How to research a textbook when it is no longer a 'book'.

Georg Eckert Institute
Leibniz Institut for International Textbook Research
PROJECTS ON DIGITAL TRANSFORMATION

- Historical Thinking with Digital Media: A comparative study of mBook use
- DATAFIED: DATA For and In EDucation - The construction of school in a datafied society
- Schools in the Cloud (HPI school cloud, STEM schools)

Thoughts on producing a book ...
# A BOOK IS A BOOK IS A …

## The Palgrave Handbook Example

Barbara Christophe  
Felicitas Macgilchrist  
Marcus Otto  
Steffen Sammler

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>15</td>
</tr>
<tr>
<td>2. History of Textbooks</td>
<td>25</td>
</tr>
<tr>
<td>3. History of Textbook Research</td>
<td>25</td>
</tr>
<tr>
<td>4. Textbook Research: Issues, Theories, Methods</td>
<td>80</td>
</tr>
<tr>
<td>5. Desiderata/Trends</td>
<td>25</td>
</tr>
<tr>
<td>6. Bibliography/Index</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>4.1.1 Heuristics/Issues</th>
<th>4.1.2 Theories</th>
<th>4.1.3 Methods</th>
<th>4.1.4 New Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Product</td>
<td>a) Selbst- und Fremdwahrnehmung</td>
<td>1. Cultural Studies und sociological theoretical approaches</td>
<td>1. Comparison</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>b) Historical representations</td>
<td>a) Memory studies</td>
<td>2. „Grounded Theory“</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Didactical questions</td>
<td>b) Wissenssoziologische Ansätze</td>
<td>3. Text analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Comparison</td>
<td>c) Discourse theories</td>
<td>4. Visual analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e) Stereotypes</td>
<td>d) Media theories</td>
<td>5. Didactical analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>f) Textbook and other media</td>
<td>2. Social, educational sciences theoretical approaches</td>
<td>6. Historical analyses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>g) Textbooks and societal contexts</td>
<td>a) Neo institutionalism</td>
<td>7. Quantitative analysis</td>
<td></td>
</tr>
<tr>
<td>4.2 Producer</td>
<td>a) Publishing houses</td>
<td>3. Socio-economical theory</td>
<td>8. Receptions and effect studies</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>b) Educational politics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Textbook authors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Societal negotiation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3 Recipient</td>
<td>a) Use in school contexts</td>
<td>b) Teaching and learning theories</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Society/ Media</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


A BOOK IS A BOOK IS A …

… MATRIX OF IDEAS

❖ in linear a format
❖ between two book covers
MEDIA TRANSFORMATION

MEDIA TRANSFORMATION
HARDWARE AND OPERATION SYSTEMS
SOFTWARE & CONTENT

Teaching and Learning Material for the classroom
digitalised textbooks (PDF), digital textbooks, teaching & learning software, Open Educational Resources (OER)

Programms/Tools/Cloud Solutions for school administration
school clouds, software for online exams, lesson planning...

Extracurricular ‘Software’
applications, search engines, office solutions, YouTube...

1) ‘Born-digital’ textbooks
2) Textbooks in school clouds
3) Textbooks as applications/online platforms
(1) Six thoughts on (future) ‘born-digital’ textbooks

Bock & Macgilchrist (2019)
https://repository.gei.de/bitstream/handle/11428/302/mBook_Wissenschaftliche%20Begleitung.pdf?sequence=1&isAllowed=y

THE mBOOK EXAMPLE

https://youtu.be/fECO6DiOTss?t=152
(2:32 – 4:52)
An adaptable book for up-to-date, curriculum-compliant teaching

• enables fast, intuitive adaptability of content and structure
• change the components of the book (edit videos, supplement material and adapt texts) or its format (rearrange the order of content and show or hide content)
• enables teachers to respond promptly to current technical developments, to adapt the book to the particularities of their own classes and to teach in accordance with their local syllabi.

A visually diverse book with multi-media elements and multiple perspectives

• visualisations in the form of (moving) images
• author videos implemented in different ways
  ➢ as an introduction to the topic,
  ➢ as an overview of content that provides spatial or temporal orientation or
  ➢ as a ‘teaser’ to motivate students.
• incorporating various media elements and media formats (film, sound, text, images),
• user engagement with a variety of topics from different perspectives
A connected book for connected thinking

• move away from the traditional book structure
• replacement of the double page layout by a scroll and link structure
• challenging ‘classical’, linearly conceived textbook teaching and stimulating connected learning
• more thoroughly networked/connected textbooks; to expand upon a modular structure that bundles material into learning modules across schools and federal states
• makes material available in an educational form (e.g. a modular learning platform instead of individual textbooks).

A book that offers different tools for different classroom scenarios and approaches to learning.

• enable different classroom scenarios and approaches to learning
• a digital textbook requires:
  ➢ tools for learning and checking facts (learning by input/reward);
  ➢ tools for acquiring information, practicing/repetition, recording and visualising changes in learning status, with feedback options;
  ➢ tools for self-reflection and reflection upon one’s own learning progress, with time for constructive, creative ‘off-task’ activities; and
  ➢ tools for socio-cultural interaction within and outside the classroom.
A book that encourages teachers and learners to change roles.

• teacher to assume the role of a moderator through the textbooks’ tasks and the way its material is presented
• encourages students to work more independently
• supports them in better comprehending their own learning process

A book that provides suggestions for new teaching routines.

• digital textbooks contain elements which stimulate diversity in student work and
• support the teacher in valuing the diversity of learning paths and learning outcomes
...are adaptable, visually diverse, multi-modal, networked, connected textbook that address different classroom scenarios and different approaches to learning; that provide stimuli for teachers and learners to change roles and that enables new teaching routines. (Bock & Macgilchrist 2019)

Not to say, that to produce this kind of digital textbook entails rethinking the process of developing and distributing textbooks.

(2) Textbooks in school clouds
CLOUD SOLUTIONS FOR SCHOOLS

What a school cloud can be used for?

1) administration and organisation
2) exchange of information (internal/external)
3) providing and using classroom material/ textbook content (teachers/students)
4) sharing of course material and exercises with colleagues

1) ADMINISTRATION
2) EXCHANGE OF INFORMATION (INTERNAL/EXTERNAL)

3) SEARCHING FOR AND PROVIDING (TEXTBOOK) CONTENT
3) PROVIDING AND USING TEXTBOOK MATERIAL

4) SHARING CLASSROOM MATERIAL
(3) Textbooks as applications/online platforms

MIX AND REUSE

textbooks as playlists
Implications for Future Research
Textbook theory, content & methods

HOW DO WE RESEARCH TEXTBOOKS WHEN THEY ARE NO LONGER ‘BOOKS’?

Will we be able to use current digital methods or will we need a new and innovative methodology, which responds to the media transformation by adopting its research questions, theoretical background and empirical approach?
THEORETICAL APPROACHES

- examine born digital ‘books’ from different disciplinary angles
  - shifting materiality of the born-digital books - an even stronger emphasis on theoretical approaches to materiality/ (new) materialism

RESEARCH ON TEXTBOOK CONTENT

- content is related to form, and digital books or digital platforms tend to focus on visualization and to shorten texts; even if due to their materiality, those platforms are open enough and able to encompass huge amounts of (textual) content
  - Who defines what is socio-politically relevant knowledge to be taught in schools?
  - Academic negotiations about textbook content will be challenged as will the research that intends to understand those negotiation processes and their outcomes.
RESEARCH ON TEXTBOOK CONTENT

A Cultural Analytics Example on Mark Rothko Paintings

https://youtu.be/-YIT1qFhJhk?t=12

EMPIRICAL APPROACHES/ METHODS

• Use
• Effects
• Practices
"digital methods may be considered the deployment of online tools and data for the purposes of social and medium research. More specifically, they derive from online methods, or methods of the medium, which are reimagined and repurposed for research." (Rogers 2017)
“We have to be able to think with and in technology as a medium of expressing a will and a means to know. […] and we need to engage in critical practice that is aware of the shocking amounts of knowledge we have stuffed into our tools.” (Rieder/Röhle 2017)

Promising approaches will combine “analyses of information technology, material and virtual design with an inquiry into the production of meaning through information technology practice and the articulations of information technology users in situ” (Brock 2018: 1013)
The field doubtless has recourse to plentiful experience in the investigation of educational media production processes; yet this notwithstanding, the transformations in the media landscape, and the related emergence of new actors and processes in the production and dissemination of digital educational media, compel researchers to keep on adapting their repertoires of theories and methods to a constantly changing world.