

# Activate Their Minds

Edheads™

- Mary McEvoy
- Heather Suber
- Lilly Hanna
- Amy Calley

I TEC 7445  
Emerging Technology

# Edheads

- Edheads is an online educational resource with educational web activities and activities which promote critical thinking.
- Although many of the games are math and science based, the activities align with other content and career readiness standards
- Students assume real-life professional roles and simulate science and engineering activities.

# The Technology Vision Of Cobb County

Cobb County's vision for instructional technology is "Preparing digital-age learners for success in a global, ever-changing society." The district's goals are to:

- 1) leverage technology to transform traditional classrooms into digital age classrooms,
- 2) create and support effective and ethical digital age learning environments, and
- 3) empower digital age learners, teachers, and administrators to use technology tools to enhance rigorous, relevant, and engaging learning experiences.

(Cobb County School District, 2018).

# Objectives

- Give students more real-world experiences without having to leave the classroom
- Help students make the connection between education and future careers in STEM.
- Gives students hands on, visual, real-world experiences in order to meet state and national standards

# Key Benefits

- Activities encourage students to observe, measure and collect data throughout their exploration as well as communicate, predict and classify
- Gives teachers a way to differentiate instruction
- Provides real life experiences without the cost and travel
- Students can learn at their own pace and develop their own ideas and learn to support them with facts and analyze a variety of scientific explanations.

# Target Population

- Brumby has approximately 1,000 students, with 78% free and reduced lunch. With these demographics, Edheads would give students awareness and opportunities otherwise not afforded.
- Students 2<sup>nd</sup> – 5<sup>th</sup>
- Small groups, 1-1, whole group in computer lab or in a 1-1 technology class

# Equipment And Software

- The web based program must be purchased.
- Desk top or laptop computers with internet and Wi-Fi.
- A computer with a sound card and speakers.
- The latest version of common browsers such as [Apple Safari](#), [Google Chrome](#), or [Mozilla Firefox](#).
- The latest version of [Adobe Flash Player](#).
- Program will work on iPad with the Puffin Academy browser, that is a moderated site limited to educational content for teachers and families to use. The Puffin Academy browser is free.

# Technical Support

- The Edheads website offers a page of troubleshooting directions, and the site will respond to emails relating to problems with website activities or if other technical support is needed.
- Cobb County provides excellent IT support
- Brumby has an IT coach available on campus for support, coaching and troubleshooting.
- Brumby has a Technology Key Team that would be able to support grade level needs.



# Limitations

- Some of the content (surgeries, car crashes, etc.) is not geared toward younger students, so teachers must monitor student use and preview all activities before assigning them to students (Thomas, 2014).
- There is not a way to monitor student progress
- You must download Puffin Academy browser in order to use the program on an iPad.
- Parents must give permission for students to participate in the virtual game/simulations.

# Cost Of Technology

- Teacher membership for Ed heads \$20 annually for 1-30 students with five student group log-ins.
- A school membership for Ed heads is \$30 annually for 31-250 users with 15 sub accounts or group log-ins.
- A district membership for Ed heads varies in cost depending upon the number students with up to 60 group log-ins:
  - ❑ 251-1,500 users: \$150
  - ❑ 1,501-10,000 users: \$300
  - ❑ 10,001-100,000 users: \$650
  - ❑ 100,001 and up users: \$1,000

# Potential Funding Sources

- Title 1 is an option for a funding source. This site has Common Core Standards attached to it, so this is a program Title would consider funding.
- A second option is the Brumby Foundation. The Brumby Foundation will support STEM resources.
- Solicit local community partners to see if they could fund the program.

# How Can Teachers Use This Technology?

- Edheads could be an innovative component for school makerspaces which can support experiential, and project- and inquiry-based learning (Lamb, 2015).
- With appropriate guidelines and scaffolding, providing opportunities for exploratory self-directed learning with appropriate and motivating technology aids could greatly enhance the learning (Ng, 2008).
- Teachers can create high order learning adventures.

# How Does Edheads Promote Specific Learning Goals?

- “The Edheads website was voted by 100% of the students interviewed as the best website due to its interactive, multimedia features and because it had 'simple machine games and quizzes'(student 5), and that there were choices of activities which were 'everyday/lifestyle sort of stuff (student 13). Many of the students in the class spent most of their time on this website.” (Ng, 2008)
- Edheads helps align learners' everyday skills and existing bodies of knowledge of with engineering practices (Wilson-Lopez, Mejia, Hasbun, & Kasun, 2016).
- The reasonable cost of this resource will give the district many opportunities to use existing technology to its maximum advantage. Having students simulate real-life science and engineering activities from a professional perspective will empower students to be actively engaged in learning and clearly is a transforms the way lessons have traditionally been taught.

# Differentiation

- Students can work at their own pace
- Whole group discussion, introduction, and collaboration
- Teacher can create groups and have them become experts to report back to the class
- The activities range from 2<sup>nd</sup>-12<sup>th</sup> grade lending itself to be use for enrichment or remediation

# Communication / Collaboration

- Class/group discussion on how the activates relate to current standard(s)
- Students collaborate with partner or group members on how to solve real-world problems and work through activities
- Communicate results to different audiences through discussion, presentations or demonstration

# Evaluation Of Research

- With appropriate guidelines and scaffolding, providing opportunities for exploratory self-directed learning with appropriate and motivating technology aids could greatly enhance the learning (Ng, 2008)
- “The Edheads website was voted by 100% of the students interviewed as the best website due to its interactive, multimedia features and because it had 'simple machine games and quizzes' (student 5), and that there were choices of activities which were 'everyday/lifestyle sort of stuff' (student 13). Many of the students in the class spent most of their time on this website.” (Ng, 2008)
- Helps align learners' everyday skills and existing bodies of knowledge of with engineering practices. (Wilson-Lopez, Mejia, Hasbun, & Kasun, 2016)



# Implementation Plan

- The technology key team will come up with a strategy of how to use Edheads in their classrooms.
- Next the key team members will make a scope and sequence for the components on Edheads that align with their respective grade level standards.
- Team members share the implementation plan with their teams and get feedback and make improvements to the plan.

# Endorsements

*This technology is endorsed and funded by:*

- Honda
- CarMax Foundation
- Case Western Reserve University
- The Ohio State University
- NSF
- Zimmer
- Martha Holden Jennings Foundation
- Cardinal Health Foundation
- ESA Foundation
- DePuy
- Metronic
- Gore

# Reflections

- Edheads is a highly cost-effective resource for providing students meaningful opportunities to assume real-life, professional roles. The simulations allow them to participate in authentic and exciting activities without ever leaving the physical classroom. Teachers can differentiate lessons based on students' needs and interests, and students have multiple options for collecting, analyzing, and sharing data.
- Edheads meshes with Cobb County School Districts mission for educational technology and supports its goal of leveraging technology to transform traditional classrooms into digital age classrooms.
- Edheads promotes rigorous, relevant, and engaging learning experiences.

# References

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