. I’m not here to argue against science and math. On the contrary, they’re necessary but they’re not sufficient. A real education has to give equal weight to the arts, the humanities, to physical education. An awful lot of
kids, sorry, thank you — (Applause) — One estimate in America currently is that something like 10 percent of kids, getting on that way, are being diagnosed with various conditions under the broad title of attention deficit disorder. ADHD. I’m not saying there’s no such thing. I just don’t believe it’s an epidemic like this. If you sit kids down, hour after hour, doing low-grade clerical work, don’t be surprised if they start to fidget, you know? (Laughter) (Applause) Children are not, for the most part, suffering from a psychological condition. They’re suffering from childhood. (Laughter) And I know this because I spent my early life as a child. I went through the whole thing. Kids prosper best with a broad curriculum that celebrates their various talents, not just a small range of them. And by the way, the arts aren’t just important because they improve math scores. They’re important because they speak to parts of children’s being which are otherwise untouched.

The second, thank you — (Applause)

The second principle that drives human life flourishing is curiosity. If you can light the spark of curiosity in a child, they will learn without any further assistance, very often. Children are natural learners. It’s a real achievement to put that particular ability out, or to stifle it. Curiosity is the engine of achievement. Now the reason I say this is because one of the effects of the current culture here, if I can say so, has been to de-professionalize teachers. There is no system in the world or any school in the country that is better than its teachers. Teachers are the lifeblood of the success of schools. But teaching is a creative profession. Teaching, properly conceived, is not a delivery system. You know, you’re not there just to pass on received information. Great teachers do that, but what great teachers also do is mentor, stimulate, provoke, engage. You see, in the end, education is about learning. If there’s no learning going on, there’s no education going on. And people can spend an awful lot of time discussing education without ever discussing learning. The whole point of education is to get people to learn.

A friend of mine, an old friend -- actually very old, he’s dead. (Laughter) That’s as old as it gets, I’m afraid. But a wonderful guy he was, wonderful philosopher. He used to talk about the difference between the task and achievement senses of verbs. You know, you can be engaged in the activity of something, but not really be achieving it, like dieting. It’s a very good example, you know. There he is. He’s dieting. Is he losing any weight? Not really. Teaching is a word like that. You can say, “There’s Deborah, she’s in room 34, she’s teaching.” But if nobody’s learning anything, she may be engaged in the task of teaching but not actually fulfilling it.

The role of a teacher is to facilitate learning. That’s it. And part of the problem is, I think, that the dominant culture of education has come to focus on not teaching and learning, but testing. Now, testing is important. Standardized tests have a place. But they should not be the dominant culture of education. They should be diagnostic. They should help. (Applause) If I go for a medical examination, I want some standardized tests. I do. You know, I want to know what my cholesterol level is compared to everybody else’s on a standard scale. I don’t want to be told on some scale my doctor invented in the car.

“Your cholesterol is what I call Level Orange.”

“Really? Is that good?” “We don’t know.”

But all that should support learning. It shouldn’t obstruct it, which of course it often does. So in place of curiosity, what we have is a culture of compliance. Our children and teachers are encouraged to follow routine algorithms rather than to excite that power of imagination and curiosity. And the third principle is this: that human life is inherently creative. It’s why we all have different résumés. We create our lives, and we can recreate them as we go through them. It’s the common currency of being a human being. It’s why human culture is so interesting and diverse and dynamic. I mean, other animals may well have imaginations and creativity, but it’s not so much in evidence, is it, as ours? I mean, you may have a dog. And your dog may get depressed. You know, but it doesn’t listen to Radiohead, does it? (Laughter) And sit staring out the window with a bottle of Jack Daniels. (Laughter)

And you say, “Would you like to come for a walk?”

He says, “No, I’m fine. You go. I’ll wait. But take pictures.”

We all create our own lives through this restless process of imagining alternatives and possibilities, and what one of the roles of education is to awaken and develop these powers of creativity. Instead, what we have is a culture of standardization.

Now, it doesn’t have to be that way. It really doesn’t. Finland regularly comes out on top in math, science and reading. Now, we only know that’s what they do well at because that’s all that’s being tested currently. That’s one of the problems of the test. They don’t look for other things that matter just as much. The thing about work in Finland is this: they don’t obsess about those disciplines. They have a very broad approach to education which includes humanities, physical education, the arts.

Second, there is no standardized testing in Finland. I mean, there’s a bit, but it’s not what gets people up in the morning. It’s not what keeps them at their desks.

And the third thing, and I was at a meeting recently with some people from Finland, actual Finnish people, and somebody from the American system was saying to the people in Finland, “What do you do about the dropout rate in Finland?”

And they all looked a bit bemused, and said, “Well, we don’t have one. Why would you drop out? If people are in trouble, we get to them quite quickly and help them and we support
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out of school has a reason for it which is rooted in their own
human system. It's about people, people who either do want
did.

The point is that education is not a mechanical system. It's a
organic systems, if the conditions are right, life is inevi-
tracing. Right beneath the surface are these seeds of possibility
waiting for the right conditions to come about, and with
organic systems, if the conditions are right, life is inevi-
table. It happens all the time. You take an area, a school,
a district, you change the conditions, give people a dif-
ter sense of possibility, a different set of expectations,
broader range of opportunities, you cherish and value
the relationships between teachers and learners, you offer
people the discretion to be creative and to innovate in
what they do, and schools that were once bereft spring to
life.

And the third is, they devolve responsibility to the school
level for getting the job done. You see, there's a big difference
here between going into a mode of command and control in
education -- That's what happens in some systems. You know,
central governments decide or state governments decide they
know best and they're going to tell you what to do. The trou-
bles is that education doesn't go on in the committee rooms of
our legislative buildings. It happens in classrooms and schools,
and the people who do it are the teachers and the students,
and if you remove their discretion, it stops working. You have
to put it back to the people. (Applause)

There is wonderful work happening in this country. But I have
to say it’s happening in spite of the dominant culture of educa-
tion, not because of it. It’s like people are sailing into a head-
wind all the time. And the reason I think is this: that many of
the current policies are based on mechanistic conceptions of
education. It’s like education is an industrial process that can
be improved just by having better data, and somewhere in, I
think, the back of the mind of some policy makers is this idea
that if we fine-tune it well enough, if we just get it right, it will
all hum along perfectly into the future. It won’t, and it never
did.

The point is that education is not a mechanical system. It’s a
human system. It’s about people, people who either do want
to learn or don’t want to learn. Every student who drops
out of school has a reason for it which is rooted in their own
biography. They may find it boring. They may find it irrelevant.
They may find that it’s at odds with the life they’re living
outside of school. There are trends, but the stories are always
unique. I was at a meeting recently in Los Angeles of
-- they’re called alternative education programs. These
are programs designed to get kids back into educa-
tion. They have certain common features. They’re very
personalized. They have strong support for the teach-
ers, close links with the community and a broad and
diverse curriculum, and often programs which involve
students outside school as well as inside school. And
they work. What’s interesting to me is, these are
called “alternative education.” You know? And all the
evidence from around the world is, if we all did that,
there’d be no need for the alternative. (Applause)

So I think we have to embrace a different metaphor.
We have to recognize that it’s a human system, and
there are conditions under which people thrive, and
conditions under which they don’t. We are after all
organic creatures, and the culture of the school is ab-
solutely essential. Culture is an organic term, isn’t it?

Not far from where I live is a place called Death Valley.
Death Valley is the hottest, driest place in America,
and nothing grows there. Nothing grows there because
it doesn’t rain. Hence, Death Valley. In the winter of
2004, it rained in Death Valley. Seven inches of rain fell
over a very short period. And in the spring of 2005,
there was a phenomenon. The whole floor of Death
Valley was carpeted in flowers for a while. What it
proved is this: that Death Valley isn’t dead. It’s dormant.
Right beneath the surface are these seeds of possibility
waiting for the right conditions to come about, and with
organic systems, if the conditions are right, life is inevi-
table. It happens all the time. You take an area, a school,
a district, you change the conditions, give people a dif-
ter sense of possibility, a different set of expectations,
broader range of opportunities, you cherish and value
the relationships between teachers and learners, you offer
people the discretion to be creative and to innovate in
what they do, and schools that were once bereft spring to
life.

Great leaders know that. The real role of leadership in
education -- and I think it’s true at the national level, the
state level, at the school level -- is not and should not be
command and control. The real role of leadership is climate
control, creating a climate of possibility. And if you do that,
people will rise to it and achieve things that you completely
did not anticipate and couldn’t have expected.

There’s a wonderful quote from Benjamin Franklin. “There
are three sorts of people in the world: Those who are im-
movable, people who don’t get, they don’t want to get it,
they’re going to do anything about it. There are people who
are movable, people who see the need for change and are
prepared to listen to it. And there are people who move,
people who make things happen.” And if we can encourage
more people, that will be a movement. And if the move-
ment is strong enough, that’s, in the best sense of the
word, a revolution. And that’s what we need.

Thank you very much. (Applause) Thank you very much.
“A” is for action in the Parents’ Choice Award-winning app from Spinlight that uses 26 action verbs to teach children their ABCs. Whether they’re “building” robots, “digging” for treasure or “zapping” alien spaceships, they’ll have a blast exploring all 26 letters of the alphabet with action-packed games that invite them to look, laugh and learn.

Designed with little learners in mind, AlphaTots includes a fun alphabet sing-a-long song and child-friendly navigation that prevents accidental touches from getting in the way of the fun.

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Features:
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* Fun surprises around every corner that keep them coming back for more.
* Audio-visual cues that help children associate letters with sounds and words.
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Why you’ll love it:
Active learning: In AlphaTots, children learn by “doing,” completing an activity for every letter in the alphabet.

Strong educational content: AlphaTots turns playtime into productive learning, keeping children occupied while teaching them the things they need to know.

Assisted-alphabet: In addition to fun mini-games, AlphaTots includes an assisted-learning feature that leads children through their alphabet, one letter at a time.

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At Spinlight Studio, we’re committed to child-safety and providing parents with the information they need to make informed purchase decisions. To learn more about our privacy policy, follow the link above, or visit spinlight.com for a detailed list of the safety features included in every Spinlight app.
Open Education Resources (OER)

“Open Education Resources (OER) are teaching and learning materials freely available for everyone to use, whether you are a teacher or a learner. This includes full courses, modules, syllabi, lectures, homework assignments, quizzes, lab activities, pedagogical materials, games, simulations, and many more resources contained in digital media collections from around the world.

The creation and use of OER represents a shift in education that supports shared teacher expertise and peer-based learning. Free and open content is not only a new economic model for schools and students, but also a primary vehicle for disseminating flexible, adaptable curricula that support learner-centric approaches.

OERs most often use the Creative Commons licensing to protect their intellectual property. Creative Commons licenses educational materials in a way that gives users the legal permission to:

- **reuse** – use the work “as-is” without having to ask permission
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Although not everyone uses the Creative Commons to license their materials, this resource allows content authors six levels of licensing that range from restrictive to very flexible use of their work. While helping to protect the author’s intellectual property, at the heart of it is the concept of making educational material freely available to educators worldwide.

Who makes OERs and where can you find them?

Open Education Resources can be made by anyone. This website is an example of an open education resource, where I am freely sharing information and resources I’ve learned about. Searching online through Google or Bing will lead you many examples of OERs. And using Google’s advanced search will help you narrow down results. Let me share several of these resources with you.

The OER Commons

http://www.oercommons.org/

“OER Commons is an organization that provides a variety of services related to OERs. They are one of the most active curators of OER on the Internet. They offer a searchable collection of materials for many content areas. Beyond providing access, they offer you the ability to create an account. With the account you can organize and edit existing resources. They also provide training on creating your own OERs and they are one of the leaders in creating development tools for OERs that can help standardize format and make the materials easier to edit, share and manage.” (Dr. Marshall Jones)
As mentioned previously, “Creative Commons helps you share your knowledge and creativity with the world. Creative Commons develops, supports, and stewards legal and technical infrastructure that maximizes digital creativity, sharing, and innovation” As well, it acts as a portal where you can search for Creative Commons licensed materials on Europeana, Flickr, Fotopedia, Google, Google Images, Jamendo, Open Clip Art Library, SpinXpress, Wikimedia Commons, YouTube, PixtaBay, CCMixter, and SoundCloud.

The OpenCourseWare Consortium

http://www.ocwconsortium.org

“An OpenCourseWare (OCW) is a free and open digital publication of high quality college and university-level educational materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content. OpenCourseWare are free and openly licensed, accessible to anyone, anytime via the internet.”

The OpenCourseWare Consortium is a worldwide community of hundreds of higher education institutions and associated organizations committed to advancing OpenCourseWare and its impact on global education. They serve as a resource for starting and sustaining OCW projects, as a coordinating body for the movement on a global scale, and as a forum for exchange of ideas and future planning.

You can view a fairly comprehensive list of OpenCourseWare websites at http://www.ocwconsortium.org/en/courses/ocwsites
More Open Education Resources for Teachers and Students...

**MERLOT**

http://www.merlot.org

MERLOT is a free and open online community of resources designed primarily for faculty, staff and students of higher education from around the world to share their learning materials and pedagogy. MERLOT is a leading edge, user-centered, collection of peer reviewed higher education, online learning materials, catalogued by registered members and a set of faculty development support services.

MERLOT’s strategic goal is to improve the effectiveness of teaching and learning by increasing the quantity and quality of peer reviewed online learning materials that can be easily incorporated into faculty designed courses.

**Connexions**

http://cnx.org/

Connexions is: a place to view and share educational material made of small knowledge chunks called modules that can be organized as courses, books, reports, etc. Anyone may view or contribute:

- authors create and collaborate
- instructors rapidly build and share custom collections
- learners find and explore content

Connexions is a dynamic digital educational ecosystem consisting of an educational content repository and a content management system optimized for the delivery of educational content. Connexions is one of the most popular open education sites in the world. Its more than 17,000 learning objects or modules in its repository and over 1000 collections (textbooks, journal articles, etc.) are used by over 2 million people per month. Its content services the educational needs of learners of all ages, in nearly every discipline, from math and science to history and English to psychology and sociology. Connexions delivers content for free over the Internet for schools, educators, students, and parents to access 24/7/365. Materials are easily downloadable to almost any mobile device for use anywhere, anytime. Schools can also order low cost hard copy sets of the materials (textbooks).

**M.I.T. OpenCourseWare**

http://ocw.mit.edu/

“The idea is simple: to publish all of our course materials online and make them widely available to everyone.”

Dick K.P. Yue, Professor, MIT School of Engineering

Unlocking KnowledgeMIT OpenCourseWare (OCW) is a web-based publication of virtually all MIT course content. OCW is open and available to the world and is a permanent MIT activity.

View a list of our most visited courses - http://ocw.mit.edu/courses/most-visited-courses/

Empowering MindsThrough OCW, educators improve courses and curricula, making their schools more effective; students find additional resources to help them succeed; and independent learners enrich their lives and use the content to tackle some of our world’s most difficult challenges, including sustainable development, climate change, and cancer eradication.
More Open Education Resources for Teachers and Students...

Tufts OpenCourseWare

http://ocw.tufts.edu/

“Tufts OpenCourseWare is part of a new educational movement initiated by MIT that provides free access to course content for everyone online. Tufts’ course offerings demonstrate the University’s strength in the life sciences in addition to its multi-disciplinary approach, international perspective and underlying ethic of service to its local, national and international communities.

Tufts OCW

- Publishes Tufts course materials
- Does not require any registration
- Does not grant credit, degrees, or certificates
- Does not provide access to Tufts faculty; however feedback is shared

Open High School OpenCourseWare

http://openhighschoolcourses.org/

The Open High School of Utah is an online charter high school open to all students across the state of Utah. Part of our School Mission includes sharing our open education resources with students, parents and teachers alike across the world.

Each OER course includes a Moodle 2 backup file that is available for download. For assessment validity reasons, all OER courses are course content only and do not include assignments, forums, quizzes, or exams.

Assessments are available for purchase for select courses. These courses are indicated with an *. Please email sweston@openhighschool.org for additional information.

YouTube Education

https://www.youtube.com/education

YouTube is the largest video sharing website there is, and includes a vast wealth of educational material. Founded in February 2005, YouTube allows billions of people to discover, watch and share originally-created videos. YouTube provides a forum for people to connect, inform, and inspire others across the globe and acts as a distribution platform for original content creators and advertisers large and small.

YouTube EDU brings learners and educators together in a global video classroom. On YouTube EDU, you have access to a broad set of educational videos that range from academic lectures to inspirational speeches and everything in between. Come here for quick lessons from top teachers around the world, course lectures from top-tier universities, or inspiring videos to spark your imagination.

You can help build a global classroom on YouTube EDU by creating educational videos then uploading them to your YouTube channel. Nominate a channel to be added to YouTube EDU through this form.

https://docs.google.com/spreadsheet/viewform?formkey=dGDmDkwySy1NTjiyV3EyYUIVbZqcEE6MQ#gid=0
TED Talks Education

As a country, how can we better inspire our students -- and support our educators? To explore ideas, TED, WNET, PBS and the Corporation for Public Broadcasting have teamed up for a brand-new one-hour special, funded by CPB's "American Graduate: Let's Make it Happen." TED Talks Education is an exhilarating night of talks hosted by John Legend.

SPONSOR PROGRAM

Rita F. Pierson
An educator since 1972, Rita F. Pierson says teacher-student connections are the key to keeping kids on track.
Watch the talk »

Ramsey Musallam
Chemistry teacher and host of the internet show Infinite Thinking Machine, Ramsey Musallam persuades students -- in a good way.
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Angela Lee Duckworth
Psychologist Angela Lee Duckworth studies grit, that little-understood factor which allows some kids to succeed, regardless of IQ.
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Bill Gates
The legendary technologist now focuses on philanthropy, looking for innovations to tackle the world's toughest problems.
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Geoffrey Canada
A passionate and outspoken education reformer, Geoffrey Canada spent 30 years running the Harlem Children's Zone.
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Malcolm London
A young poet and activist from Chicago, Malcolm London was called the Gil Scott-Heron of this generation by Cornel West.
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Pearl Arredondo
Pearl Arredondo established a pilot middle school that teaches students to be good communicators in the 21st century.
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John Legend
John Legend performs the song "True Colors," giving the lyrics extra resonance for both teachers and students.
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Sir Ken Robinson
The most-watched speaker on TED.com, this author, educator and creativity expert challenges us to radically rethink school systems.
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HOST: JOHN LEGEND
The nine-time Grammy winner works to break the cycle of poverty through the Show Me Campaign, dedicated to education for all.
The OpenEducationDisc Project - A gathering of free educational software...

http://www.theopendisc.com/education/

The OpenEducationDisc Project has neatly packaged a wonderful collection of free, open source software focused on education. The package contains all the installers, manuals, and descriptions of every piece of software that is part of the project. This is all bundled with a front-end interface that links them all together. You may also want to have a look at their other project - the OpenDisc Project...

http://www.theopendisc.com/

The OpenEducationDisc focuses solely on meeting educational needs of students of all ages. Software has been chosen to address specific IT needs across a wide range of subject areas. The contents of the disc therefore differ from the OpenDisc and are listed below.

Office and Design

OpenOffice.org – Fully compatible office software for your school work
Dia – Make technical diagrams and flowcharts
Scribus – Create professional looking posters and magazines
GanttProject – Plan your school projects with this project management software
FreeMind – Collect your ideas with this mind mapping Software
Sumatra PDF – Read PDF files quickly and easily

Internet

Firefox – A safe, secure and fast web browser
Thunderbird – Manage your emails better than ever – Reclaim your inbox!
Pidgin – Talk to your friends whatever instant message client they use
Kompozer – Create web pages easily, without having to code

Art and Graphics

GIMP – Edit digital photos and create graphics
GIMP animation – Create animations
Inkscape – Make professional looking vector graphics
Pencil – Animate your own cartoons
Blender – 3D graphic modeling, animation, rendering and playback
Tuxpaint – Drawing program for children ages 3 to 12

Multimedia

VLC – Play music, videos and DVDs
Audacity – Record, edit and mix music
Mixxx – Mix your own music like a DJ
MuseScore – Compose your own music
Piano Booster – Teach yourself the piano
Infra Recorder – Burn your own CDs and DVDs
CamStudio – Record your actions on a computer
Really Slick Screensavers – Great looking screensavers

Science and Mathematics

NASA Worldwind – Discover the earth and other planets
Geogebra – Learn geometry and algebra
Greenfoot – Teach yourself how to program
GraphCalc – A graphical calculator
BYOB – Learn how to program and make animations
CarMetal – Cool mathematical modelling tool
Maxima – University standard computer algebra system
Celestia – Explore the universe in three dimensions
Stellarium – A planetarium on your PC

Games

FreeCiv – Control the world through diplomacy and conquest
FreeCol – Discover the ‘New World’ and build an empire
Numpty Physics – Solve puzzles using physics
TuxTyping 2 – Learn to type like a pro
Tux of Math Command – Test your mathematical skills

Utilities

7zip – Compress and uncompress files in a wide variety of formats
Abakt - Schedule and execute backups of your data
Clamwin – Antivirus software with automatic updating
TrueCrypt – Encrypt and secure your valuable data
Workrave – Prevent and recover from Repetitive Strain Injury (RSI)

Advanced Internet

Httrack • Tight VNC • Filezilla • Azureus • WinSCP

TeacherLINK & the TeacherLINK Blog

A comprehensive blog for Teacher LINK - http://teacherlink.ed.usu.edu - provided by the Adele & Dale Young Educational Technology Center (the TETC), College of Education & Human Services, Utah State University (Bryan Stone, Director). This blog focuses on resources related to the Kindergarten department, on educational technologies and resources, NASA & STS education opportunities for educators, and more blog postings can be emailed to us.jen@gmail.com

Are you looking for educational resources and news? Please feel free to check out the TeacherLINK website,

http://teacherlink.ed.usu.edu

and the TeacherLINK blog, where new resources, grants, and opportunities are posted every day!

http://teacherlinkyetc.blogspot.com
Technology in Education -
Some Big Ideas…

By Nathan Smith, Director of Technology
Emma Eccles Jones College of Education & Human Services
Utah State University, Logan, Utah

Hurdles we face in our current education system…

My first day as an elementary school teacher is vivid in my memory. I was standing outside the door of my portable classroom trailer. The school that hired me was in its first full year of operation, and already bursting at the seams. I watched the children, and listened to their chattering laughter as they filed into the school. A loud commotion in the distance caught my attention. I saw a set of parents literally dragging their son to school. He had his boots dug into the desert sand, and was crying, “You can’t make me go! You can’t make me go!” He was forcefully led to my classroom, not too gently seated at a desk, and commanded to stay. The parents then left. I looked at him. He glared at me, and began chewing and swallowing his pencil. With utter disgust in his voice, he said, “I hate you, Teacher.”

That was a rude awakening for the first working day of my chosen profession. That morning, I faced my thirty-six fifth and sixth grade students, thinking, “How in the world do I personally connect with each of them? How can I reach out and help each of these wonderful kids, despite their differing ages, skills, interests, backgrounds, and passions? Will I ever be able to make a positive difference for every one of them?”

Fortunately, with the help of some great mentors, including a special education teacher who helped me turn this particular young boy around, I had a successful first year. Many times, the task seemed overwhelming. I faced so many long nights and early mornings that year. Indeed, being a successful teacher is one of the hardest jobs I know.

Why is it hard to be a good teacher? I didn’t have time to give it much thought then. I was just thankful to have been hired, and committed to do my best. Now, after I’ve been in education for 33 years, I have learned much through experience and study.

Teaching is a job that can seem overwhelming! There are some frustrations every public teacher experiences, at least at a gut level – hurdles built into our system of education: First of all, we disconnect children from the real world by pulling them into an artificial environment – school – and grouping them by age. They usually arrive in large groups (my classes varied between 26 to 42 students, with the usual being 36). The students in every class I taught ranged widely in skills, interests, and motivation to learn. As teachers, we were required to teach “subjects” which break real-world knowledge into silos - small, often disconnected chunks of content. We call them core standards and objectives. These chunks lose nearly all context with the real world.

Despite all those hurdles there are many wonderful, successful teachers who rise above them to reconnect, inspire, motivate, and help their students learn.

In recent years I’ve watched another trend that hampers a teacher’s ability to creatively work around classroom hurdles. It is the intense focus on high-stakes testing and assessment. I believe assessment is an important part of the educational process. But when the focus on testing forces a teacher to march through scripted content at the expense of student engagement, we have a recipe for disaster. When salaries are tied to assessment, teachers feel their hands are tied. They must succeed (or else)! The option to be creative, or to try a new teaching strategy with even a remote possibility of failing, seems to dissolve in the pressure cooker of high stakes testing.

Connie Yowell, Director of Education at the MacArthur Foundation, eloquently described some of the problems teachers face in a video entitled “Engaged.” You can find this video and several other very good, thought-provoking videos at http://connectedlearning.tv/what-is-connected-learning

In the video she says, “We really think that part of what’s wrong with the current educational system, and why people talk about it as ‘broken’ is that it’s
fundamentally starting with the wrong question. The educational system often now starts with the question of outcomes. It starts with, “What do we want kids to learn? What are the goals and what’s the content? What’s the material they need to cover?”

Then everything [we do] is defined by that. It doesn’t almost matter who the kid is so long as we’re going on pace through the material and the content, and reaching those educational standards, and those outcomes – because that’s our starting point.

Our core question is, “What’s the experience we want kids to have?” So, the core question is around engagement. And as soon as you start with, “Is the kid engaged? What is the learning experience we want the kid to have,” you have to pay attention to the kid. In the design world, you have to start with the user. You have to start with the experience of the young person - of the learner. So instead of starting with the outcomes, which is, for most educational systems, a math problem, or a math fact, or a literacy fact – which is not particularly [useful]… it’s decontextualized – it has no relevance to the learner, we instead start with, “What is the experience? Really, what do we want them discovering?”

In our traditional school system, where we’re driving home facts and discreet knowledge, we don’t make room for curiosity. We don’t create the opportunity for kids to take things apart anymore, to look inside, to see how they’re made, to put them back together again. You know, we used to do it with our old chemistry sets. We used to just play and see what would happen, and wonder about it. And that engages the imagination, and can trigger the imagination. As we get more and more serious about test scores in our kids’ future, we move further and further away from those little opportunities to constantly fail and to iterate. We forget that those are also opportunities to iterate with one’s identity, and to play around, and to mess around. It’s so important to do that when you’re at the middle school age and early and middle adolescence. Even as adults, we’ve got to have these opportunities to be curious about who we are in the world, and about how the world works, and to fail and not be embarrassed by it, and to come back to those failures and do things over and over again.

We all understand what a page turner is. You can’t wait to turn the page to find out what’s on the next page, and what’s happening. You feel it viscerally. It’s not just in your head. You don’t just have an intellectual curiosity. You really have a desire, a physical desire, to find out what’s happening next. In fact, sometimes you can’t go to sleep because you just want to keep reading the book. That’s a need to know.

In school, we so decontextualize what they’re learning. We take it out of context and just teach them discreet facts. Because we’re so focused on these outcomes we’ve forgotten the learner, and we’ve forgotten that we actually have a passion for learning.

But how do you create a need to know in a kid? That’s an emotional question. That’s an intellectual question. That’s an identity question. When you start designing learning experiences around that, then getting to the content and getting kids to engage in core questions related to academic core, that’s actually the easy part. How do we design an experience where kids have a need to know fractions? What in the world would that look like? If I really wanted to design an experience for a 9 year old – a nine year old boy – a nine year old girl – to want to know what a fraction is? And often, that’s one of the reasons in our grant making we’ve turned to games. So games create an incredible narrative and a wrapper of meaning that you can put discreet skills or competencies within, that you might want to desperately know how to do a fraction in order to solve a broader complex problem that’s wrapped inside a game, [or] the narrative of a game. I can tell you that my son just jumps at stuff like that. But in school, he could care less about knowing what a fraction is. If it’s in the middle of game play, where he’s really working with a set of peers around solving some complex problem, he’ll demand that somebody teach him how to solve a fraction so that he can move on to the next thing.

Content is just the context for participating. It’s the context for solving broader problems. It’s the context for being engaged with peers. And that’s – and this is an academic word – but that’s one of the big paradigm shifts that we have to make in education today, is to not think about that content as an outcome of learning, but as the context of learning, and instead, think much more about, “Well, what do we want kids participating in, that that content is at the core of it?” And that’s a much harder thing to design and to think about.”

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One of the big paradigm shifts that we have to make in education today, is to not think about that content as an outcome of learning, but as the context of learning, and instead, think much more about, “Well, what do we want kids participating in, that that content is at the core of it?” And that’s a much harder thing to design and to think about. And so one of the challenges for education is for us to actually step back and say, “We’ve got content over here. This is one of the things that is so disconnected in our educational world. We put content over here on one hand, and then we think about what kids are doing on the other hand. And they stay disconnected. We have to deeply connect those for kids. Otherwise, the learning has no meaning.”

What has educational technology to do with this?

Answer: Almost everything! Our current education system is modeled on a 150 year-old industrial era notion that knowledge is a scarce commodity, that one must go to school to get it. Knowledgeable teachers were another scarce commodity provided by schools. Back then, the education system was designed to produce a workforce for industrial factories.

Technology has changed this dramatically. Now, as long as a person has access to the internet, content knowledge is literally at our fingertips via our “smart” devices. Social networks allow us to interact with potentially billions of mentors and teachers. Employers are demanding a workforce who is creative, collaborative, and who are independent thinkers and problem-solvers – skills that are needed for an information-based, technology-rooted society and workforce. (For example, see http://www.kent.ac.uk/careers/sk/top-ten-skills.htm)

Technology has the potential, if used correctly, to alleviate some of the hurdles mentioned previously. For example, if excellent content is freely available online, students can be taught to access it there, and use class time for the important discussions, interactions, field trips (virtual or otherwise), guest presentations, etc. This would normally not happen in the traditional lecture mode. One increasingly popular teaching model is the “flipped classroom” which promotes this type of interaction. A teacher using this model is more of a facilitator than a teacher in the traditional sense.

A word of caution: the phrase “if used correctly” is critical. Will Richardson, in his book, “Why School?” points out that new technologies can be used in two different ways. One is to continue doing what we do now in classrooms - march our students through disconnected content, rehash paper-based textbooks into “interactive” ebooks (think content again), assess them on that content, and on to the next set of standards and objectives.

The other way is to use technologies to allow engagement, solve real world problems, connect and collaborate, explore, create, develop, help students find their passion in life and become life-long learners.

Mr. Richardson says, “In this new narrative, learning ceases to focus on consuming information or knowledge that is no longer scarce. Instead, it’s about asking questions, working with others to find the answers, doing real work for real audiences, and adding to, not simply taking from, the storehouse of knowledge that the web is becoming. It’s about developing the kinds of habits and dispositions that deep, lifelong learners need to succeed in a world rife with information and connections. The emphasis shifts from content mastery to learning mastery. That means students have more ownership over their own learning, using their access to knowledge and teachers to create their own unique paths to the outcomes we, and they, deem important.”

(Watch Will Richardson’s TedxNYED talk – I think you’ll be impressed. http://www.youtube.com/watch?v=NI75vLE4vdK)

Our education system is a huge entity with such inertia that it will take a mighty push to create a change direction. But an increasing number of voices are calling for change, and advances in technology are making those changes become feasible. It’s happening right now.

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Will Richardson

Let me finish with a few quick points:

Technology is only a tool. You must have a plan before you buy and use the tool to accomplish it. As Connie Yowell said, we must begin by designing the experience we want our students to have (and the way we’ll deeply engage the students in that experience). Once there is a plan, we can choose the proper tools to help us achieve the end result. Some of these tools may be technology-based. Too many times, in my role as a technology director, I’ve been asked, “We just bought [insert technology here]. How can we use those in our classrooms? Will you train us on what we can do with it?” That
approach is backwards, and will likely fail. You need to start with a carefully crafted plan, then get the tools you'll use to implement it.

If you choose to purchase a technology-based tool, be sure to build in funding for adequate training. You'll need to plan funding for updating, maintenance, and eventual replacement – technology grows outdated so quickly.

Connecting with our students in meaningful, positive ways – making each of them feel wanted, important, safe, valued, and needed – is to me the real “art” of teaching. I call this aspect of teaching “the human touch.” Technology used in education needs to enhance the human touch.

First, let's look at an example of a technology that removes the human touch: business telephone answering machines. If you're like me, by the tenth time you’ve pressed a key on your phone to step through multiple levels of questions or choices, you feel dehumanized.

There are many examples how technology can enhance the human touch: In the flipped class model, teacher becomes a facilitator. Students learn content online, and class time is used to do “homework.” The teacher spends time personally helping the students as they practice. Or, class is used to discuss, debate, connect, visit, etc. Students get more personal time with the teacher than in the traditional lecture mode of teaching. If technology can administer and automatically correct tests, quizzes, and assignments – more of teacher’s time can be freed to interact with students. Technology can connect our students to many wonderful mentors who can be anywhere in the world. I have watched classes connect to astronauts in the International Space Station, to National Geographic expeditions in the Antarctic, scientists at Houston Space Center, and more.

Teachers may worry that technology will replace them. I don’t think that will ever happen – good teachers are desperately needed. Will Richardson said in his book,

“In my travels, I ask parents that [why school?] all the time. Not surprisingly, the first answer on their lips is not “I want them to be good test takers.” Nor is it “I want them to know a lot of stuff.” What I hear instead are things like: “I want them to love learning.” “I want them to be able to solve real problems.” “I want them to be independent thinkers.” Those, and many similar outcomes, are what I want for my kids, too.”

I, as a father, agree completely. We need great teachers who will help our children network, inquire, create, share, collaborate, and be all they can be. They are too precious a resource to lose (both teachers and students) – and we're currently losing too many of them.

We must begin by designing the experience we want our students to have (and the way we'll deeply engage the students in that experience). Once there is a plan, we can embed content to be learned, and we can then choose the proper tools to help us achieve the end result.

To conclude, our education system needs to change direction, moving away from the industrial era model of teaching to one where technology allows teachers to provide rich, deeply educational engagement for their students. Schools need to become places where students are excited to go, to participate, to solve real world problems, and interact with peers internationally, to create new ideas, inventions, to discover new knowledge. Teachers and students need the freedom to explore, experiment, to fail and try again without being penalized. Discussions should be initiated in school faculties to brainstorm ways to make this a reality. There are some exciting success stories. Find them, share them, and be inspired by them.

Discussion starting, thought provoking resources:

- Why School?: How Education Must Change When Learning and Information Are Everywhere (Kindle Single):  Will Richardson (Author):  Amazon.com - http://amzn.to/YkJkJT
- TEDxNYED - Will Richardson - 03/05/2011 - http://youtu.be/Ni75vIE4vdK
- Connected Learning - http://connectedlearning.tv/
- The five connected learning videos above can also be seen at http://connectedlearning.tv/what-is-connected-learning
- TEDed - TED launches new education site with customized teaching tools - http://ed.ted.com/
- TED: Chris Anderson: How web video powers global innovation - http://youtu.be/LnQcCgS7aPQ
- TED - Beau Lotto + Amy O'Toole: Science is for everyone, kids included - http://www.ted.com/talks/beau_lotto_amy_o_toole_science_is_for_everyone_kids_included.html

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