Learnings outcomes of using analog versus digital learning materials

- Is the jury still out?
Declaration

This presentation contained on site, real time interactive interactions with the audience (the “jury”) (slides 4 through 9), so it might not come across with much value studied in isolation afterwards.

You might make use of the references to examples of research into the learning outcome/reading outcome question at slides 19 through 21. Please note slide 22/23 which hints that the research questions in this kind of research might contain or even suffer from generational gap problems.
(Analog here meaning ‘printed’)

[Image of an abacus crossed out]
Analog learning materials in K-12 ... 

... offers **fewer distractions** in the reading and studying tasks than digital materials
Analog learning materials in K-12 ...

... offers more distractions in the reading and studying tasks than digital materials.
Analog learning materials in K-12 ...

... are more accessible for special needs kids (sight and reading) than digital materials.
Analog learning materials in K-12 ...

... are less accessible for special needs kids (sight and reading) than digital materials
Analog learning materials in K-12 ...

... are in general, all in all, **better** - for the kids learning outcome - than digital materials
Analog learning materials in K-12 ...

... are in general, all in all, **worse** - for the kids learning outcome - than digital materials
What does the EEPG think of the topic?
What does the EEPG think of the topic?

BYE – LAWS

Preamble

Aims and objectives of the European Educational Publishers' Group (EEPG)

1. To further the development of quality educational materials in Europe.
What does the EEPG think of the topic?

... on Twitter?
What does the EEPG think of the topic?

Pasi Sahlberg @pasi_sahlberg  ·  Sep 22, 2018
Schools are banning smartphones. Here’s my argument for why they shouldn’t—and what they should do instead @washingtonpost
washingtonpost.com/education/2018… via @valeriestrauss @HargreavesEC @SirKenRobinson @JohnSwinney @FiccolMp @GonskiInstitute @philmcrae @mediatrician

Jordan Shapiro @jordosh  ·  Feb 17
“Many parents are concerned that their kids lack social skills because they spend a lot of their social time online, but what we miss is that this generation is really empathetic, and we partially owe that empathy to how globally interconnected they are.”

OECD Education @OECDEduSkills  ·  Dec 13, 2018
“The family, together with schooling, is one of the most important settings in which children develop and reinforce their literacy skills.”

Analysis | Schools are banning smartphones. Here’s an argument for why …
Why the ban doesn’t actually work and how to get kids to have more self-control.
washingtonpost.com
What does the EEPG think of the topic?

EEPG.org @EEPG_org · Dec 20, 2018
The American Academy of Pediatrics advises parents of young children to go for quality traditional/physical toys rather than digital ones.

EEPG.org @EEPG_org · Aug 23, 2017
Kids, parents, gadgets and another opinion "(...) we're too busy looking down at our screens to look up at our kids" buff.ly/2x33F5Q

Pasi Sahlberg @pasi_sahlberg · Jan 15
De Montfort University in Leicester, UK, shows how "unrestrained social media use" can be harmful to the mental health of young people.
bbc.com/news/education... @BBCNews @Hargreaves8C @steve_munby @philmcrae

The Case for Creative Play in a Digital Age
A new statement from the American Academy of Pediatrics advises parents of young children to go for high-quality traditional toys rather than...
nytimes.com

University switches off social media
A university is switching off its social media channels to promote a healthier online culture.
bbc.com
Historic phases in attitudes towards digital learning materials (DK)

Ignorance
Curiosity
Unrealistic high expectations
More nuanced expectations
Counter reactions and doubt

Stalemate btw proponents and critics – large variations btw sectors
Historic phases in attitudes towards digital learning materials (DK)

Ignorance
Curiosity
Unrealistic high expectations
More nuanced expectations
Counter reactions and doubt

Stalemate btw proponents and critics – large variations btw sectors
Historic phases in attitudes towards digital learning materials (DK)

Ignorance
Curiosity
Unrealistic high expectations
More nuanced expectations
Counter reactions and doubt

“Paperless classes”
Experiments on conducting exams with necessary access to internet
“Screenless classes”
Exam experiments closed down
Controversial MoE developed spyware scrapped

‘Digital schools’ and hardly digital at all schools
What does the research say?
Example:

“Basic reading skills is a matter of urgent concern. Research shows that the amount of time spent reading long-form texts is in decline, and due in large part to increasing digitization, reading is becoming more intermittent and fragmented overall. (...) There is much speculation about the cognitive implications of digitization, and empirical evidence indicates that affordances of screen devices might negatively impact cognitive and emotional aspects of reading.”
The use of mobile devices for learning has led to an increased number of textbooks and reading materials being published in digital format. Specific digital literacies are required to take advantage of these digital texts, and students need to acquire these literacies if they are to read and learn efficiently. Teachers need to assist their students in reading with digital devices. (...) This thesis addresses a gap in the field by identifying cognitive and metacognitive foreign language (FL) reading strategies that students employ when using tablets, and how digital features may support FL reading comprehension.

This research suggests that, when employed effectively, the applications available on tablets can provide scaffolds for the reading process.
Metastudy


NB! “Reading” (not learning outcome per se)

Conclusion: “It’s complicated”!

“Reading in print or digital form should not be horse race question. One medium will not and should not be regarded as routinely better for comprehension. Although the question regarding differences in comprehension across mediums is a complex one, we cannot turn a blind eye to its exploration, because digital texts are pervasive in students’ and teachers’ lives. Although Proulx (1994) may be unsettled by the ubiquity of digital reading devices present today, perhaps she was correct in her assessment of the timeless pleasure gained from reading a printed book. Both mediums appear to have a place in literacy and in learning that must be more fully appreciated.”
.... so yes! The jury is very much still out.
Terminology and prerequisites

Is the question posed right, accurately enough?

Is the slippage back and forth between evaluating “learning outcomes” and reading skills (pace, mastering of several techniques, reading comprehension) - reading very often in rather traditional senses and always of verbal texts - obfuscating the issue?
Terminology and prerequisites

Is the question posed right, accurately enough?

Is the slippage back and forth between evaluating “learning outcomes” and reading skills (pace, mastering of several techniques, reading comprehension) - reading very often in rather traditional senses and always of verbal texts - obfuscating the issue?

Does kids nowadays learn more (good and bad) from YouTube and from each other than from reading verbal texts – digital or analog?
Disclaimer

Systime ...

... might have had - and even nurtured - a few not completely realistic expectations

However, Systime is still a primarily digital publishing house:

- digital production platforms and flows
- digital first
- belief: digital materials made right is for most ages and disciplines better than analog materials
- revenue from digital far surpassing revenue from printed materials

... all the while not at all hating printed books. We make them and sell them and Systime Solutions has developed BookCreator (extracts DB content to pdf for eBook or print) as a very important software product.
When talking about research ...

Systime is, together with the University of Aarhus financing and facilitating parts of the work of a 3 year industrial/business ph.d. student who will examine

The implications of using peer recommendations and AI in the content (publications and modules) offerings in digital platforms for teachers to choose content from for use in their teaching.

We’ll be back ...
One last poll
What *is* your format strategy?

... in your primary market

1. Primarily analog (printed)
2. Primarily digital
3. Both
   1. as in biformat publications - all or most publications come in printed AND in digital editions
   2. as in format selective publishing - some publications come in printed format and others come in digital
4. None of the above