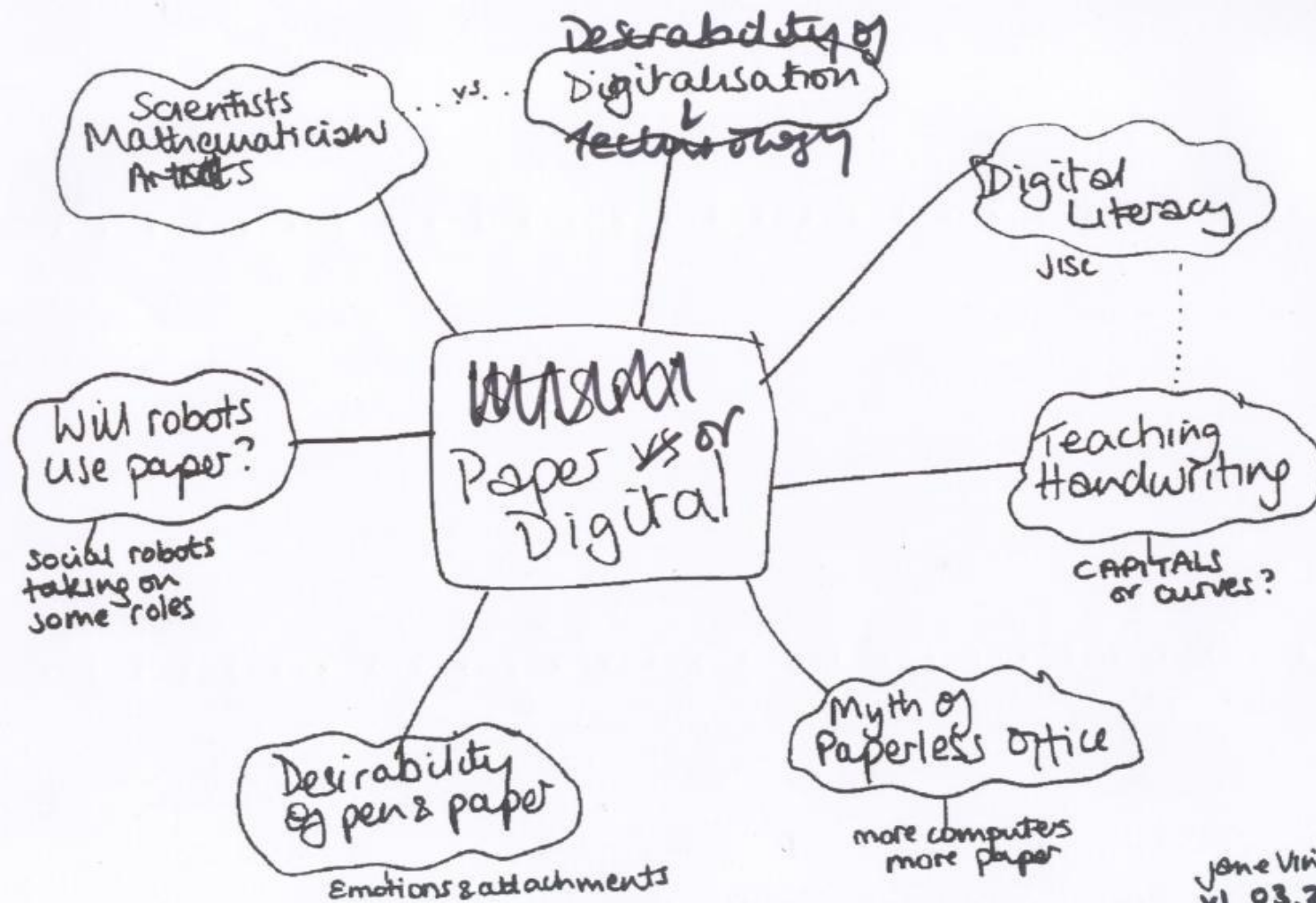# Writing and reading using pen, paper, keyboard and screen - a cross cultural exploration

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Agenda

12 FP1104 Participants have asked their students about writing and reading on paper and digitally

UK; Germany; Italy; Finland; Slovakia; Bulgaria; Hungary; Portugal; Hong Kong China; China Beijing. Serbia and Russia,

Qualitative studies of a total of 660 respondents answered the questions:

- Describe the differences you find when using a pen and using the computer. Furthermore describe what you like and dislike about both these modalities

- Describe which differences you find in reading paper and reading on screen. Furthermore describe what you like and dislike about both these modalities

- Think now of the gestures and postures you assume in reading and writing using paper and on a screen. Reflect and describe them.

- Think now to your use of the computer/internet. This tool allows multimodal communication (images/videos, texts, sounds music and so on) How do you use it? Reflect on your personal experience and then describe it

Academic Papers have been published by Italy; Finland; Slovakia; Bulgaria; Russia and jointly Germany, UK and Italy (forthcoming)

Limitations of Qualitative Research

- Sample size varied per country & not representative
- Although the four core questions are the same the surveys conducted via different approaches:
  - Set as course work
  - Handwritten or responding to online Q&A survey
  - Student demographic consistent but gender split and courses studied vary
- There are many nuances to what we are discussing, for example, the difference between reading a printed and hand written text or the difference between reading a book and reading from the screen, or the size of the screen

BUT …the research has provided some rich material about emerging and future research themes

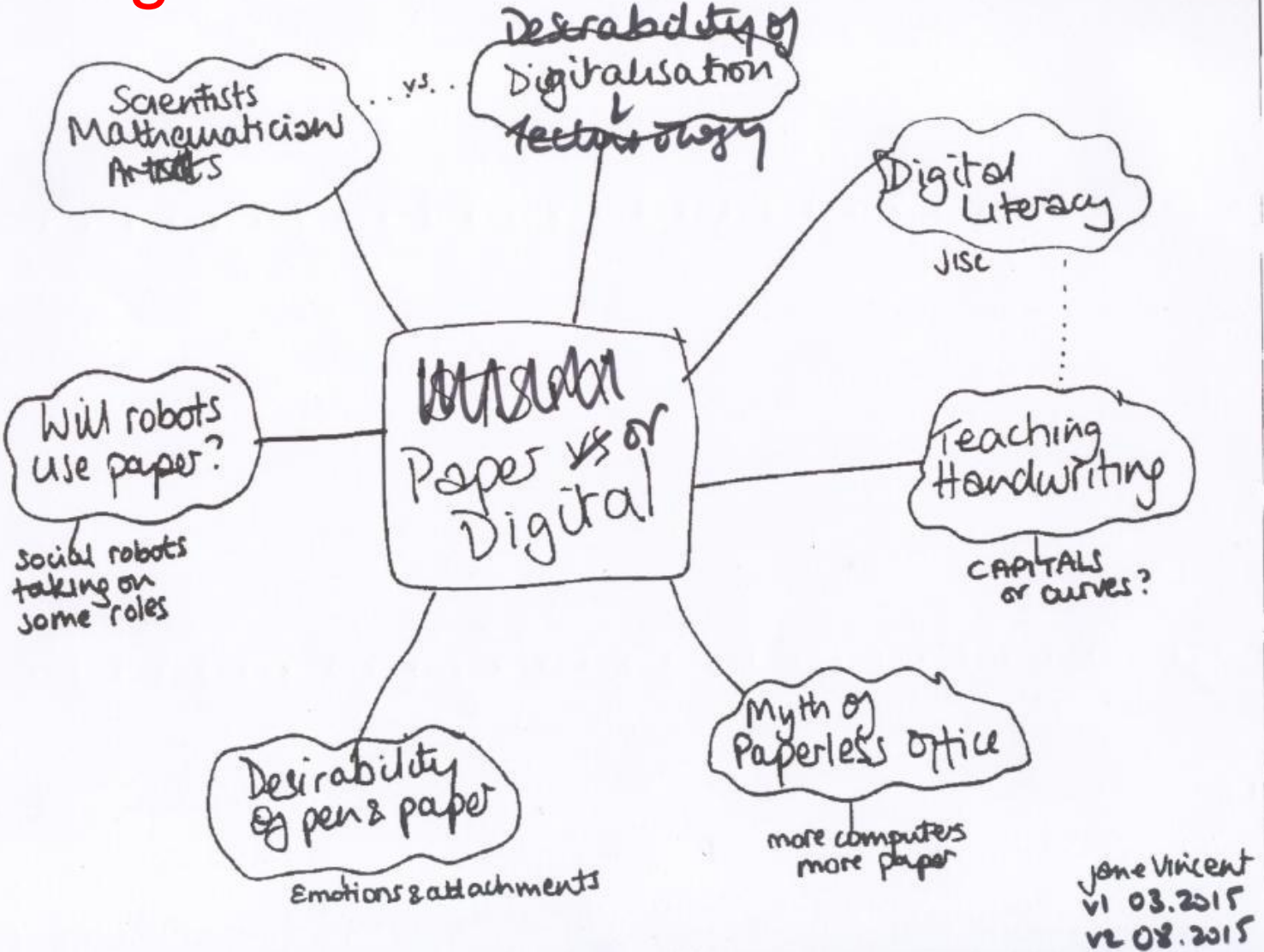# During 2015 a new quantitative survey has been carried out

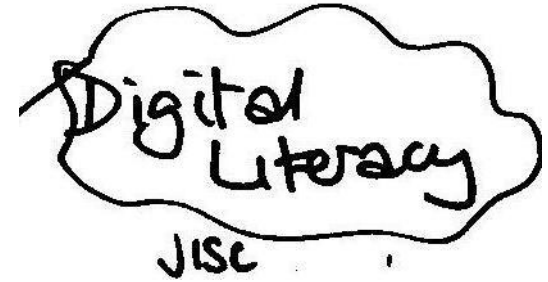| Country	Total respondents	F	M	U/G	P/G	F/T	P/T	Age 18-25	Age 26-40	Age 41-75
Italy	101 + *129*	68	33	73	28	92	9	84	16	1
UK	128 + *23*	88	40	91	37	118	19	101	18	9
Ireland	89	58	31	68	23	85	4	61	18	7
Slovakia	*316*	*166*	*150*	*150*						
Bulgaria	220 + *38*			220				160	60	
Hungary	400 +*74*									
Serbia	400									
Russia	50 + *25*									
China *40* Portugal *99* Hong Kong *28* Finland *26* Germany *54*										

2088 RESPONDENTS IN TOTAL

Results are still being collated and analysed but thus far results confirm the qualitative findings

Findings and Discussion

Mind map: Paper vs or Digital

- Scientists Mathematician Artists ...vs... Desirability of Digitalisation / technology
- Digital Literacy — JISC
- Will robots use paper? — social robots taking on some roles
- Teaching Handwriting — CAPITALS or curves?
- Desirability of pen & paper — Emotions & attachments
- Myth of Paperless Office — more computers more paper

Jane Vincent
V1 03.2015
V2 08.2015

Digital Literacy

- "How are you responding to the changing digital needs and expectations of your students and staff?

- Do the experiences and the digital environment you offer to your students adequately prepare them to flourish in a society that relies heavily on digital technologies?

- What are you doing to engage students in dialogue about digital issues and to work collaboratively with them to enhance their digital learning experience?

- How well is the digital vision for your establishment embedded in institutional policies and strategies?"

http://www.jisc.ac.uk/guides/enhancing-the-digital-student-experience

Information is being made available online and is thus accessible to many more teachers and students e.g. http://www.zandrarhodes.ucreative.ac.uk/p/welcome.html
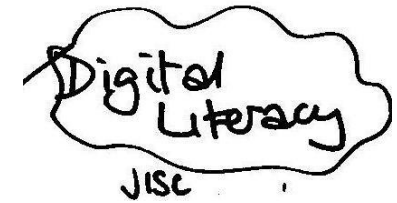
The Zandra Rhodes Digital Study Collection

UCA JISC
university for the creative arts

WELCOME   DRESSES   DRAWINGS   ASK ZANDRA   TUTORIALS   ABOUT

Browse through my exquisite fashion drawings

Welcome to the Zandra Rhodes Digital Study Collection! Here you can explore a selection of 500 of my couture dresses and garments from the 1960s to the present day, including pieces worn by icons such as Diana, Princess of Wales, Elizabeth Taylor, and Diana Ross. You can also explore my drawings, learn about the inspiration behind my most famous pieces, and see the design and production techniques that are used to make the handcrafted couture in my fashion studio in London.

Digital Literacy
JISC

Cross-Cultural Experiences

Digital Literacy
JISC

In Hong Kong most respondents emphasized that reading and writing using paper does encourage them to treat reading-and-writing as a complementary behaviour; [whereas], reading/ writing on a screen makes them experience reading-and-writing as separate units" (Hong Kong, Chung-Tai Cheng)

In Russia age matters. The hypothesis is that the younger the student is, the less accustomed to handwriting and to reading books he/she is. As Alex B (19 years old) mentions, "*using a pen becomes more and more obsolete. I learned to print quicker than to write*".

The text is easier to edit on a computer afterwards, so it is more likely that all ideas will come out, while when writing on paper you sort of have to manage with what comes to your mind at that particular moment, and thus the outcome is easily unclear and inconsistent. (Selja, 23,Finland)

"*I am so used to hypertexts that I miss this application when reading texts on paper.*" (Germany)

When you read for University work what is the main reason you choose hard copy or digital screen?
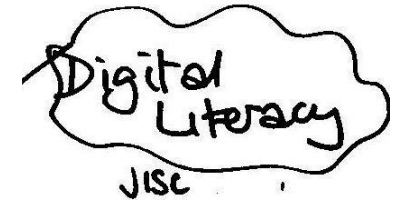
"I usually read on screen because it is more convenient than carrying books and new text books are usually easier to find online than at a library or bookstore. It is also faster to find a specific section within an ebook than a physical book, and the ability to link annotations to the text is very helpful and doesn't clutter up the text the way writing in the margins of a book does".
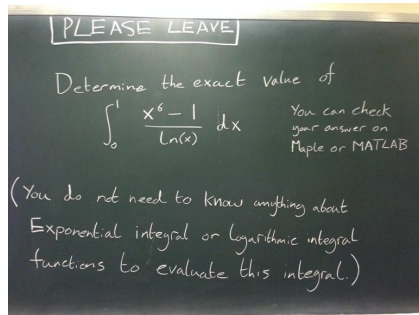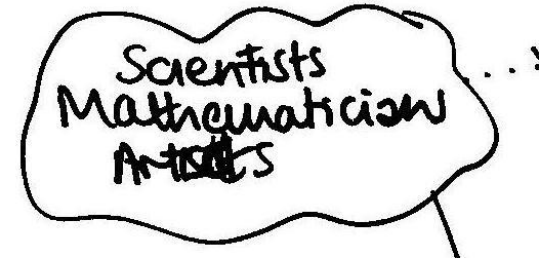
UK 2nd yr U/G,female,

"Usually use digital screen as the cost of printing long journals can be high. Generally only print out very significant journals of a final copy of my own work to check before submissions"

UK 1st yr PhD female

(Sample from 2015 Quantitative Survey Q16 UK Respondents)

But what about literacy that thrives on pencil & paper/chalk and blackboard?


PLEASE LEAVE

Determine the exact value of

$$\int_0^1 \frac{x^6 - 1}{\ln(x)} \, dx$$

You can check your answer on Maple or MATLAB

(You do not need to know anything about Exponential integral or Logarithmic integral functions to evaluate this integral.)

http://www.surrey.ac.uk/maths/explore/corridormaths/

"*It is easy to write lectures on the computer but to write down formulas it is much easier to use a pen.*"
(Victoria M., Russia)

"*What I like most about a pen, is that it is quick to add notes, comments, and all kind of drawings in the text and on the side. For example, for me drawing arrows is easiest by hand*".
(Kata, Finland)

'Graphs or **complex formulas** are not easy to input while writing on screen'
(China, Yao Nei)

and … Teaching Handwriting
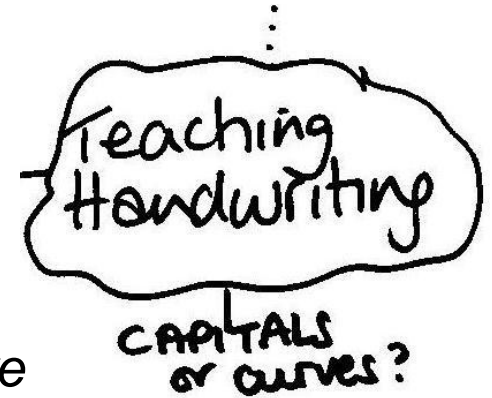
'Finland to remove cursive handwriting from education curriculum !! The move has sparked debate over the future of handwriting in the classroom'

Independent Newspaper 3 February 2015

"We used to do joined-up writing so that we could write faster, but these days kids only start learning it in grade two [aged eight] and have a year to get it right before moving on to concentrating on what they write, rather than simply how they write it, Children don't have time to become fast at cursive writing, so it's not useful for them"

Minna Harmanen, Finland's National Board of Education
(http://www.theguardian.com/world/2015/jul/31/finnish-schools-phase-out-handwriting-classes-keyboard-skills-finland)

- But can this approach limit creativity?

Cross Cultural Experiences

"Handwriting is slower and impractical, but at the same time more personal and enjoyable. -- Writing with a pen also relates to the joy of chirography. My chirography is unique and it often catches other people's attention. I feel that it says something about my persona and perhaps because of this I want to cherish handwriting. (Miira, Finland)

"Writing by hand is much more personal, more subjective. This allows us to bring up all of our emotions: happiness, sadness, nervousness. Based on the features of the texts we can understand how the writers felt at the time of writing". (Simone, Italy)

"I used to write essays by hand at high school, it would annoy me how much paper and time we would waste having to re-write the same essay over and over again until there were no mistakes and it looked neat". (UK)

The Desirability of a Pen and of Paper

Desirability of pen & paper
Emotions & attachments

"hard copy definitely, there's such a strong feeling of nostalgia in reading a book, and i feel like you can really dive into the world that the author is writing about in ways that the digital will never encompass for me. I see some books as old friends or comfort items like teddys, also you can take a book anywhere and so long as there is light you can read it- no reliance on battery length or internet sourcing. :) "
UK 4th yr female 21 U/G

When you read for pleasure what is the main reason you choose hard copy or digital screen? 2015 Quantitative Survey Q17

Using paper is more liberating and less hassle

'Paper and pencil are always available, and do not need electricity; such as when having a sudden inspiration in bed'.

But

"Having to write a note in my office, I often have to look for paper and pencil (and then I loose my note)"

(Germany, Höflich; Kirchner & Roll)

"I use paper to write on when I have to write important messages, with passion, because in my opinion, your own handwriting makes the message very personal".
(Luca, Italy)

Cross Cultural Experiences

Desirability of pen & paper
Emotions & attachments

Chinese characters are not just an information carrier, but also a culture carrier. Aesthetically, calligraphy is more concerning handwriting itself than the concrete information the characters bear. (China Yao Nei)

"*I use white space and the positioning and grouping of notes on a page to aid understanding. This is a rapid process which cannot be achieved on screen.*" (UK)

"*The taste of browsing something material is priceless! I like very much enjoy the scent of the book through the fragrance of the paper*". (Tiziana, IT)

"

Myth of the Paperless Office (Sellen and Harper 2001)

Myth of
Paperless Office

more computers
more paper
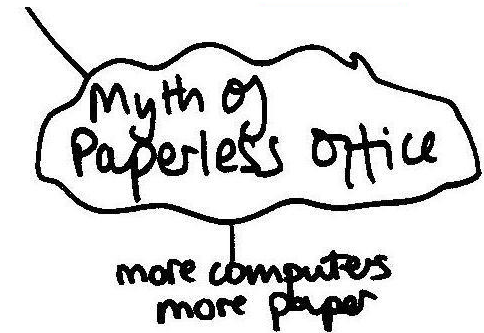
…more shaping of technologies – including paper and computers to meet individual needs

Digitalisation
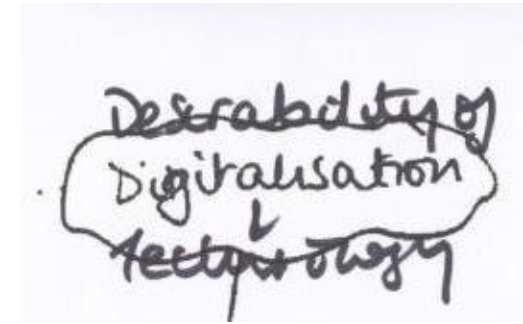
"Internet simplifies the communication: my husband (professional soldier) took part in missions in Afghanistan a couple of times so I cannot imagine my existence without having contact with him for some months."   (Slovakia)

"Screen is more comfortable for browsing through text respectively for jumping between text passages, more practical when I want to look up words in the internet". (Germany)

In Bulgaria all respondents reported that they extensively use computers in everyday life, learning and work, and cannot imagine life without them
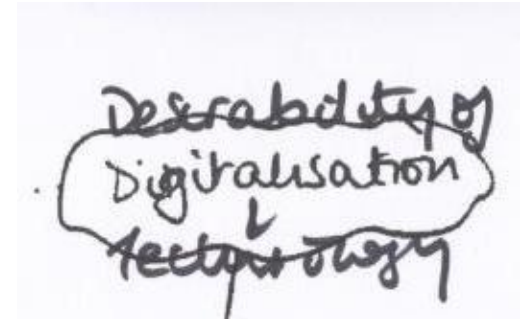
Cross Cultural Experiences
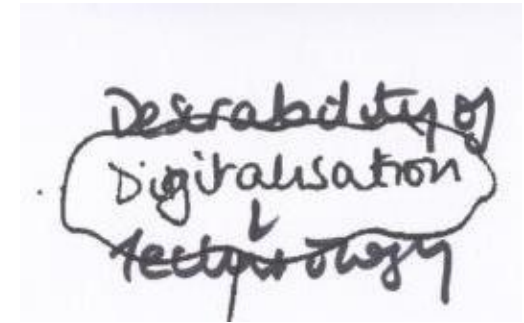
Tiina (28, Finland) describes that she can a read a paper book in bed before sleeping: *"the laptop would be much more uncomfortable to take along to a bed,"*

In Portugal students underlined the difference between the formality of the computer and the flexibility and informality of the paper
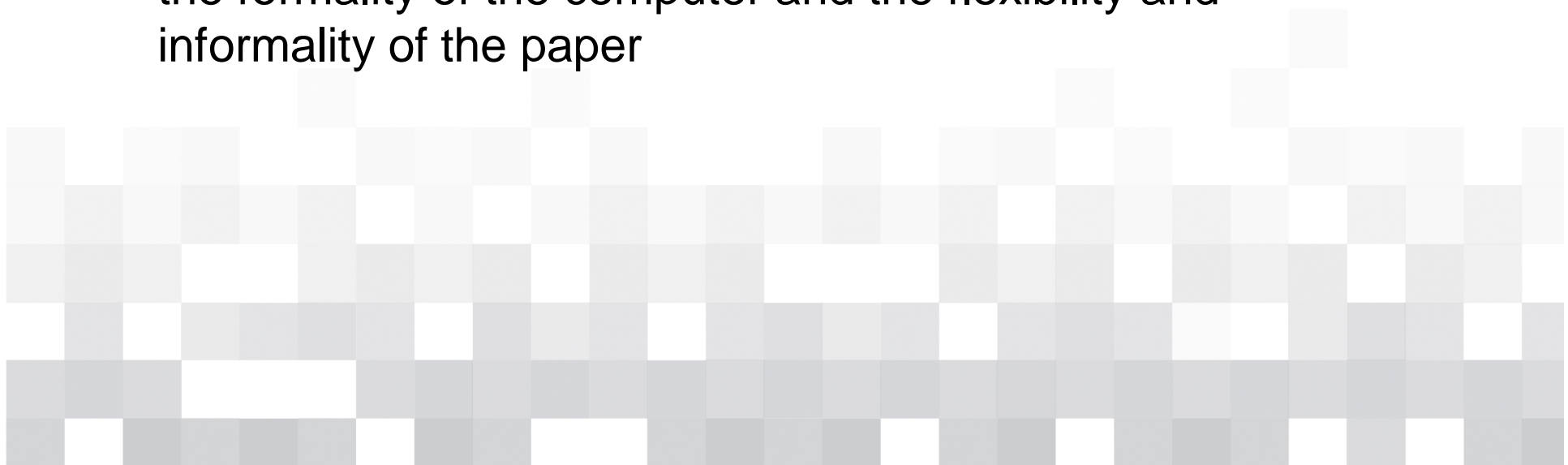
Cross Cultural Experiences

Until last year I was mostly a paper reader but I slightly evolved so that now I think I'm equally competent as a paper and online reader. I used to print articles if they were longer than 10 pages but nowadays I manage to do that online. I got used to it but I also got this application to write notes on a PDF file so that I can act on online documents as much as I would do on paper. (Melissa, 24, Finland)
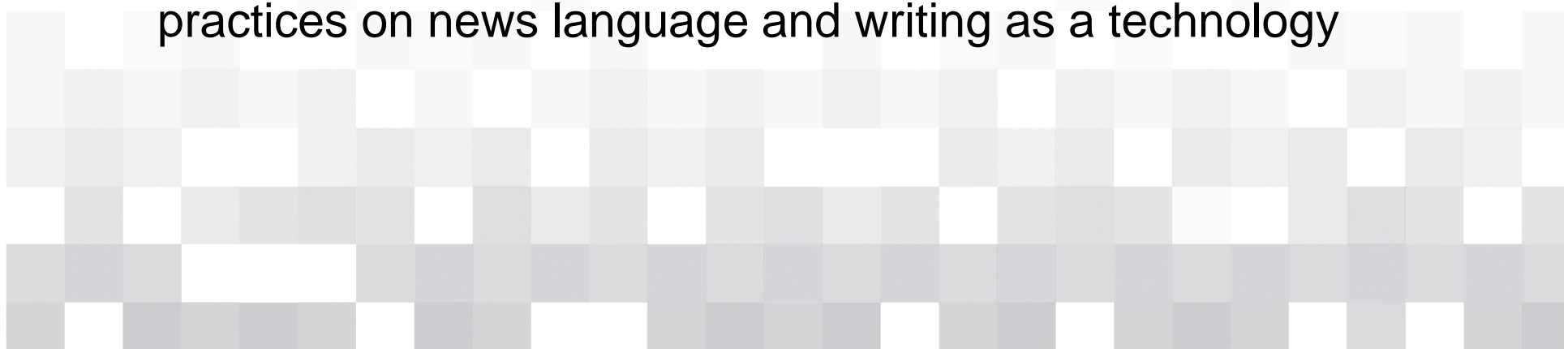
Print newspapers & convergences in reading & writing

It is not always a matter of either/or print vs/or digital

- Newspapers also converge with non digital media platform – books, encyclopaedias, DVDs
- Distant and close reading co-exist in newspapers
- Effect of digital technology and new professional practices on news language and writing as a technology

Social Robots and Robots are replacing human & machine activities
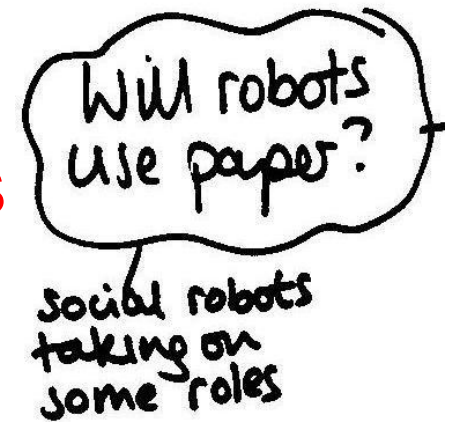
School reporting

Teaching

Examination Marking

Newspaper journalism

Hotel Reception

…

Can all tasks be roboticised?

Does digitalisation = robotification?

…relocates the discourse within a symbiotic paradigm rather than a dualistic one' and that *'robots are going to evolve in unique and peculiar ways which are hard to predict'* (Ferrando 2014)

Some consensus of views across all countries

- Computer mediation can be a distraction; it fragmentizes thinking
- Electricity is needed to use digital products which can be limiting
- Problems are experienced with tired eyes when using computers
- Easy & fast search and correction of text is only possible with computers
- Mathematicians, artists, architects need to use paper
- Digital technology is now essential, digital literacy is being taken for granted
- In the future being able to write more than a few sentences by hand may no longer be a measure of competence
- The aesthetic of the chosen medium is a deciding factor for many
- Pen and paper and books are nostalgic and 'loved' especially for personal & emotional use

Policy Considerations
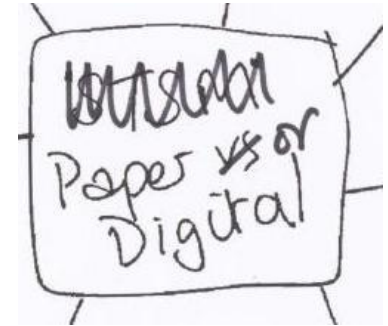
- We live in an historical moment of strong hybridization between print and digital technology and the technologies of reading/writing they convey.

- Our research links with research in several other COST actions

  - *IS0703* The European Research Network on Learning to Write Effectively (ERN-LWE

  - *IS1404* Evolution of reading in the age of digitisation (E-READ)

  - *IS1410* The digital literacy and multimodal practices of young children (DigiLitEY)

- The political debate on print and ebooks in schools and universities lacks clarity. We need to transfer to policy makers specific knowledge about the lived experiences of reading/writing, technologies on which the world of education, but also information and organization, is based

Thank you

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Leopoldina Fortunati

converged with