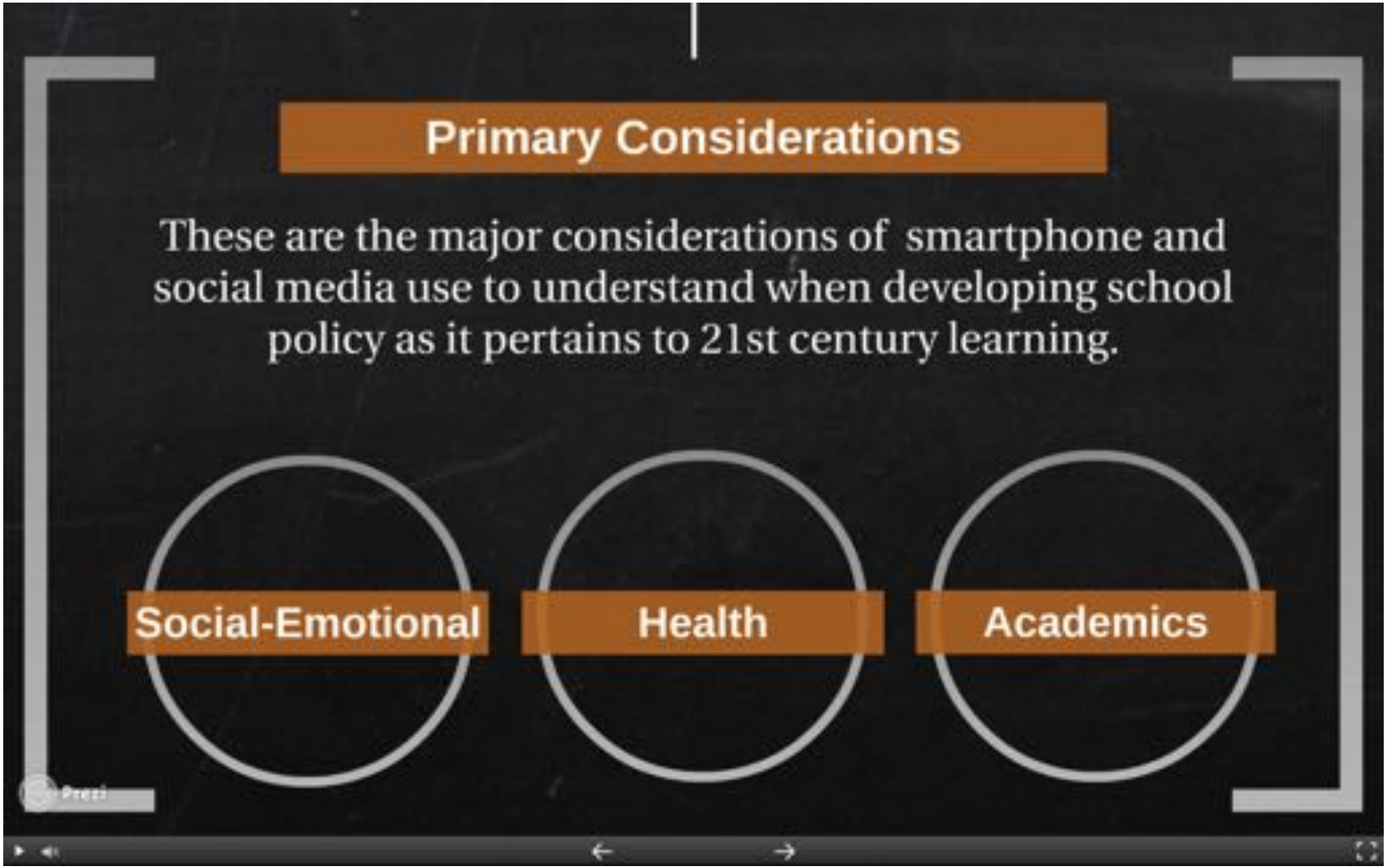
Paul Olsen
EDUC 5900 Capstone
Professor Scott Wagner
Webster University
December 17, 2016

Addressing Digital Technology Use in 21st Century Schools

Prezi


Primary Considerations
These are the major considerations of smartphone and social media use to understand when developing school policy as it pertains to 21st century learning.
Social-Emotional
Health
Academics

Social-Emotional Impacts

"Teens like to hang out, they like to congregate. iGen youth today congregate on social media sites for conversations, flirtations, immature humor, and social exchanges, instead of hanging out in the local parking lot of the five-and-dime of yesteryear" (Paul as quoted in Ives).

Disconnection not Connection

- Two Lives v. One Life Approach to the modern experience. (Elder)
- Decreases in empathy, connectedness, and quality of relationship associated with smartphone presence (Gupta, Lepp, Ives).
- 1/3 reduction in discussion networks and parallel loss of diversity. Isolated & more depressed than ever before (Emanuel, Ives).
- Increases in family communications problems with smartphone use (Arslan).
- Fear of solitude, alone with our own thoughts (Emanuel)

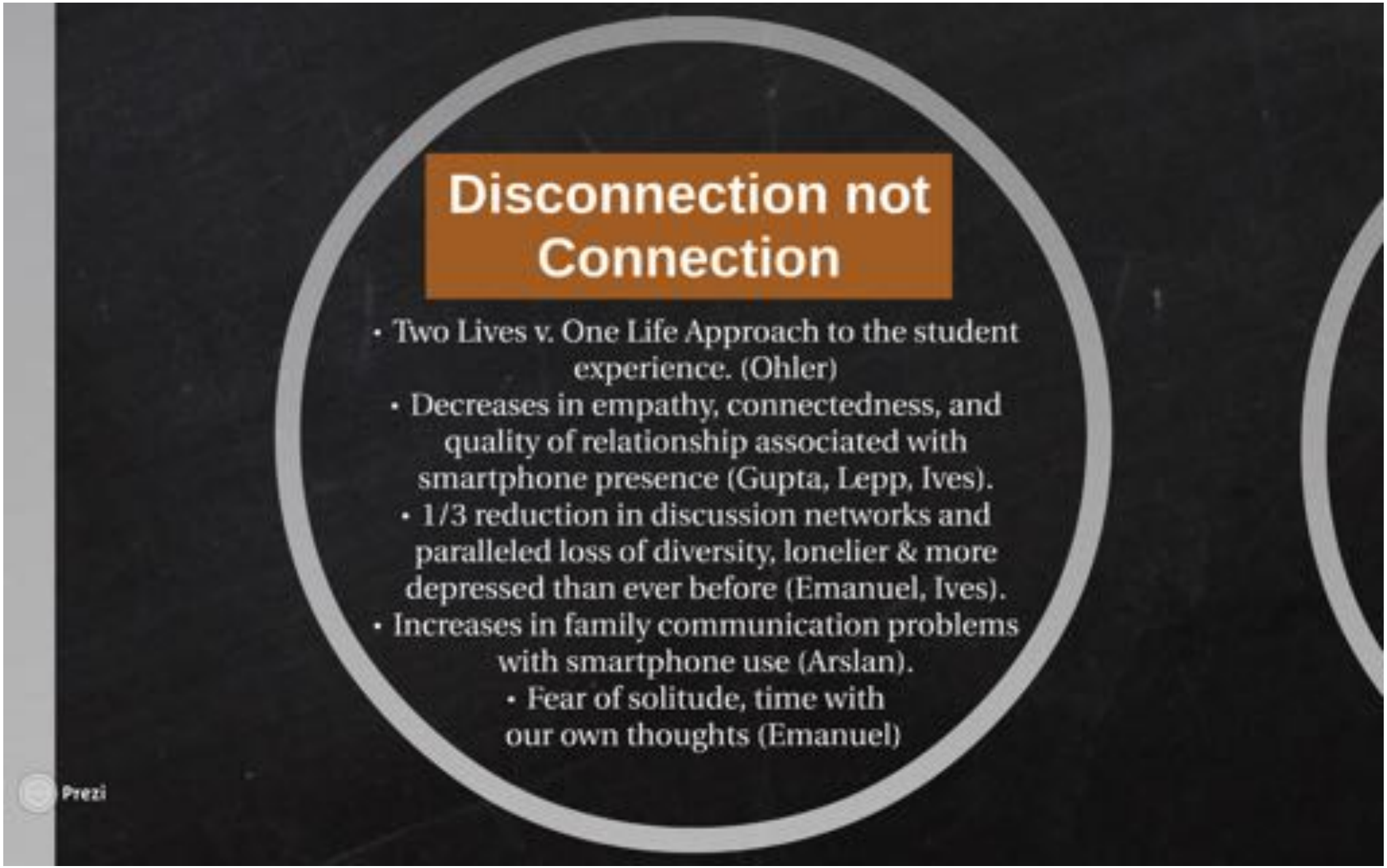
Cyberbullying

- Students who cyberbully are often rewarded with increases in popularity and social clout (Wiggin).
- "Need to educate about definitions, develop consequences, and a practice in prevention (Hinduja).
- Development of mentorship program. (Hinduja).
- Leads to depression, poor academic performance, anxiety, social alienation for victims of cyberbullying (Ives).
- Anonymity is key factor in increasing bullying. "88% of American teens have witnessed cruelty on social networks, and 13% have felt nervous about going to school the next day" (Dickey).

Community

- "...regular users of social media sites – about 17 million teens – were five times more likely than non-users to use tobacco, three times more likely to use alcohol, and twice as likely to use marijuana." (Ives).
- No separation between school and home, community developed (Dickey).
- "With limited freedom to roam, teens will need to socially congregate (Ives).
- Students who have social media relationships with teachers tend to have increased motivation, affective learning, and positive classroom climate (Moore).
- Greater sense of global community.

Prezi


Disconnection not Connection
• Two Lives v. One Life Approach to the student experience. (Ohler)
• Decreases in empathy, connectedness, and quality of relationship associated with smartphone presence (Gupta, Lepp, Ives).
• 1/3 reduction in discussion networks and paralleled loss of diversity, lonelier & more depressed than ever before (Emanuel, Ives).
• Increases in family communication problems with smartphone use (Arslan).
• Fear of solitude, time with our own thoughts (Emanuel)
Prezi

Cyberbullying

- Students who cyberbully are often rewarded with increases in popularity and social clout (Wegge).
- Need to educate about definition, develop consequences, and a practice in prevention (Hinduja).
- Development of mentorship program (Hinduja).
- Leads to depression, poor academic performance, anxiety, social alienation for victim of cyberbullying (Ives).
- Anonymity is key factor in increasing bullying: "88% of American teens have witnessed cruelty on social networks, and 13% have felt nervous about going to school the next day" (Dickey).

Prezi

Community

- "...regular users of social media sites—about 17 million teens—were five times more likely than non-users to use tobacco: three times more likely to use alcohol; and twice as likely to use marijuana" (Teens).
- No seperation between school and home, constantly involved (Dickey).
- With limited freedom to roam, teens still need to socially congregate (Ives).
- Students who have social media relationships with teachers tend to have increased motivation, affective learning, and positive classroom climate (Mazer)
- Greater sense of global community.

Prezi

Health Issues

Some of the health issues digital technology presents can be measured and managed; others are harder to see and the long term effects are still to be determined.

Addiction-Dependency

- Anxiety & stress level increases leading to depression (Ives).
- More than 65% "need phone at all times" (Emanuel).
- Decreases in average hours of sleep/night: 8-7.5 on average (Ives)
- As of 2007, 114 of dating teens communicate hourly between 12:00-5:00am (Alexander).

Cognitive-Reasoning & Brain Development

- More from family to peer-based beliefs happen in teen years (Ives).
- Task switching and attention issues (Ives).
- Parents perceive a correlation between technology use and lower social competence and behavioral problems, often times hostile (Hiscock).
- "Brain development which is changed with increasing the consequences of one's actions and differentiating between good and bad, dwell fully form until next 30s" (Dekay).
- The brain needs time to use and reason to order to develop memory and reasoning capacities (Ives).
- Time online has correlations with brain atrophy (Ives).

Musculosckelatal Development

- Loss of time spent outdoors correlates with anxiety and stress increases (Lutz).
- Correlation between media and obesity. (Ives)
- Increased cell phone use translates to an increase in sedentary lifestyles and as such less time being active and reduces cardiorespiratory fitness (Lopp, 2013)

Prezi

Addiction-Dependency

- Anxiety & stress level increases leading to depression (Ives).
- More than 65% "need phone at all times" (Emanuel).
- Decreases in average hours of sleep/night: 9-7.5 on average (Ives)
- As of 2007, 1/4 of dating teens communicate hourly between 12:00-5:00am (Alexander).

Cognitive-Reasoning & Brain Development

- Move from family to peer-based beliefs happen in teen years (Ives).
- Task-switching and attention issues (Ives).
- Parents percieve a correlation between technology use and lower social competence and behavioral problems, often times hostile (Moawad).
- "Brain development which is charged with foreseeing the consequences of one's actions and differentiating between good and bad, don't fully form until one's 20s" (Dickey).
- The brain needs time to rest and restore in order to develop memory and reasoning capacities (Ives).
- Time online has correlations with brain atrophy (Ives).

Prezi

Musculosckelatal Development

- Loss of time spent outdoors correlates with anxiety and stress increases (Louv).
- Correlation between media and obesity. (Ives)
- Increased cell phone use translates to an increase in sedentary lifestyles and as such less time being active and reduces cardiorespiratory fitness (Lepp, 2013)

Prezi

Academic Perfomance and Perception

"In this new media age, the ability to negotiate and evaluate information online, to recognize manipulation and propaganda and to assimilate ethical values is becoming as basic education as reading and writing" (Jenkins as cited in Ives).

Academic Scores Harmed

Academic Improvement

21st Century Readiness

Prezi

Academic Scores Harmed

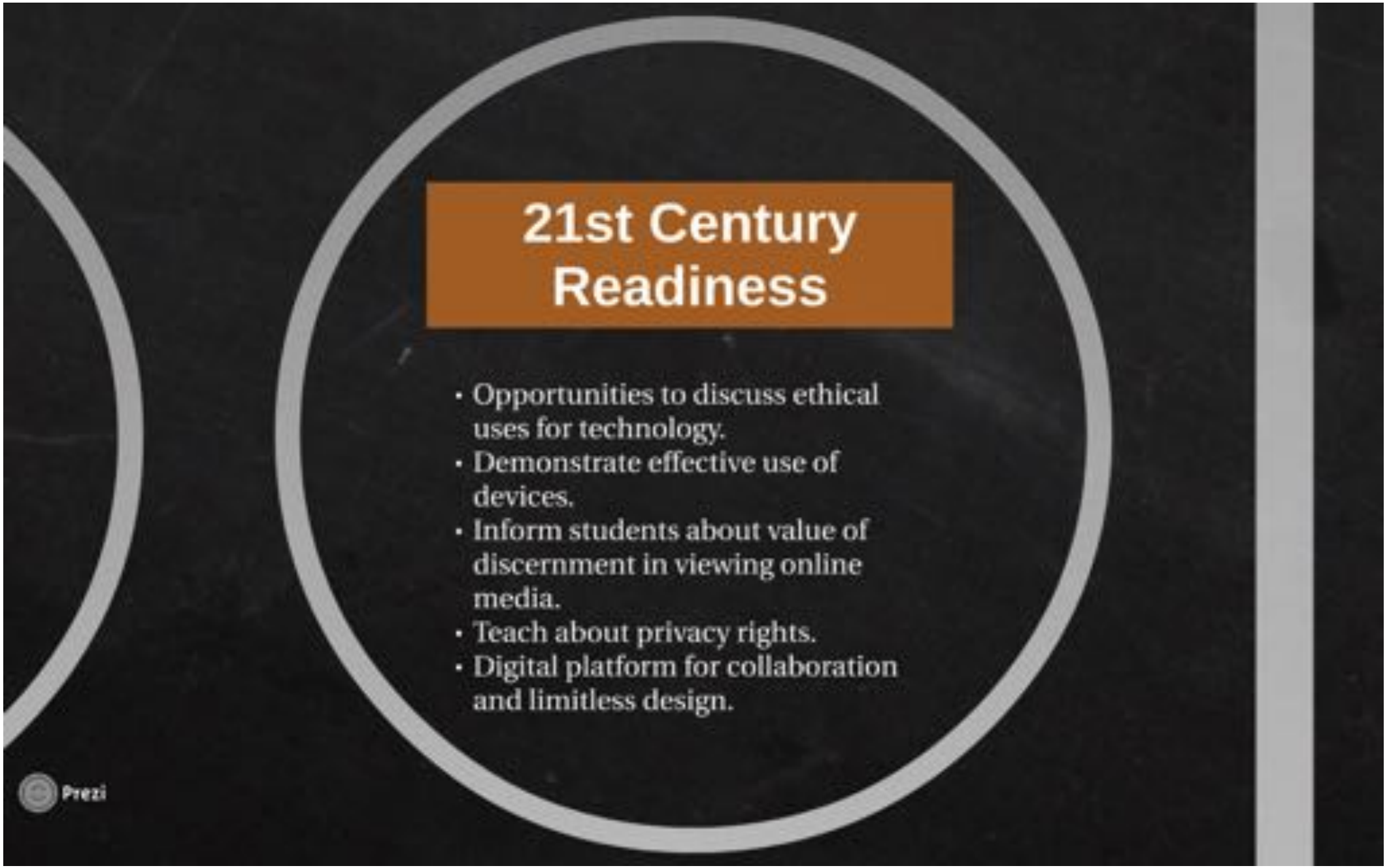
- Schools with restricted mobile phone access experience improved outcomes (Beland).
- Time spent on SNS instead of doing homework or studying (Gok).
- Increased CPU, Cell Phone, and Social Media use translates to reducation in GPA (Lepp, 2014)
- Quiz, project, and exam grades adversley affected (Kuznekoff).

Prezi

Academic Improvement

- Exposure to broader accessibility and content.
- Content creation potential: 64% in 2007, and 39% share creative works (Ives).
- Structured use has positive impacts (Tossell).
- Increased participation and homework completion (Norris).
- Learner centered experiences and easier differentiation.
- Flipped classroom applications (Kiger)
- Improved math skills through app use (Kiger)

Prezi


21st Century Readiness
• Opportunities to discuss ethical uses for technology.
• Demonstrate effective use of devices.
• Inform students about value of discernment in viewing online media.
• Teach about privacy rights.
• Digital platform for collaboration and limitless design.
Prezi

What are the Options?

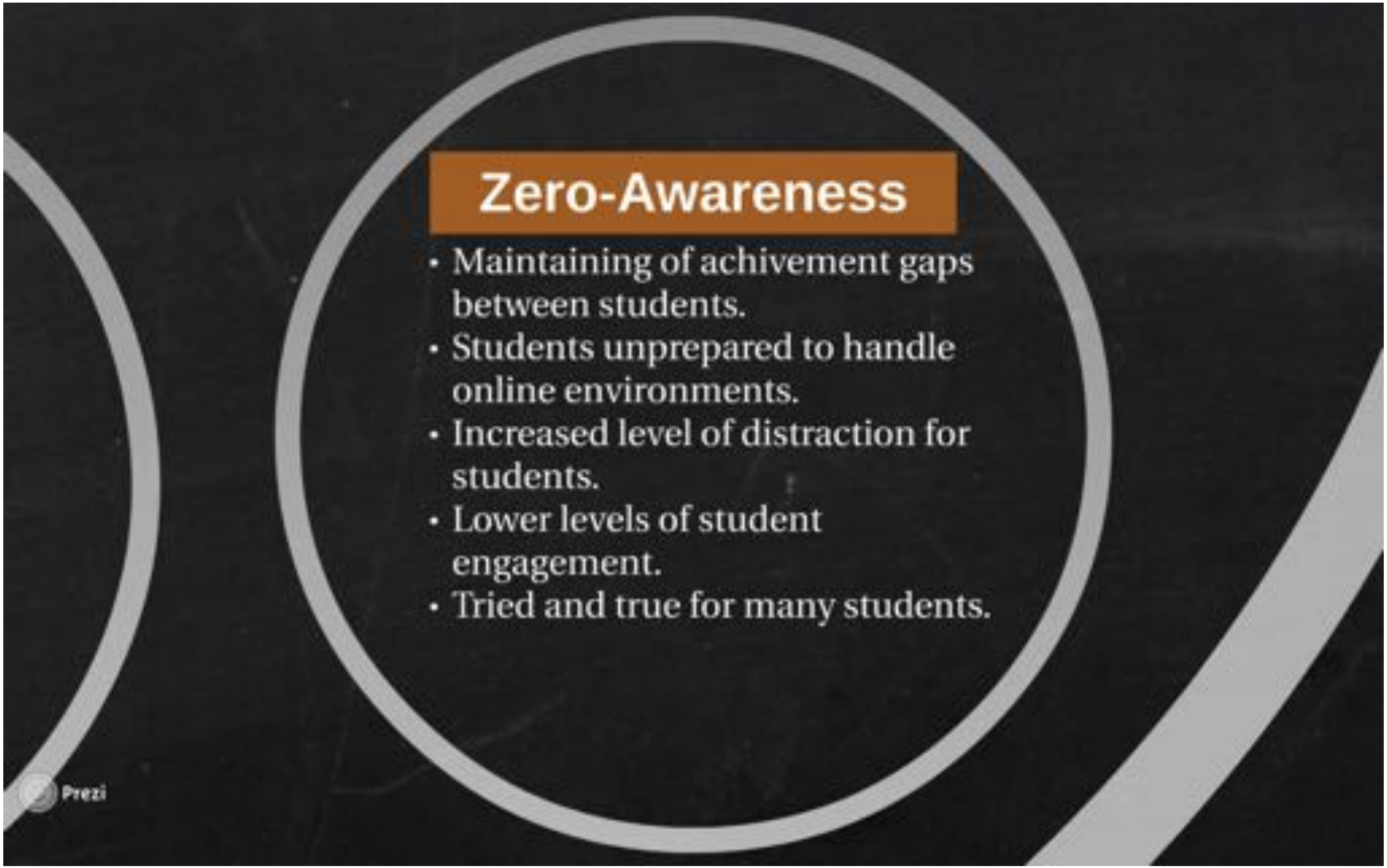
With so many issues contradicting one another, it is essential for schools to consider multiple options on policy before defining their approach.

Prezi

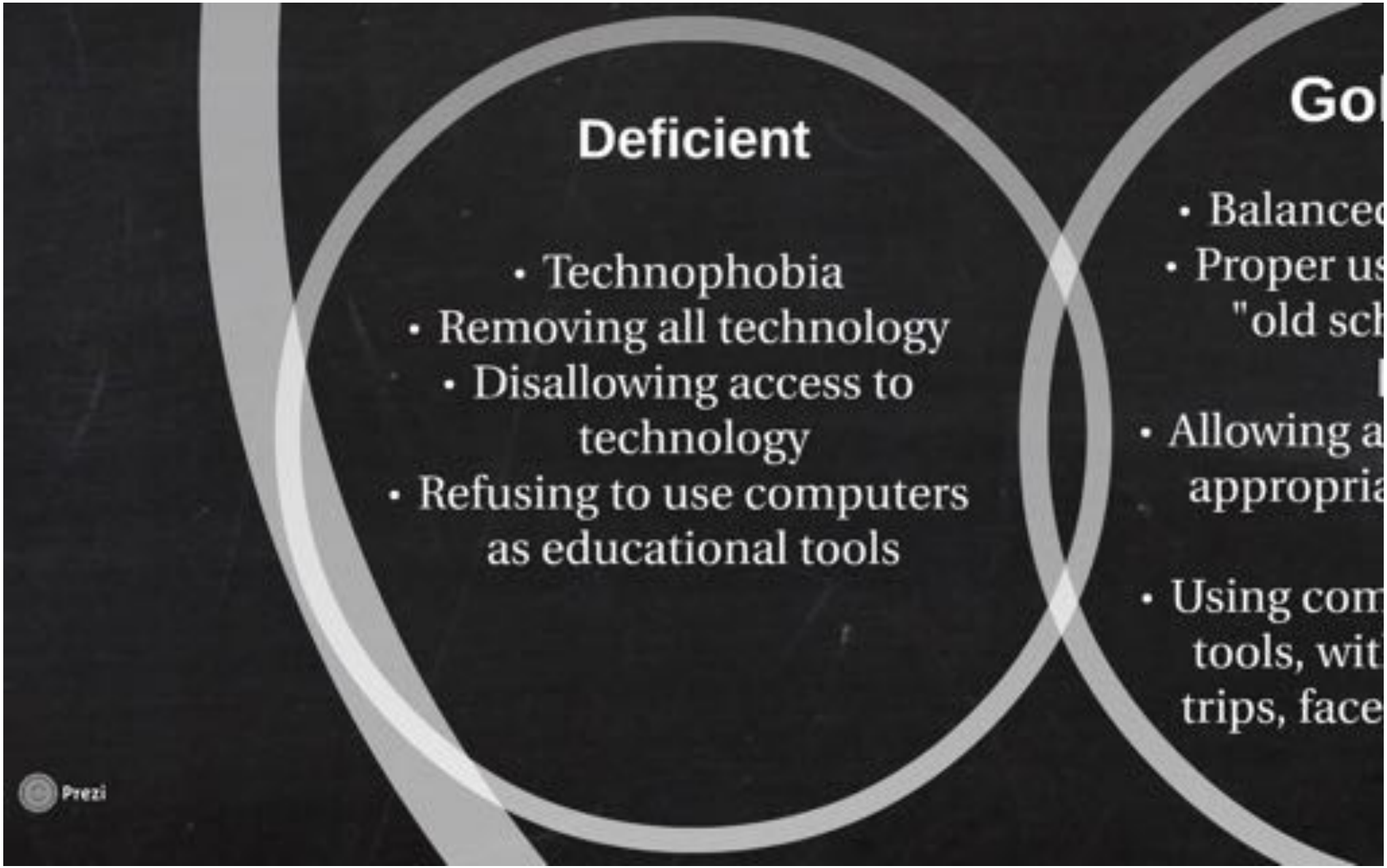
Zero-Phone

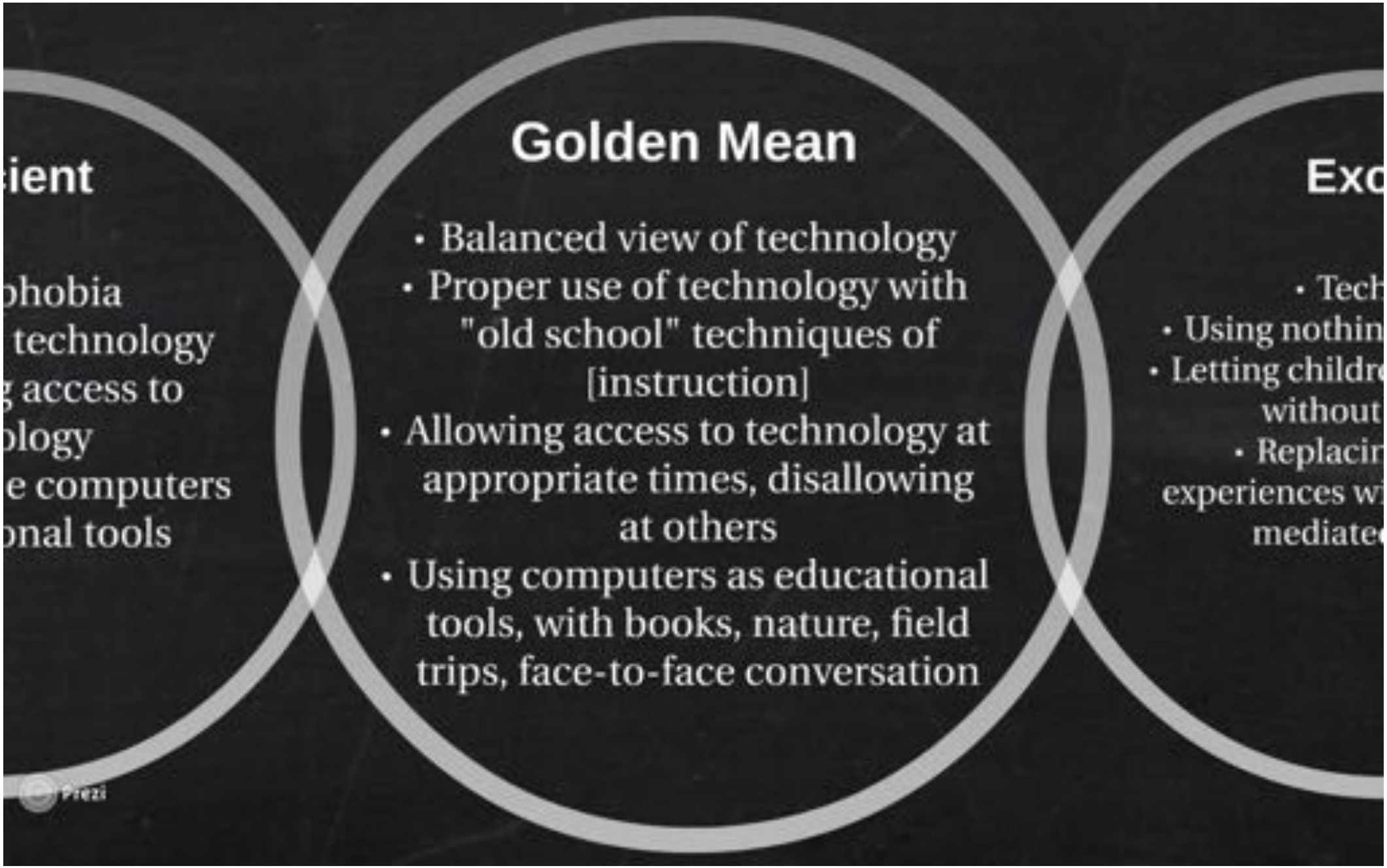
- One option is to remove phones from the academic environment all together. This practice is however insufficient to prepare students to be effective digital citizens.
- Reduction in achievement gaps and inequalities (Beland).
- Students respond to rules with compliance. (Ives)

Prezi


Zero-Awareness
• Maintaining of achivement gaps between students.
• Students unprepared to handle online environments.
• Increased level of distraction for students.
• Lower levels of student engagement.
• Tried and true for many students.
Prezi

Finding the "Sweet Spot"
Schools achieving the "Golden Mean of Educational Technology."
Chart Content by David L. Harrison
Deficient
• Technophobia
• Removing all technology
• Disallowing access to technology
• Refusing to use computers as educational tools
Golden Mean
• Balanced view of technology
• Proper use of technology with "old school" techniques of [instruction]
• Allowing access to technology at appropriate times, disallowing at others
• Using computers as educational tools, with books, nature, field trips, face-to-face conversation
Excess
• Technophile
• Using nothing but technology
• Letting children use technology without parameters
• Replacing real world experiences with technologically mediated substitutes
Prezi


Deficient
• Technophobia
• Removing all technology
• Disallowing access to technology
• Refusing to use computers as educational tools
Go
• Balanced
• Proper us
"old sch
• Allowing a
appropria
• Using com
tools, wit
trips, face
Prezi


ient
phobia
technology
g access to
ology
e computers
onal tools
Golden Mean
• Balanced view of technology
• Proper use of technology with "old school" techniques of [instruction]
• Allowing access to technology at appropriate times, disallowing at others
• Using computers as educational tools, with books, nature, field trips, face-to-face conversation
Exc
• Tech
• Using nothin
• Letting childr
without
• Replacin
experiences wi
mediate
Prezi

An Option to Serve All

"Rather than sleepwalking into this we should be the masters and not the slaves of technology and harnessing it in ways that we could do exciting and fulfilling things with it" (Ives).

- Understand Your School's Needs: Gather Data
- Give Teachers, Parents, and Students the Research and Justification
- Teacher Training and Professional Development, Collaboration

Prezi

References

Anderson, M. (2007) Many Dating Teens Get High Tech Almost Survey. Reuters, Washington. Retrieved on December 10, 2016, http://www.reuters.com/article/us-usa-teens-abuse-idUSN2838596820070328

Al-Harassi, S. S., & Al-Rudh, A. H. (2014). The Impact of Social Networking: A Study of the Influence of Smartphones on College Students. Contemporary Issues In Education Research, 7(2), 129-136.

Avidan, Y. (2010). An Investigation on Changing Behaviours of University Students Switching from Using Classical Cell Phones to Smartphones. Journal Of Education And Training Studies, 4(6), 199-206.

Beland, L., & Murphy, R. (2015). Communication: Technology, Distraction, & Student Performance. Center For Economic Performance, (1338), 1-45.

Ehrlich, T. (2014). The Anti-Social Network. Time, 184(1), 40-43.

Fenwood, K., Bell, R., Cotton, C., Craig, I., Drummond, D., Gibson, A., & ... Williams, A. (2013). The Truth about Smartphone Addiction. College Student Journal, 49(2), 291-299.

Gok, T. (2016). The Effects of Social Networking Sites on Students' Studying and Habits. International Journal Of Research In Education And Science, 2(1), 85-93.

Harrison, D.G. as presented by Wagner, S. (2016) Work & Instructor Series: The Golden Mean of Educational Technology. Webster University. Retrieved on December 7th, 2016, https://worldclassroom.websoft.edu/courses/128046/pages/work-&-the-golden-mean-of-educational-technology?module_item_id=1224074

Hinduja, S., & Patchin, J. W. (2011). High-Tech Cruelty. Educational Leadership, 68(5), 48-52. Jun, S. A. (2012, October 1). #Generation: The Social Cognitive Effects of Digital Technology on Teenagers. Online Submission.

Kiger, D., Herro, D., & Prunty, D. (2012). Examining the Influence of a Mobile Learning Intervention on Third Grade Math Achievement. Journal Of Research On Technology In Education, 45(1), 61-82.

Kuznekoff, J. H., & Titsworth, S. (2013). The Impact of Mobile Phone Usage on Student Learning. Communication Education, 62(3), 233-252. doi:10.1080/03634523.2013.767917

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2014). The relationship between cell phone use, academic performance, anxiety, and Satisfaction with Life in college students. Computers In Human Behavior, 31(343-350. doi:10.1016/j.chb.2013.10.049

Lepp, A., Barkley, J. E., Sanders, G. J., Rebold, M., & Gates, P. (2013). The relationship between cell phone use, physical and sedentary activity, and cardiorespiratory fitness in a sample of U.S. college students. International Journal Of Behavioral Nutrition & Physical Activity, 10(79-87. doi:10.1186/1479-5868-10-79

Mazman, G. S., & Usluel, Y. K. (2010). The Relationship between Use of Technology and Parent-Adolescents Social Relationship. Journal Of Education And Practice, 1(1), 168-176.

Norris, C., Hossain, A., & Soloway, E. (2011). Using smartphones as essential tools for learning. Educational Technology, 51(6), 18-25.

Ohler, J. (2011). Digital Citizenship Means Character Education for the Digital Age. Education Digest: Essential Readings Condensed For Quick Review, 77(8), 14-17.

TEENS WHO USE SOCIAL NETWORKING SITES MORE LIKELY TO SMOKE, DRINK. (2011). American School & University, 84(3), 58.

Tossell, C. C., Kortum, P., Shepard, C., Rahmati, A., & Zhong, L. (2015). You can lead a horse to water but you cannot make him learn: Smartphone use in higher education. British Journal Of Educational Technology, 46(4), 713-724. doi:10.1111/bjet.12170

Prezi