



14th IARTEM International Conference
on Textbooks and Educational Media

Changing media- changing schools?

iartem.org/lisbon

Portugal, Lisbon, University Lusófona

27, 28, 29 September 2017

Agostinho da Silva Auditorium

Campo Grande, 376 - 1749-024 Lisbon - Portugal - Tel: +(351) 217 515 500

Participant
Research Units



Instituto de Educação
Ciência da Investigação em
Educação e Tecnologia

IARTEM 2017 – abstract book

Dear conference participant,

This document contains abstracts for all presentations at the 14th International Conference on Textbooks and Educational Media at Universidade Lusófona in Lisbon 27–29 September 2017.

We have chosen not to include room numbers in this version of the abstract book, but you will find them on our website and on posters on the conference location.

Parallel sessions overview

Wednesday 27 09:45

KN: Keynote:Vitór Teodoro

Wednesday 27 14:00–16:00

A1: History

A2: Historical perspective

A3: Music and art

A4: Physics

A5: Biology and health

A6: Language

A7: Literacy

A8: Geography and humankind

A9: Textbooks analysis

Wednesday 27 16:30–18:30

B1: History

B2: Historical perspective

B3: Music

B4: Physics and Climate change

B6: Language

B7: Digital textbooks

B8: Policies and textbook production

B9: Primary

Thursday 28 14:00–16:00

C1: Selection and approval

C2: Management of resources and research

C3: Class uses

C5: New tools

C6: New media: new schools? The experience of 12th grade students

C7: New tools, new pedagogy? | Special needs

C8: Production of resources

C9: Language

Thursday 28 16:30–18:30

D1: Selection and adoption

D2: Scaffolding

D3: Texts and textbooks

D5: Images and visual

D6: Teacher training

D7: Stories, narratives, reading

D8: Identities

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KN	Vítor Teodoro	Portugal	Reflections on 40 years of textbook authoring: from the end of typesetting to the Internet, from textbooks to an unknown territory
A1	Roland Bernhard & Christoph Kühberger	Austria	Scientific thinking and the use of textbooks in the history classroom
A1	Pia Mikander	Finland	Rethinking history and social studies education: teaching discourse analysis as a critical thinking tool
A1	Aleksandra Ilic Rajkovic, Mirjana Senic Ruzic, & Bojan Lujic	Serbia	Board games and acquiring knowledge of history: research in university teaching
A2	Ruth Firer	Israel	Fill-in packages for Israeli and Palestinian textbooks: a retrospect
A2	Felipe Yera Barchi	Brazil	Searching for Brazilian identity in the 1900s: João Ribeiro and his textbooks
A2	Graciela María Carbone	Argentina	Data and reflections on a complex history: curricular norms and textbooks in Argentina, 1960-2016
A3	Micheline Prais de Aguiar Marim Gois	Brazil	A survey of educational materials for children's choirs with an emphasis on playfulness
A3	Vânia Ferreira & María-Carmen Ricoy	Portugal	Teacher training in the use of textbooks
A3	Miloš Makovský & Tereza Voštová	Czech Republic	Didactical materials for the subject of art education in elementary schools as a means to build a professional community
A3	Guilherme Romanelli, Mauren Teuber Schlichta, & Paulo Consuelo Ribeiro	Brazil	A survey of art textbooks for the 2017 Brazilian PNLD program: their contents and uses
A4	João Robert Nogueira, José Bernardino Duarte, & José Paulo Pinto	Portugal	Computational programming in teaching of physics: enhancing the integration of mechanics concepts
A4	Nathalie Magneron	France	Exploration and selection processes of resources in the teachers' design activity of a lesson – a French case study in sciences

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A4	Anne-Beathe Mortensen-Buan & Tor Arne Wølner	Norway	Student experiments and multimodal reports: the iPad and electrical circuits in physics
A4	Camila Ferreira Aguiar & Nilson Marcos Dias Garcia	Brazil	The role of the physics textbook in a teacher's curriculum development
A5	Norunn Askeland	Norway	From health and hygiene to ethics and politics: discourses about food in textbooks in home economics in Norway 1890-2016
A5	Camille Roux-Goupille	France	A ReVEA project case study: French biology teachers & educational media
A5	Simone Paixão Araújo & Maria Helena da Silva Carneiro	Brazil	The biology textbook in the vision of youth and adult education students
A5	Ana Júlia Pedreira & Maria Helena da Silva Carneiro	Brazil	How the textbook is inserted in the pedagogical practice of teachers
A6	Marina Bouckaert	Netherlands	Curriculum and materials development for critical thinking and differentiation in EFL teacher education
A6	Aurélie Beauné	France	Collective production of resources for language teaching: analysis of the dynamics and contradictions at work for a French and activist community
A6	Nicolas Hurst	Portugal	Local culture and beyond in Portuguese-produced English Language Teaching (ELT) textbooks
A6	Ragnhild E. Lund, Nahúm M. Tórréz & Israel R. Zelaya	Nicaragua	A comparative analysis of the main themes in two textbook series used for the teaching of English in Nicaragua and Norway
A7	Hildegunn Johannesen, Lene Illum Skov, & Thomas Rhode Skovdal Albrechtsen	Denmark	Thinking twice online: designing learning materials to enhance critical digital literacy in Danish public schools

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A8	Yvonne Behnke & Péter Bagoly-Simó	Germany	Circles of recycling: strategies for dealing with heterogeneity in the geography textbook market
A8	Petr Knecht & Tomáš Janko	Czech Republic	How do pupils evaluate visuals in geography textbooks? Results of a qualitative analysis
A8	Ylva Frøjd	Norway	Solidarity and humanitarian aid discourses in student texts
A8	Geir Winje	Norway	When pupils meet religious holy texts in their textbooks
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A9	Esmeralda Maria Santo & Dulce Maria Franco	Portugal	School textbooks: a barometer of the media
A9	Carmencita Ferreira Silva Assis & Jesús Rodríguez Rodríguez	Brazil	Evaluating maths textbooks: a look at the profiles of evaluators of high school PNLD
B1	Christoph Bramann	Austria	History textbooks and the development of historical thinking – Analytical insights from Austria
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B2	María Victoria Alzate Piedrahita & Miguel Angel Gómez Mendoza	Colombia	Transfer and appropriation of German pedagogic discourse in Colombia: 'Educación' magazine of the Institute of Scientific Collaboration of Tübingen and its influence on the content of teacher guides during the third German Educational Mission in Colombia
B2	Jörgen Mattlar	Sweden	The language issue! Representations of the Finnish Civil War 1918 in history textbooks (1960–2011)
B3	Rosa María Vicente Álvarez	Spain	Music teaching materials and their evaluation
B3	Levain Xavier	France	Changing teaching practices with digital media? The case of music education
B3	Clara Martínez Delgado	Spain	Which culture is transmitted in music textbooks?
B3	Frederico Gonçalves Pedrosa	Brazil	How are the didactic materials for Brazilian five-course guitar written? textbooks and educational media in the teaching of stringed instruments
B4	Pascale Kummer Hannoun	France	A ReVEA project case study: French physics and chemistry teacher profiles and their work with educational media
B4	Alysson Ramos Artuso	Brazil	A quantitative analysis of Brazilian high school physics textbooks – students' opinions on qualities, themes and focus
B4	Eirik Granly Foss	Norway	The complexities of climate change in Norwegian primary school textbooks
B4	Nilson Marcos Dias Garcia	Brazil	The physics and science textbooks in focus: a decade of academic production revisited
B6	Jana Kubricka	Czech Republic	Getting the best of all worlds in classroom materials for tertiary ESP
B6	Karolína Pešková	Czech Republic	Printed vs. electronic textbooks: the offer of multimedia in foreign language textbooks

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B6	Bárbara Elisa Marques, Deise Cristina de Lima Picanço & Tânia Maria Figueiredo Braga Garcia	Brazil	The Common European Framework of Reference for Languages and its influence on Spanish textbooks in the National Textbook Program (PNLD)
B6	Vivian Batista da Silva	Brazil	For 'concrete and immediate applications in the classroom': A linguagem didática no ensino moderno and teacher training for the use of teaching techniques and methods (Brazil, 1960)
B7	Stinus Storm Mikkelsen & Stefan Ting Graf	Denmark	Digital learning resources scaffolding project-based learning
B7	Hitoshi Nakagawa	Japan	The Problem and Status of Digital Textbook in Japan
B7	Ommund C. Vareberg	Norway	Textbooks and companion websites: investigating transmedial coherence
B8	Jannik Sachweh	Germany	New textbooks for democracy? Educational politics and textbook production in the Free State of Braunschweig in Weimar Germany
B8	Zuzana Sikorová, Iva Cervenkova, Marek Vaclavik, & Ivana Fialova	Czech Republic	Has the use of classroom teaching and learning resources changed? An analysis of TIMSS Studies 2007-2015 data on the use of resources
B8	Stig Toke Gissel, Stefan Ting Graf, & Marie Falkesgaard Slot	Denmark	Shared course designs in digital learning platforms: affordance and patterns of design
B8	Magali Roumy Akue	France	Digital resources production and differentiation among design students
B9	Georges Louis Baron & Sevina Touloupaki	France	On which online resources can primary teachers rely to teach a new subject? The case of informatics in France
B9	Susan Richardson	Australia	The homework space: two distinct orientations to homework-based learning resource design and development
B9	Angerd Eilard	Sweden	The crisis of patriarchy in primary school textbooks

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C1	Péter Bagoly-Simó	Germany	Coordinates of textbook research
C1	Laszlo Kojanitz	Hungary	Development of textbooks, study tools and the National Educational Portal
C1	Roseli Borowicc	Brazil	The selection of textbooks by teachers of settlement schools: criteria, dialogues and tensions
C1	Eduardo Perioli Junior & Vivian Batista da Silva	Brazil	The production process of the National Guide to Textbooks (PNLD) for Portuguese language in Brazilian High Schools in 2012
C2	Magali Loffreda	France	Teachers' personal educational resources management: presentation of some teachers' profiles
C2	Michaela Spurná & Karolína Pešková	Czech Republic	Teachers' and academics' resources used for transferring research knowledge
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C3	Roberta Amendola	Brazil	The use of textbooks: deficient training, dependent teacher, different material
C3	Peter Gundersen	Denmark	Understandings of collaboration with practitioners in design-based research
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C5	Albert Strebelle, Lionel Mélot, Antoine Colart, & Christian Depover	Belgium	Analysis of the effects of using an iBook on the motivation and the concentration of pupils visiting a museum
C5	Tom Wikman	Finland	Preschoolers' use of tablet devices
C7	Silvia López Gómez & Jesús Rodríguez Rodríguez	Spain	Videogames and education: reflections from a review of international research carried out between 2010 and 2016
C7	Bettina Buch, Rene B. Christiansen, Dorrit Hansen, Anne Kristine Petersen, & Randi Skovbjerg Sørensen	Denmark	The 7Cs – And the problem of schooling and personalized learning paths
C7	Carla Vázquez Formoso & M ^a Montserrat Castro Rodríguez	Spain	Analysis and classification of didactic materials for the inclusion of people with hearing impairment
C8	Majbritt Pless	Denmark	How to involve student teachers in composing learning material?
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C9	Tânia Maria F. Braga Garcia	Brazil	Universal contents and the local experience in textbooks for elementary school: an approach from didactic research on the possibilities to build relations
C9	Kishorkumar Darak	India	Children's identity in printed textbooks: narrating the 'real' or constructing the 'ideal'?
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D1	Anita Messaoui	France	Teachers preparing their lessons: the complex stage of selecting resources
D1	Isabelle Quentin & Eric Bruillard	France	How teachers select, use and store their resources: discourse analysis of secondary school teachers in vocational education
D1	Donalia Maíra Jakimiu Fernandes, Deise Cristina de Lima Picanço, & Henrique Evaldo Janzen	Brazil	The Spanish textbook: the choice of teachers of public schools of Paraná, Brazil
D2	Thomas Illum Hansen	Denmark	Scaffolding an inquiry-based approach to teaching literature
D2	Iva Červenková, Zuzana Sikorová & Kateřina Kostolányová	Czech Republic	Scaffolding strategies in printed learning resources used in Czech lower secondary schools
D2	Stig Toke Gissel	Denmark	Designing and measuring the impact of using digital learning materials for scaffolding students' independent decoding and comprehension of unfamiliar texts
D2	Craig Richardson	Australia	Designing digital learning resources: arresting the decline of writing standards in the Australian secondary school context

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D3	Stine Reinholdt Hansen	Denmark	Children's reading and media habits in 2017: new requirements for the use of texts in school
D3	Edilaine Aparecida Vieira & Tânia Maria F. Braga Garcia	Brazil	Rural youths and textbooks: a case study in a settlement school linked to the Landless Workers' Movement (MST)
D3	Jannike Hegdal Nilssen	Norway	The textbook's invitation to disciplinary literacy and text-based learning in the language arts
D3	Akira Ninomiya	Japan	How should school textbooks be improved?
D5	Anne Kristine Petersen, Bettina Buch, Randi Skovbjerg Sørensen, & Rene B Christiansen	Denmark	Designing for teaching and learning with MOOCs - Intended and implemented designs
D5	Gabriela Cruder	Argentina	The place of the image: from the textbook to the digital environment, with an emphasis on higher education
D5	Helenice Ramires Jamur & Gláucia da Silva Brito	Brazil	Use of hypertext in digital didactic materials in distance education: the point of view of students
D5	Denise Bandeira, Eliane Castro, & Maria Laila Tarran	Brazil	A study of colour theory and practice with online resources
D6	Luca Toschi & Ilaria Marchionne	Italy	Training, teaching content and new technologies
D6	Khaneboubi Mehdi	France	Educational photocopying in French secondary schools: how does a technology adjust the content being taught to students' reading and writing skills?
D6	Edna Luiza de Souza & Nilson Marcos Dias Garcia	Brazil	Textbooks in rural schools: perceptions and practices of teachers in the initial grades of Basic Education
D7	Eva Maagerø, Henriette Siljan, & Aslaug Veum	Norway	Digital stories as a learning resource for immigrant students
D7	Emilia Garmendia & Mariela Senger	Argentina	Academic reading in courses of study at the UNMdP: academic genres and university traditions

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D7	Ailie Cleghorn & Rinelle Evans	Canada	Where has so much changed in the last 10 or so years?
D7	Gabriela Dias & Shirley Souza	Brazil	'Close Encounters': interactive stories as a path to 21st-century learning
D8	Eric Chia-Hwan Chen	Taiwan	On representations of the British in Taiwan's junior high school textbooks from 1953 to 2002
D8	Christoffer Dahl	Sweden	Voices of male and female authorship – legitimations and identities in literary textbooks
D8	Natalija Mažeikienė	Lithuania	Films in feminist classrooms and intercultural learning: between knowledge-building, critical public pedagogy and edutainment
D8	Ezgi Agcihan	Turkey	Types of discrimination In Turkish For Foreigners textbooks

Keynote – Wednesday 27 September 09:45

Reflections on 40 years of textbook authoring: from the end of typesetting to the Internet, from textbooks to an unknown territory

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Textbooks have been an essential item in education since Antiquity (e.g., Euclid's Elements of Geometry was used until the 19th century). Education, like most social practices, is being challenged and changed by the technological developments of the so called 'fourth industrial revolution'. The transformational potential of information technologies is immense and probably 'nothing' will be the same. We know how societies changed in previous revolutions and it is expected that the change induced by the fourth revolution will be even more relevant. We have seen recently massive change in access to media and to information and we are now seeing more big changes in several fields, like artificial intelligence and "big data", robotics and manufacturing, new materials and biotechnology, and more. But, as in other human practices, in education there is always more than technology and information. We all know examples of powerful technology in education that 'don't work' and it is very clear that the information that is accessed is not knowledge or, more importantly, wisdom. In this context of change, what will happen to school textbooks? Will they still have a future? If so, what can we expect and promote? In this talk, I will discuss the options we are facing, based on my experience of 40 years as a textbook and software author as well as on visions and studies made by educational think tanks and educational leaders.

A1: History

Scientific thinking and the use of textbooks in the history classroom

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Although reference is made to the crucial importance of textbooks with regard to the organisation of history lessons, textbooks continue to play a subordinate role in empirical research. For decades, it has been noted that there is a research gap associated with the use of textbooks in history lessons in history education research. In the project CAOHT (Competence and Academic Orientation in History Textbooks) the question of how textbooks are used in teaching practice and for the preparation of history lessons is clarified in relation to Austria using a qualitative/quantitative triangulation design. In this presentation we will share some findings of the qualitative study that answers the question of how textbooks are used in the history classroom and especially how they are used to foster scientific and critical thinking. Are textbooks used in a content-oriented manner to teach facts or (national) master narratives or to teach skills or competencies of scientific historical thinking? We will draw upon rich data already generated in the framework of the CAOHT project by ethnographic participant observations in 50 history lessons in Vienna and qualitative expert interviews with 50 history teachers, regarding their approaches to history lessons, critical and scientific thinking, and their use of teaching and learning materials, particularly textbooks. It will be shown that there is a huge influence of textbooks on history lessons. It is very common that history lessons are completely based on textbooks and organised around the materials teachers find in them. We will argue that since textbooks are so dominant in teaching and since they mainly present history in a traditional way, also in history lessons the orientation on scientific or critical historical thinking plays a minor role in the Austrian context.

A1: History

Rethinking history and social studies education: teaching discourse analysis as a critical thinking tool

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Critical thinking has been endorsed as a way to enhance democracy education (Holma, 2015), and is part of the Finnish history and social studies curriculum. Finnish students have been shown to lack the skills needed for the critical interpretation of information, statistics and graphs conveyed by media (Ouakrim-Soivio & Kuusela, 2012). History education in Finland, it is suggested, needs to focus more on critical thinking (Van den Berg, 2007; Rautiainen, 2006; Virta, 2005). I argue for a less authoritative and consensual teaching of history. Today, critical thinking is often understood as learning which authority to trust, such as a book or a website. I suggest a different approach to knowledge in schools. For instance, information about a spider's anatomy is probably trustworthy whether it is presented in a textbook or on a website, since there are hardly any ideological interests behind that particular information. Researching the events of a civil war, however, means having to approach both textbook texts and online texts with caution, since there are clearly different ideological interests that want to portray their version of the truth as objective. Students should learn to consider historical knowledge as ideological, which technically means teaching history as a form of discourse analysis (Lozic, 2011; Saada, 2014) of history textbooks and other media. I argue that this method, which would rethink the idea of social science knowledge, could be developed for social science teaching in general, even in basic education. The topic of slavery serves as an example. Quotes such as the following tend to be fairly frequent in Finnish history textbooks: 'However, the Iron Age was also a cruel time. At that time, people had slaves.' (Aarras-Saari et al., 2006, 43). This is an example of a text written from the perspective of the slave-owners. It describes the lives of both slave-owners and slaves, but focuses primarily on the former. A text stating that 'At that time, people were slaves' would be no less accurate than 'At that time, people had slaves.' Discourse analysis reveals the perspective and is a way for students to challenge ideas often taken for granted.

A1: History

Board games and acquiring knowledge of history: research in university teaching

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The paper presents qualitative research on the possibility of using board games as an educational medium in history teaching. The research was conducted during a single semester course of the history of schooling in Serbia, at Belgrade University. The research was conducted in three phases. The study included 58 pedagogy students and a subject teacher. Students were divided into two groups. The first group of 13 students participated in the designing of board games. In the preparation phase, the teacher introduced the topic of the use of board games in the classroom with the basic principles of board game design, then several well-known board games were played and discussed. The instruction for students was that the theme for the board-game should be defined on the basis of the literature provided for the course. At the end of this phase, the students decided to design 4 games on different topics. In the second phase, students intensively studied the topics that should be presented through the games. The result of this phase was that demo versions of the games were tested within the group that had created them. At the beginning of the evaluation phase the games were played by the students who had not participated in designing the games. After that, all students through focus groups presented their views on the possibilities of the use of board games in history teaching. The first group pointed out that creating a board game was a challenge that requires sophisticated intellectual and emotional engagement and that they had acquired a knowledge of history with understanding and through problem-solving. The teacher for them was the initiator and facilitator in the learning process. Students who only tested the games pointed out that the games had helped them in acquiring and revising the knowledge from a new and unusual perspective.

A2: Historical perspective

Fill-in packages for Israeli and Palestinian textbooks: a retrospect

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'Fill in Packages' for Israeli and Palestinian textbooks were a central component of the Israeli-Palestinian Peace Education project named 'To Learn to Live Together' (1998-2001). The project was supervised by Ruth Firer (Ph.D) of the Hebrew University of Jerusalem and Sami Adwan (Ph.D) of Beit Lechem University. The Truman Institute for the Advancement of Peace at the Hebrew University of Jerusalem was the responsible academic sponsor.

These small 'packages' were additional fragments of information filling in the 'black holes' (missing data) within history, civics, literature, English, and geography in the sixth grade textbooks of the two parties, offering various media sources. About 70 Israeli and Palestinian students and 15 teachers of both nations were involved, along with experts and the UNICEF representative in Jerusalem.

The main objective was to enhance Israeli and Palestinian teachers' and pupils' tolerance towards the 'others' by encouraging their curiosity and critical thinking.

Action Research methods:

Anonymous questionnaires for teachers and pupils were compared, in order to see if any changes of attitudes had occurred. The supervisors composed graphs and statistics on the basis of the information gathered, including considerations of problems, failures and success.

Retrospective lessons:

The project was stopped by the Second Intifada of 2000. There were many problems, but the central one was that it was impossible to have Peace Education projects between occupiers and occupied, when blood was being shed. From then on, Israeli grassroots organizations and academic institutes have continued to work on different models of Peace Education, but their number is diminishing with the passing years, and so is the hope for peace.

A2: Historical perspective

Searching for Brazilian identity in the 1900s: João Ribeiro and his textbooks

Felipe Yera Barchi

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This work analyses the textbooks of João Ribeiro (1860-1934). He was one of the most important historians of his epoch and wrote two textbooks for teaching history: *História do Brasil* (History of Brazil) in 1900 and *História Universal* (Universal History) in 1918. In both works, there is a search for Brazil's place in 'civilization'. This concept links his Brazilian history to universal history.

In the beginning of the 20th century, Brazil was a young country looking for development and trying to solve problems like the racial issue (slavery was abolished only in 1888), illiteracy (around 75% of population) and to consolidate a recent republican regime – begun in 1889. Brazil did not have universities yet and João Ribeiro was an intellectual participating in the main institutions of the country, such as College Pedro II, the Brazilian Academy of Letters and the Brazilian History and Geography Institute. He also used to write for many major journals in Brazil.

'Brazil had been created, but it was necessary to invent the Brazilian.' Western Europe provided the model of civilization and Ribeiro was a typical man of letters of his time. He traveled and spent a few years in Europe, where he studied painting, law, music, theatre, Greek, German, English, Dutch, Latin and all neo-Latin languages.

In his narrative, there was a fight between civilization and barbarism. African and native people were not seen as civilized. However, nor were many Europeans. The Portuguese pioneers were shown mainly as exiles in a criminal colony. Ribeiro modified his pessimism about America with a modernist turn in the 1920s when he published 'The National Language', in which he defended the cultural and linguistic autonomy of Brazil from Portugal - and America from Europe, in general. However, his textbooks did not change and continued to be published and sold until the 1960s.

A2: Historical perspective

Data and reflections on a complex history: curricular norms and textbooks in Argentina, 1960-2016

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I intend to make some contributions to interpret the relationships between the curricular prescriptions that have regulated formal education (Primary education and its extension to Basic Secondary education) in the last decade, – and curriculum developments in textbooks, considered in their most widespread sense, as educational means that offer students the relevant information about a level, course or systematized discipline, in accordance with the norms in school education.

The axis of general reflection will be the nature of these links. Far from appearing as linear, their histories show signs of adoptions and congruent developments, as well as parallel, ‘upward’ influences, productive exchanges, and merely formal adoptions.

The focus to propose interpretations of these relationships study pedagogical approaches to norms and books in terms of :

- The cultural heritage evaluation with explicit or hidden transmission;
- The permanence, erosion, displacement and ruptures of the approaches and contents;
- The continuities and transformations in the profile of the student, in particular linked to their development as citizens;
- The ways in which prescriptions and books account for the emergence of the ICT era.

The analysis will attempt to outline some aspects of the political context that can contribute to the analysis

I propose a diachronic reading of curricular norms and textbook development from 1960 to 2016 and I analyse their growing complexity. For instance: the initial congruence, unchanging approaches and contents of textbooks during the authoritarian periods, in spite of changes in the norms and, during the democratic periods, the upward contributions of publishers to curricular policies, as well as their declinations. Traces of intertextual relationships are offered but not linear adoptions of their formulations or alignment in controversies.

A3: Music and art

A survey of educational materials for children's choirs with an emphasis on playfulness

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The present work deals with one of the interfaces of a PhD research in Music (Music Education and Cognition), by the post-graduation program in music at Paraná University (UFPR), Brazil. Choral singing is an activity practiced all over the world in the most varied formations and with different objectives. However, the focus for this project is children's choral singing. In this project, I explain some of the theoretical discussions of the aspects and effects of playfulness through interventions in the musical practices of the children's choir, such as the use and manipulation of the didactic manual for such practice. According to Choppin (1992), the didactic manual is, beyond the narrow prescriptions of a program, the vehicle of a value system, an ideology, a culture. Therefore, the goal is to identify evidences resulting from ludic actions in books and / or didactic manuals on choral conduction, as resources that promote the construction of musical knowledge and at the same time provide the conductor of children's choirs and musical educators with a new look at the possibilities of instrumentation as an applicable educational process.

A3: Music and art

Teacher training in the use of textbooks

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Teacher training has been commonly discussed at international conferences, in order to understand whether it is in line with the everyday needs of teachers. In fact, teacher training has to be diversified and very specialized. It is important to know if teachers have had adequate training, among other skills, in using didactic resources. Therefore, the central objective of this study is to find out if teachers have had in their initial teacher training adequate preparation in the use of textbooks and associated resources. By means of a quantitative methodology, questionnaires were provided to teachers of musical education of the 3rd cycle of basic Portuguese education. It should be pointed out that the conclusions show that the academic qualifications of music education teachers vary considerably from undergraduate to masters degrees, and from academic training to in-service. In their initial and in-service training, training is practically non-existent with regard to optimizing the use of textbooks. In general, teachers were self-taught in this respect rather than through services linked to the ministry of education via the educational activities of the school.

A3: Music and art

Didactical materials for the subject of art education in elementary schools as a means to build a professional community

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In our work, we are focusing on the printed didactical materials for art education subject in elementary schools in the Czech Republic. Our long-term aims are: a) historical research of these materials – their classification by period and by type (this part is mostly quantitatively based and has been presented during the previous conference); b) analysis of specific materials from selected periods (textbooks and teaching texts, approved by the Ministry of Education, Youth and Sports since 2004; this part is a qualitative research); c) a series of interviews with some actors about creating and using textbooks and teaching texts (Ministry of education staff, authors, publishers, teachers). This topic is based on some preconditions:

- art education is a mandatory subject throughout elementary school;
- art education is a subject with a high percentage of unqualified teachers (up to 40%, refer to Slavík 1998, 2005);
- in comparison with other subjects, art education has a very small amount of textbooks and teaching texts currently approved by the Ministry of Education; for many years, they are represented by the same publications, which are only ever renewed (some publications were first approved twenty years ago).

In this paper, we want to relate to the current discourse in art education and describe the position of printed didactical materials. We will focus on the concept of professional community and professional proposition, because optimally designed materials have, in our opinion, a significant influence on them. At the end, we will try to formulate some field-specific criteria, which should be, in our opinion, applied during the development and testing of new didactical materials for art education.

A3: Music and art

A survey of art textbooks for the 2017 Brazilian PNLD program: their contents and uses

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This ongoing research is a result of a collaborative research group between four institutions in southern Brazil: the Federal University of Paraná – UFPR; the State University of Paraná – UNESPAR-FAP; the State University of Santa Catarina – UDESC and the Paraná State Board of Education (NRE-PG). The main focus of the research is to deeply study one of the only two series of art textbooks selected for the 2017 Brazilian governmental public textbook program, known as PNLD. The books, for the 6th through 9th grades, were freely distributed to public schools all over Brazil and have been in use since the beginning of the 2017 school year (February). Even if those books cover four different art subjects – visual arts, dance, music and drama (following Brazilian educational guidelines) – the series is reviewed only concerning visual arts and music. This choice is justified as it reflects a mainstream school tradition and a recent nationwide discussion, respectively. The research has three main stages. First, an overview of the books using an adaptation of the Roch-Fijalkow (2006) model of content analysis (current status). The second stage will be the survey (Babbie, 2001) of the teachers' connections to the books, revealing how they were chosen and how they are used in daily classrooms. The third step will focus the students' use of the books, including their judgement of its contents and themes. This last step will have as theoretical background Chaves (2015). Concerning the observation of daily school routines, tools from educational ethnography (Rockwell, 1987, 1995; Ezpeleta, 1989) will be used. This research intends to bring new data that will help to better understand the 'début' of art textbooks in what is one of the world's largest public textbook program.

A4: Physics

Computational programming in teaching of physics: enhancing the integration of mechanics concepts

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The research question of our PhD thesis is how the computer can provide teacher strategies that lead to the integration of concepts in the learning process of physics in Portuguese high schools. A related question is whether computational programming can lead to the construction, not only of simulation programs, but also of the basic concepts of physics (mechanics). The benefits associated with programming in the learning process have been known since the 1980s as shown by Seymour Papert and, for the learning of physics, the works of Edward Redish emphasize, in this type of strategies of processes, the occurrence of Piagetian assimilation/accommodation. In our research, we present the results of questionnaires answered by secondary school students, which sought to verify the level of integration of concepts that students have immediately before starting the secondary physics program, as well as their existing misconceptions (erroneous concepts) as inhibitors of a coherent construction of physics concepts during secondary education. This study is complemented with content analysis of an interview with a teacher about the questions of our research. Finally, we present and discuss an experimental programming protocol for the integration of concepts in the teaching/learning process of physics in the 10th year of schooling to be used in our physics classes, whose results will be analyzed in a sequent phase of our research.

Keywords: Computers in Teaching Physics, Computational Programming, Integration of concepts, Misconceptions, Programming protocol

A4: Physics

Exploration and selection processes of resources in the teachers' design activity of a lesson – a French case study in sciences

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This work is carried out within the framework of the French project ReVEA (Ressources Vivantes pour l'Enseignement et l'Apprentissage : <https://www.anr-revea.fr/>). The aim is to better understand how teachers select, transform or recompose resources.

The present work examines the research and selection processes of resources, first steps of teachers' design activity of a course through the theoretical framework of the activity theory (Leontiev, 1976).

To account for a teacher's actions in his/her design activity of a worksheet, we followed three teachers of secondary Technical College (two maths-physical and chemical sciences teachers and one biotechnology teacher). Using the Camtasia software, we recorded step by step everything that occurs on their computer's screen during working sessions, in video and audio format.

The theme of this lesson focused on the chemical nature of plastics and their recycling. This subject is part of the official programme of physical and chemical sciences for professional qualification. This follow-up was supplemented by clarifying interviews on choices and non-choices made by each teacher to build pupil's worksheets.

The exploitation of the collected data and analysis of the interviews make it possible to detect different search and selection processes between teachers. These processes are guided by an overlap from personal mobiles related to programs' interpretation to teaching approach, the professional career, to the educational challenges that the teacher allots to his/her act of teaching, to the teacher's previous knowledge of this scientific subject and of the pupils, to the interest which the teacher conveys in the subject. The data crossbreeding (currently in progress) is also likely to put forward an offset between the prescribed reason and the reason for the professorial activity of each teacher.

A4: Physics

Student experiments and multimodal reports: the iPad and electrical circuits in physics

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In the autumn of 2016 we established a research and development project on themes concerning the use of iPad (and other ICT-based tools) for educational purposes in primary schools (1st to 10th grade). The project is a collaboration between our institution and a municipality in Norway that has adopted the use of iPad in all primary schools. The study will be conducted until 2019 and the main objective is to understand how teachers in the selected schools use mobile technologies as a tool for teaching.

In this presentation, we will look at findings based on a study of two different science classes in secondary school (9th grade), stretched over two weeks, and discuss how the teachers work with the iPad. We will look into whether, and if so how, ubiquitous mobile technologies (Keengwe 2015, Jahnke & Kumar 2014) are used to support the learning process through the course of the subject. We will also analyse how students carried out the exercise by producing a multimodal text on the subject of electricity.

We will present findings from qualitative interviews with the teachers and students following the curriculum. Through observations, student presentations and interviews, we will determine whether there has been any improvement in the quality of the end-result, due to students having access to modalities to carry out their presentations.

A4: Physics

The role of the physics textbook in a teacher's curriculum development

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This discusses some of the possible relations between the production and use of the textbook and the curricular practices developed in the school environment. The work, of a qualitative nature, was conducted in 2015 at a college in Curitiba, Paraná's Public School, Brazil. The fieldwork consisted in following the activities of a physics teacher in two high school classes, aiming to verify the presence and use of the physics textbook and to analyze the influence of the textbook on the planning and development of the curriculum in his classes. Based on the ethnographic research developed by Garcia (1996), the method employed was that of participant observation and recording the activities in a logbook. It was theoretically supported by the perspective that the textbook has an important role in elaboration of the prescribed curriculum (SACRISTÁN, 2000), as a filter of knowledge and interests (TORRES, 1998), as a regulator of the conception and development of teaching and of the relation between theory and practice, consisting of an artifact of control over the teacher's work (BONAFÉ, 2008), and furthermore, due to being present daily in the classroom, as one of the basic elements of the teaching organization (BATISTA, 2005). The results indicate that the textbook is an important instrument of curricular practice, guiding the teaching activities in the classroom, mainly due to its systematization. They also indicate a close approximation between the curriculum practiced and the guidelines proposed by the textbook, to the detriment of the curriculum planned by the teacher.

A5: Biology and health

From health and hygiene to ethics and politics: discourses about food in textbooks in home economics in Norway 1890-2016

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Analysis of Norwegian discourses about food (Bugge & Døving, 2000; Bugge, 2012) has identified five different discourses connected to health, gourmet food, pedagogy, religion and nationality. All of these discourses are present in Norwegian textbooks in home economics, but in different degrees at different times in the period 1890-2016 (Skjelbred et. al, 2017).

In this paper I analyze paratexts in Norwegian textbooks in home economics from 1890 to 2012 to show how the books are designed to achieve recognition through a health discourse connected to chemistry and nutritional science. Home economics was a field traditionally looked upon as girls' and women's domain. The paratexts in the first textbooks argue that the discipline deserved more attention as a political tool for transforming Norway into a country of hygiene, wealth and health. From 1936, there were seven years of schooling for everyone, but school was not the same for boys and girls. Boys had more mathematics than girls, whereas girls learnt about food, shelter, clothing and sanitation. When boys entered the scene as students of home economics in the 1960s the front covers changed, but they still depicted the discipline as belonging to a woman's world and a discourse of health and nationality. In modern textbooks, additional areas of study have been included in the curriculum for both boys and girls, including child development, management, consumer education, gourmet food, human relations, and religious, cultural and political issues. New discourses have been introduced, but still there is a strong alliance with chemistry and nutritional science and health discourses in most textbooks. The theoretical framework for the analysis will be Genette's theory of paratexts (Genette, 19970) and Kress and van Leuween's grammar of visual design (Kress& van Leuween, 2006) as well as recent research on the history of textbooks (Jensen, 2008, Knudsen, 2010, Skjelbred et.al, 2017).

Keywords: home economics, textbooks, discourse analysis, paratexts, gender

A5: Biology and health

A ReVEA project case study: French biology teachers & educational media

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The on-going ReVEA project aims to document the range of tasks, involved in getting ready for teaching, with educational resources that constitutes the visible and accessible part of teacher's work: researching and selecting, processing, redesigning, editing, adjusting as well as sharing and publishing educational resources, to mention a few.

The intent of this paper is to present 5 comprehensive teacher's profiles. These biology teachers are all teaching 'Life and earth sciences' at 'seconde' level (equivalent to 10th grade) of the French secondary school. The succinct official curriculum of this school subject encompasses three main themes: earth as a host planet for life/global contemporary challenges (energy and food supplies)/human body & health. Complementary official guidance regarding competencies is given while pedagogical freedom leaves teachers to face a world of plenty that is very diverse in nature and in the origin of educational resources.

Data collection consisted mainly of interviews, the collection and analysis of teachers' resources, lesson-plans, slideshows and eventually classroom observation but also taking into account their institutional and teaching environment through two National Education inspector interviews. Attention has been focused on understanding the influences of their background (initial and ongoing formation), personal interests and convictions, but also their like or dislike of certain sources (institutional/commercial/teacher-crafted/collaborative) as well as pedagogical activities that they have set up for their class along with the educational media they favour to support these activities.

Thus, by following up these teachers and surveying of their professional environment, comprehensive profiles are drawn that allow access to trends analyses regarding cross-cutting issues such as the school subject's customs and traditions, teaching style and inner tensions between complying with expectations and developing her own teaching style through new initiatives and risk-taking.

ReVEA (Ressources vivantes pour enseignement et l'apprentissage) Living resources for teaching and learning.) <http://www.agence-nationale-recherche.fr/?Project=ANR-13-APPR-0006>

A5: Biology and health

The biology textbook in the vision of youth and adult education students

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Research in which the textbook is the research object has explored varied dimensions, including political, economic, and pedagogical. However, some aspects have not been completely studied, such as their role in the pedagogical practice of the teacher and the relationship that its main users (student and teacher) establish with this material. In Brazil, textbooks are distributed free to public schools and, more recently, to youth and adult education students. As can be observed, the Ministry of Education makes a great investment in the expectation of improving the quality of teaching. This work is part of a research program that has the textbook as object of study and aims to know how students make use of this resource and how they evaluate it. Ten secondary school students between 18 and 56 years old participated in this study. To generate the data, a focal group was formed whose subject of discussion was the teaching of biology. The discussion was recorded in audio so we could do the analysis more safely. Data analysis reveals that, unlike students attending 'regular' education, students of the youth and adult education modality involved in the research read the texts of the book, but state that teachers do not encourage such reading. The students emphasize that the contents conveyed by the textbook are very summarized and that they are often obliged to look for other sources of information such as the internet. They also gave a very critical point of view regarding the use of images, particularly graphics. It is clear that these students use the biology book distributed by the Ministry of Education in a critical way.

A5: Biology and health

How the textbook is inserted in the pedagogical practice of teachers

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Textbooks have been present in teaching for a long time. Some authors defend that textbooks are present in classrooms daily, constituting one of the basic elements of organising teaching or elements that are present in classrooms like teachers. It is commonplace to find students and teachers carrying several textbooks every day to school, but does their presence at classes ensure their use? What roles do they play? Textbooks are teaching resources that are freely distributed by the Brazilian Federal government to public school students, by Programa Nacional do Livro Didático (PNLD) and teachers choose the books that are delivered. These were factors that motivated the research about if and how these books become part of the teacher's pedagogic practice and, if confirmed, how. The use of the teacher's guide and the way this resource might help the planning of pedagogic activities was verified too. Observations were made during biology lessons in some high schools in Sobradinho, Federal District, and questionnaires were distributed to the teachers, who were interviewed. The assumptions of Richaudeau (1979), Gérard & Roegiers (1998) and Choppin (2004) were used as research reference. The results show that the use of biology textbooks by teachers was restricted to planning the activities developed during the class, thus pointing to their underutilisation in classrooms. The roles established by teachers for textbooks were for scientific and general information, knowledge transmission, and pedagogic education. In order to perform this last role better the teacher can count on the information contained in the teacher's guide. Even so, teachers do not often use this instrument that is part of the textbook. More studies about this subject are necessary in the teaching of biology.

A6: Language

Curriculum and materials development for critical thinking and differentiation in EFL teacher education

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In this presentation, I would like to take the opportunity to share with you the design and contents of a second-year Master of Education course on curriculum and materials development for the English as a Foreign Language (EFL) classroom. One of the objectives of this course is that student teachers develop a lesson series according to the five phases of the ADDIE model for instructional design (Molenda, 2003; Van den Akker & Thijs, 2009). In addition to facilitating EFL acquisition, the lesson series should focus on critical thinking and differentiation. The questions I would like to address in this presentation are: 1. Which elements of the course appear to stimulate student teachers to incorporate critical thinking skills and differentiation in their classroom materials?, and 2. Which elements of the course appear to stimulate the development of student teachers' own critical thinking skills? Sample materials, theoretical underpinnings and student reflections will be shown to illustrate the outcomes of the course, and suggestions for future changes will be made.

A6: Language

Collective production of resources for language teaching: analysis of the dynamics and contradictions at work for a French and activist community

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The research presented here is part of the ReVEA project (Living Resources for Teaching and Learning). Between September 2015 and June 2016, we observed the activities of an activist community (Baron & Zablouk, 2015), dedicated to language teaching and affiliated to Progressive Education movements and values.

Our work is based on ethnographic observations and interviews carried out during one school year, in order to document the practices of members relative to the collection, production and distribution of educational resources based on their values. All of our interventions were videotaped or recorded.

In agreement with the members of the community, we also aimed at preparing formative interventions inspired by the change laboratory methodology (Engeström, 1987, 2011). This type of intervention aims at fostering in the community a process of reflection and innovation by helping members to better articulate their specific proposals for language teaching.

This communication will focus on the processes they developed and used relative to resources: what are the characteristics of these processes for the collective and its members?

We will also consider the dynamics characterizing the evolution of this collective: to what extent do these dynamics affect its place in the French ecosystem of resources production for language teaching?

An analysis of the historical and cultural evolution of the observed activities, based on the expansive learning theory framework (ibid.), enables us to identify a tension between the craft and the rationalized dimensions of their activities (Beauné, 2015). The question of the use of ICT seems particularly to reveal the difficulties of transforming this tension into a springboard for the development of their activities.

A6: Language

Local culture and beyond in Portuguese-produced English Language Teaching (ELT) textbooks

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The issue of how to deal with ‘culture’ in the context of ELT materials is not entirely recent and is much debated (Byram, 1997; Pulverness, 2003; Akbari, 2008). Seminal work in the field includes Kramsch (1991, 1993, 1998) who has extensively discussed the importance of culture, cultural space, the indivisibility of culture and language and learner identity. Our attention has also been drawn to the dangers of a ‘hidden curriculum’ with respect to cultural content (Ur, 1991; Cunningsworth, 1995; Hurst, 2008) or the potentially hegemonic socio-political dimension of international textbooks (Holliday, 1994; Canagarajah, 1999); Gray, 2002). However, within the context of Portuguese-produced ELT materials, research is less widely available (Hurst, 2014).

This paper will provide a historical perspective on Portuguese-produced ELT textbooks before moving to consider the current situation, with specific reference to ELT textbooks produced locally for grades 7-9 of compulsory schooling in Portugal. Regarding the definition of culture, the data is framed, at a macro-level, by reference to Braga Garcia (2009), McKay (2012) and Erfani (2014), taking into account concepts of local, target and world culture(s) as well as, at a micro-level, the socio-historical categories, such as those discussed in Byram (1993), Fenner (2001) or Serçu (2002). The principle aim of the analysis is to establish to what extent these textbooks help learners to be aware of, to understand, to evaluate the meanings and values of different language communities (including their own), and perhaps even to grasp the contested and contradictory nature of culture itself (Britzman, 2003).

A6: Language

A comparative analysis of the main themes in two textbook series used for the teaching of English in Nicaragua and Norway

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Our presentation is based on a comparative analysis of Nicaraguan and Norwegian textbooks for the teaching of English. The analysis covers several aspects such as learning goals, design and exercises, but this presentation will be limited to the themes and topics in the textbooks. The situation in Nicaragua and Norway is quite different when it comes to textbooks for the English classroom. For decades, Norwegian teachers and learners have had a variety of textbooks to choose from, specifically aimed at their needs. In Nicaragua, the first textbook series produced for Nicaraguan teachers and learners was published in 2016. Our investigation deals with this new textbook series, Secondary English Book (Illescas et.al., n.d.), and an award-winning Norwegian series for the same age group, Enter (Diskin, Winsford & Kasbo, 2015, 2016).

With reference to content analysis (Cohen, Manion and Morrison, 2007) and features of multimodal text analysis (Kress & van Leeuwen, 2006), our discussion will deal with the main similarities and differences in the themes and topics chosen, and how they may be explained. A striking difference lies in the fact that the Norwegian textbooks present substantial information about cultures and texts in different parts of the world, while the topics in the Nicaraguan textbooks seem to be chosen primarily in order to aid the development of the learners' sense of national identity and pride.

A7: Literacy

Thinking twice online: designing learning materials to enhance critical digital literacy in Danish public schools

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Young people are constantly exposed to and bombarded with a massive flow of information and multiple versions of reality in the digital media. From an educational point of view this raises a need to look for means to strengthen young people's critical digital literacy (Alvermann 2010; Buckingham, 2007; Dezuanni, 2015; Lanksheare & Knobel, 2011; Pangrazio, 2016; Selwyn, 2011). The concern is here how to help adolescents develop a critical attitude towards language and actions and to participate as democratic citizens in local, regional, national and global communities (Bundsgaard, 2009; 2017). The purpose of this paper is to discuss the design of online learning material with the aim of enhancing young people's critical digital literacy in a cross-curricular way in Danish public schools. The research question of the paper is the following: How can online learning material be designed with the purpose of enhancing adolescents' critical digital literacy? This question will be answered through a case study of a new developed digital learning material called Omtanke Online. Focus in the analysis and discussion of the case will be on the pedagogical reflections on how to develop the digital empowerment of young people in schools and what strategies to teach them. It is argued that this material can be a resource to help adolescents grow and develop resilience in their confrontation with various conflicting information on the internet and also how teachers across different subjects can use this material in effective ways in Danish public schools.

A7: Literacy

Permanence and change in literacy textbooks from the ‘National Pact for Literacy at the Right Age (PNAIC)’

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This paper investigates the transformations produced in the content and form of the literacy textbook after implementation of the federal public policy for the training of literacy teachers, at the end of 2012, called the National Pact for Literacy at the Right Age (PNAIC). This program of the Brazilian Federal Government aimed at training teachers with a view to improving literacy results in the initial school grades. It has provided 60 manuals containing theoretical and methodological guidelines on how to develop literacy processes in the first three years of elementary school. Among the manuals there are specific guidance books on special education and rural education. One aspect emphasized by the PNAIC training manuals is the systematization of the Alphabetic Writing System (SEA) and the ten properties that children need to cognitively reconstruct to understand how this system is organized. As the program was launched at the end of 2012, the books approved for the 2013 National Textbook Program (PNLD) presented systematization activities among many others. However, in the 2016 PNLD, it was possible to observe the intensification of activities that systematize the SEA, revealing the influence of the federal program. It should be noted that the PNLD is a federal program for the analysis, selection, purchase and free distribution of textbooks to public school students. In this way, it can be seen that the PNAIC influences the development of textbooks, which are part of another program (PNLD), both of federal character. From the production of the empirical data, it is possible to analyze the meanings of the permanence and changes in textbooks after the implementation of the PNAIC, the largest literacy teacher training program in Brazil.

Keywords: Textbook. Teacher training. PNAIC.

A7: Literacy

Learning through aesthetic activities

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Aesthetics exists in at least three different ways:

- as a perspective on experience, recognition and communication
- as a subject area, e.g. in philosophical aesthetics, which focuses on art and beauty as an experience and a cultural phenomenon
- as objects and expressions, e.g. melodies, dramatic scenes in a film or as everyday aesthetic expressions like decorating and laying the table

When students relate to something aesthetically it is primarily the enjoyment of form that is at play: experiencing a poem, gazing at an ornamented wall, the sensation of a backhand in tennis, or the sensation of changing moods in a short story interpreted through the selection of different colours, which fit various situations.

To experience the beauty of something or its way of being strange is about feeling and sensing the nature of something. This kind of judgement is different from analytical experience, scientific or moral judgement. In analytic activities students learn how to support empirical, theoretical or normative statements using concepts and arguments. Thus, aesthetic and analytical activities provide various ways for the student to give form to what he/she is learning about.

The didactical discussion is how to open up the subjects through aesthetic experience, and the presentation introduces a general didactic four-field model with four main activities: aesthetic and analytic activities, craftsmanship and communicative activities. The question is how a learning process and learning materials together can challenge the student through sensing and aesthetic activities on the one hand and through analytical and conceptual activities on the other. To learn and acquire knowledge about something is more than having/knowing concepts about something. Having knowledge about something can also be a result of sense and bodily attention and understanding something that analytical language does not capture.

A8: Geography and humankind

Circles of recycling: strategies for dealing with heterogeneity in the geography textbook market

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With inclusive and language-sensitive principles enjoying ever-growing importance in German public education, the pressure on dealing with heterogeneity increases. Rather than focusing on learners, this paper dedicates special attention to strategies adopted by publishing houses. What are the strategies to deal with heterogeneity in an educational market composed of sixteen federal states and at least five types of schools? What do learning materials for heterogeneous groups look like? This paper aims at analyzing the strategies that publishing houses apply when designing and laying out spreads for geography textbooks to deal with heterogeneity. Using the theoretical framework of inner differentiation, qualitative content analysis served to explore the strategies of three publishing houses. The results show no specific patterns that can be connected to any specific book series. However, they show heterogeneous ways of dealing with continuous and discontinuous elements of the spreads.

A8: Geography and humankind

How do pupils evaluate visuals in geography textbooks? Results of a qualitative analysis

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The aim of the paper is to present the results of a qualitative analysis focused on lower secondary school pupils' evaluation of visuals in geography textbooks. The authors conducted 22 structured interviews (12 open-ended questions) with pupils of 7th and 8th grade (13-14 years) of three Czech lower secondary schools. The aim was to investigate (a) whether and how students evaluate visuals in geography textbooks, (b) whether and how pupils consider visuals in textbooks with regard to their pedagogy. During the first stage of the interview, the pupils expressed their views on 11 selected visuals taken from contemporary Czech lower secondary geography textbooks. In the second stage of the interview pupils sorted visuals into groups and were asked to justify the grouping. The interviews were analysed using qualitative content analysis with open coding as a methodological tool. The data revealed that there are three perspectives on the assessment of visuals in geography textbooks among pupils: educational, aesthetical, and emotional. Moreover, the analysis showed that pupils sort visuals in textbooks (a) according to their type and (b) according to their contents. The results imply that pupils' voice can be a valuable source of information for both the theory and development of textbooks. The paper is an outcome of the research project 'Visual geographic information and its role in geographic education' (GA16-01003S) funded by the Czech Science Foundation (GAČR).

A8: Geography and humankind

Solidarity and humanitarian aid discourses in student texts

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Since 1964 the organization called Operasjon Dagsverk (Operation Day's Work, or ODW) has encouraged Norwegian students to work and collect money for one day a year ('ODW day'). This money is then donated to projects that aim at educating youth in 'needy' countries. ODW develops an annual educational program, which is used in Norwegian public schools to both motivate students to participate and to support teaching of students on global issues.

This paper discusses the ODW's 2015 educational material on sexual rights and analyzes how 24 student texts collected the week before the ODW day relate to the material. Key questions for the analysis are: How does the material appeal to the students, and how do the students respond to and reflect on the theme of sexual rights, as presented in the material?

The starting point is a mapping of what I call the ODW discourse. ODW wants to distance itself from traditional humanitarian discourse by focusing on the concept of solidarity as opposed to aid. Traditional humanitarian aid discourse is largely based on the post-colonial legacy where 'we the rich in the global North' are obligated to help “

'the poor in the global South' ('them'). ODW wants to overcome these we/them-dichotomies by promoting a global 'we' of youths.

My analysis shows that the ODW discourse is unsuccessful in replacing a traditional and hegemonic humanitarian aid discourse. The students' texts, that is, do express solidarity with worldwide youth, but they also show significant shifts in key concepts such as human rights and we/them-perspectives. In addition, the students express a strong belief in Norwegian laws, norms and values as universally applicable (in regard to sexual rights) and express a variety of emotions related to solidarity, shock and guilt in response to the action's educational material. My findings ultimately indicate that the schools could better support student learning by contextualizing the ODW actions and teaching the students critical reading and reflection vis-a-vis the ODW material.

A8: Geography and humankind

When pupils meet religious holy texts in their textbooks

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In Norwegian schools, religion is handled differently from elsewhere. The point is not to make the pupils believe in, or be affected by, any religion. They may get such kind of Religious Education (RE) in their families or in the local church, mosque or temple. At school, pupils meet across religious borders and learn about their own and each others' values and world views – religious or secular.

However, there are some challenges. One is that old religious texts seldom seem relevant to the pupils of today. Therefore they are not engaged and may get bored. To avoid this, the teachers, and sometimes the textbooks, too, try to show the pupils that the old, holy texts are relevant – for individuals as well as society today. This is an established didactic strategy, but not necessarily suitable when it comes to religion. In this subject, the pupils may need help not to engage themselves or be affected by religious concepts.

In my paper, I examine how two textbooks for thirteen-year-old pupils handle citations from The Prophets in the Old Testament and from the Quran. I find that the textbooks use different strategies to make excerpts from the Bible and the Quran interesting for young readers: one of the books asks a lot of questions, e.g. about righteousness in general, to help the reader to see the relevance of the holy texts today. The other gives more information about the historical background of the texts. I also find that both textbooks indirectly and in different ways signal that the Bible has relevance to all human beings, while the Quran addresses itself only to Muslims. Based on my findings, I propose a model for working with holy texts in multicultural classrooms – without being too appellative, or too boring.

A9: Textbooks analysis

Enabling digital textbooks for research

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Educational media are used digitally all over the world. More and more schools are embedding multimedia technologies such as notebooks, tablets or whiteboards and educational policies like the European Commission's 'Digital Agenda' are actively supporting innovative practices. Amid this upheaval, the conventional printed textbook is being replaced by a variety of digital options. Among them are many PDF textbooks as online versions, as well as interactive videos. Open educational resources (OER) can be revised, shared, and used by anyone. These developments in textbook production stretch the definition of 'textbook' and make it necessary to ask for new textbook characteristics in the digital age.

With reference to thoughts about the features of digital textbooks, the presentation focuses on their immateriality and non-linearity as fundamental questions for a suitable research infrastructure. At first there will be an introduction about worldwide developments in digital textbooks, including a display of their specifics based on current examples. Given the changes in textbook production, the second part of the talk deals with the challenges of using digital textbooks by research. This incorporates questions about the diversity of digital textbooks regarding licences, copyright and data management. Furthermore, one core attribute of digital textbooks is that they are constantly updated. If historical research is interested in all versions for the future we need an access to older textbook versions. The pressing question of the presentation is less whether the textbook will disappear and more about how educational research can be supported by facing the digital shift.

A9: Textbooks analysis

School textbooks: a barometer of the media

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Research in the field of textbooks has evolved not only through research, but also through the dissemination and publication of articles and online news. To a large extent, this has been made by research centers and international organizations in different countries of the world, providing them with visibility. We highlight, among others, centers in Germany, Spain, France, Finland, Greece, Italy, Norway, Portugal, Czech Republic, Romania and Turkey. In terms of online publishing, IARTEM (the International Association for Research on Textbooks and Educational Media) has been consistently involved in this dissemination.

Based on the assumption that in the knowledge society information is published preferably through the online media and shared by an increasingly wide audience, this paper is based on the analysis of published news and articles. As a corpus of analysis we used the national and international press in Portuguese and English between January 2015 and January 2017, but we also looked critically at the integration of digital educational resources in recent digital (multimedia) textbooks.

In a first phase, after collecting and reading about 2500 documents, a careful selection was made. In a second phase, a content analysis was carried out, identifying the most problematic subjects in this area.

We conclude with a reflection on such sensitive subjects as those related to the current debate in schools about the construction of knowledge in our classrooms. After all, textbooks decisively influence what is going on in the classroom (Hummel, 1988).

A9: Textbooks analysis

Evaluating maths textbooks: a look at the profiles of evaluators of high school PNLD

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The present work aims to analyze the process of evaluation of mathematics textbooks of the National Textbook Program (PNLD) of 2009, 2012 and 2015, based on the elements that permeate its complexity and specificity within a reflection about the historical procedure and its epistemology. Having as an investigative focus the view(s) of the evaluators on the textbook series, we seek to understand the action of the evaluators from their professional places, as well as their primary conditions as mathematicians and the context of their actions, which take place within a public policy. Taking into account the inherent plurality of the epistemological field of mathematical knowledge and the identity of the evaluators, we sought to investigate to what extent this theoretical diversity affects the evaluation of the textbooks. The investigation of the professional background of the evaluators constitutes a methodological trail that aims, above all, to identify the links of the mathematicians with the fields of mathematics and mathematics teaching. The research is a qualitative approach based on a documentary analysis of the evaluators' curricula in the lattes platform. The theoretical and methodological course evidences the academic dimension of the process of evaluation of mathematics textbooks within the National Textbook Program. The result of this work makes it possible to understand evaluation as an exercise in the production of historical mathematical knowledge, in which diverse narrative disputes and mathematical points of view overlap and delineate the evaluation of the textbooks.

Keywords: National Textbook Program; Assessment; Mathematics textbook

B1: History

History textbooks and the development of historical thinking – Analytical insights from Austria

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Recent studies have emphasized that ‘historical thinking’ as the goal of contemporary history education in school is far more appropriate to prepare students for the challenges of contemporary society than focussing on content (such as historical events or ‘facts’) and memorizing these ‘factual information’ as constituent parts of national ‘master narratives’. In this regard, international large-scale assessments like PISA have led to new educational standards and new approaches to historical thinking as key learning outcomes in the curricula in many countries including Austria and Germany.

Hence a revision of educational media has become essential. Besides the increasing popularity of digital media, history textbooks are still considered a core media of history lessons. However, today textbooks should no longer focus on the ‘stuff’, but prove their capabilities to enable students to learn how to think ‘historical’ and develop individual historical consciousness.

Nevertheless, studies concerning such textbook revision are still a desideratum in Austria and Germany. The PhD project assesses this research gap through a categorical analysis of history textbooks. The methodological approach is based on an analysis framework which is theoretically based on an established model of operationalised historical thinking (FUER). Because of their assumed key role in initializing learning processes, the research focus lies on the given tasks and work orders.

Based on the increase of national movements worldwide, the focus of research lies in the sections of textbooks where the history of the modern nation-state is told (in this case the 19th century). The question is, whether a moderate-constructivistic approach to the history of the nation can be determined in the textbooks or if it is still told as a natural, primordial objective.

The presentation will discuss these approaches in current Austrian textbooks and ask if and how the provided media is used to foster historical thinking processes.

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Nevertheless, studies concerning such textbook revision are still a desideratum in Austria and Germany. The PhD project assesses this research gap through a categorical analysis of history textbooks and approaches to history. The methodological approach is based on a sophisticated analysis framework which is theoretically based on an established model of operationalized historical thinking (FUER). Therefore, the analysis includes all constitutive elements of the history textbooks. Because of their assumed key role in initializing learning processes, the research focus lies on the given tasks and work orders.

Based on the increase of national movements worldwide, the focus of research lies in the sections of textbooks where the history of the modern nation-state is told (here the 19th century). The question is, whether a multifaceted approach to the history of the nation—including problems of inclusion and exclusion—can be determined in the textbooks or if history is still told as a natural, primordial objective.

The presentation will discuss these approaches in Austrian und German textbooks and ask if and how the books foster the development of critical historical thinking.

B1: History

Teaching materials for teaching history: teachers' perspectives

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This presents results of a research, which had the objective of analyzing the point of view of teachers regarding the production and use of didactic materials in history classes. The research participants are students of a Professional Master's Degree in History Teaching (ProfHistória), a stricto sensu postgraduate program, which aims to promote the continuing education of history teachers in basic education. The research was carried out at the Federal University of Mato Grosso (UFMT), located in the city of Cuiaba, in the central-western region of Brazil, throughout the classes of an optional course of Production of Didactic Materials and the Virtual Universe. The group consists of fourteen teachers and the specific objectives of the research were: a) to understand teachers' conception of didactic materials; b) to identify the types of materials used and produced by teachers in their classes; c) to develop a proposal for the production of teaching materials by teachers based on their demands; d) to analyze the didactic material produced by the teachers. For this, a semi-structured questionnaire applied to the teachers at the beginning of the course and the materials produced by the teachers at the end of the course were used as instruments of data collection. The research starts from the assumption that in addition to the books, didactic materials are produced in different media and that produce different results in teaching and learning, which need to be evaluated (GARCIA, 2011). Still, it is argued that these didactic materials should be considered according to the specifics of each school subject. For the analysis of the materials, it is accepted that there is a fundamental relationship between auctor and lector from the set of references (BOURDIEU, 1990), which allows us to understand the process of knowledge production in the dialogue with other authors.

B1: History

The role of the history textbook guide/ PNLD in the process of textbook selection by teachers

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The aim of the research was to analyze the use of the Textbook Guide by Basic Education teachers, in order to understand its role as a reference in the process of textbooks selection. The Guide is an online resource provided by the Brazilian Ministry of Education, which presents the results of the evaluation of books submitted to the National Book of Textbook Program (PNLD) by commercial publishers. Specialists from universities and teachers of Basic Education carry out the evaluation. The PNLD' is intended to provide information about the materials available, to verify the characteristics pointed out by the evaluators and, thus, to guide the teachers' decisions of which books to choose. Therefore, the Guide can be considered as a support didactic material to the teacher. The empirical research was carried out with History teachers of the public school system, using questionnaires and interviews. The qualitative and exploratory study was carried out during the selection process of history textbooks for 6th to 9th grade elementary school students in three rural schools of a municipality in the metropolitan region of Curitiba, capital of the State of Paraná, southern Brazil. The research showed, among other results, that for some teachers the digital format was difficult to access, since the schools are located in rural areas where internet access is difficult due to network type and coverage. For most of them, it is more interesting to examine the books than the guides. Although they value the content of the Guide, they refer to the difficulty of using the analysis in the selection process because a lot of material is evaluated in the Guide and the time available in the school does not allow a thorough reading of the evaluators' texts.

B2: Historical perspective

New educational media for socially open schooling: aspirations and reality of German educational renewal in the 1960s and 1970s

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Measuring the role and importance of new educational media for curricula and content development, as well as the societal environment which made such innovation processes possible, has been an ongoing question of educational debate in the 20th century.

The presentation aims to contribute to this debate by examining the production of new educational media for secondary schools in the context of educational renewal in Germany in the 1960s and 1970s, when a new type of schooling (Gesamtschule/comprehensive school) was introduced in parallel with the introduction of interdisciplinary curricula. The schools offered radically new perspectives for the production and utilization of new educational media in and outside the classroom, hand in hand with the development of educational television in Germany.

The presentation examines the example of the new curricula for the Orientierungsstufe (grades 5-6), the development of new learning environments characterized by interdisciplinary teaching, and the use of educational television and programmed instruction in an atmosphere of social opening of the educational sector.

It presents the results of a collaborative research project conducted by the Georg Eckert Institute for International Textbook Research in Braunschweig Germany on 'New Knowledge in New Media? Teaching Social Studies and the Challenges of Media Change and an Increasingly Open Society during the Twentieth Century'. The presentation is linked with one submitted by Jannik Sachweh.

B2: Historical perspective

The game with the past: historical knowledge in Colombian school textbooks

in social sciences (2000-2010)

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This will present the result of the analysis of contemporary school textbooks in social sciences in Colombia, according to two fundamental aspects of the theory of history today: (1) how a work of historical research is constructed on a regular basis; and (2) historical knowledge and its evolution, with special emphasis on historical aspects. The historical analysis is based on the two designated aspects of the work of historiographical Romanian historian Lucian Boia.

B2: Historical perspective

Transfer and appropriation of German pedagogic discourse in Colombia: 'Educación' magazine of the Institute of Scientific Collaboration of Tübingen and its influence on the content of teacher guides during the third German Educational Mission in Colombia

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Based on a comparative and historical point of view, this presentation analyzes the influence of concepts, approaches and pedagogical theories published in the journal 'Education', of the Institute of Scientific Collaboration in Tübingen (1968-1999) and its influence on the content of the guides for teachers of the Third German Pedagogical Mission in Colombia (1968-1978). The relationships between German and Colombian pedagogical cultures are studied through the influence exerted by the journal 'Education' on the development and production of educational materials (teaching guides, guides for students and school textbooks) in language arts, mathematics, natural sciences, craftwork, and music. The period of influence studied goes from 1968 through 1978.

B2: Historical perspective

The language issue! Representations of the Finnish Civil War 1918 in history textbooks (1960–2011)

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The Finnish-speaking majority and members of the Swedish-speaking minority participated on both sides in the civil war, although the Swedish-speaking minority is historically associated with the non-socialist, conservative-led senate and the paramilitary white guards – the conquerors. The main object of this history textbook analysis is to compare Swedo-Finnish and Finnish narratives of the civil war as a national collective trauma (Ylikangas, 1993). The underlying premise of this study is that civil war is a problematic topic to address in history textbooks. The textbooks are per se consensus-oriented and have the overarching aim of maintaining or producing a conception of a unified society (Williams, 2005; Foster, 2012). The fact that civil war divides a population in two parties – conquerors and defeated – is in this perspective considered a problem.

Theoretically the paper takes as its starting point that curricula and textbooks are authoritative texts, expressing the dominant ideology in a community (Englund, 1986; Apple, 2004). As such, they help to maintain and negotiate certain views on historical events and processes (Foster, 2012). Although this assumption is an established idea in curriculum studies the paper focuses on differences in textbook material, which have ideological implications. A mixed method, with both qualitative and quantitative methods, is used in the analysis of the content of textbooks.

The results of the analysis show that the national trauma and the suffering of the defeated red soldiers and civilians are more prominent in the Finnish textbooks than in the Swedo-Finnish textbooks. This is expressed by more expressive photography and illustrations of white execution squads shooting defeated red paramilitary guards and of female red soldiers. The Finnish textbooks also have a more frequent use of explicit and metaphorical description of trauma, where terms such as bottomless gaps, deep wounds, bitterness, hatred and revenge are used. This type of illustration and use of metaphorical expressions are almost absent in the Swedo-Finnish textbooks.

B3: Music

Music teaching materials and their evaluation

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Background The main problem is the issue of dependency that textbooks can generate with respect to certain aspects of teaching such as curricular planning, the development of didactic units and/or their sequencing, the carrying out of projects or workshops, and evaluation. Publishers provide the standard didactic guideline, projects, programming and didactic units which teachers can use more or less intelligently. The consequent contextualization bias that this entails can be a difficult problem to overcome. Hence, the interest in understanding didactic materials and being able to choose them with knowledge of what they can contribute to our teaching strategy.

Aims. On the one hand, we analyze the methodological formulation of published materials. We aim to find out if the materials that we use offer varied teaching strategies, if they are based on active musical methodologies, and so on. Here we analyze the learning process with respect to external determiners (specific goals, challenges, feedback or distractions) and internal determiners (the relationship between skills and the opportunity to develop them, concentration or distraction of the resource itself and its ability to lead us to an optimal learning state).

We wish to know the difficulties or facilitating aspects of the curricular planning, development and evaluation of textbooks.

Main Contribution The evaluation of teaching materials involves the analysis of the final product: a didactic program which is usually subject to a curriculum established by the competent government. In general terms, evaluation guidelines for didactic materials are rare. A program for evaluating material provides an evaluation of the strengths and limitations of the educational system and its teachers.

Implications The knowledge, use and evaluation of teaching and music materials is directly related to teacher training. The type of material used in music is conditioned by the teachers' professionalism in their choice ability.

B3: Music

Changing teaching practices with digital media? The case of music education

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This presentation will focus on digital tools and media in a specific educational universe: French conservatories. More precisely, I will examine some similarities and dissimilarities between general education and this world. About the first, it is often said that using digital tools would necessarily lead to a deep transformation of teaching practices, to facilitate collective work between teachers, and to foster learners' motivation, among other desired benefits. Can such a situation be observed for music teaching and music schools? In a world often considered (in France) as very conservative, is technological innovation associated with innovative pedagogical methods? What is, moreover, considered as innovative? In order to clarify as far as possible this complex set of tools and media, I will briefly present a typology of educational tools and media for music education, based on Mœglin (2005).

Beyond this first set of questions, I will focus how digital tools are promoted in this world. Are they prescribed – as is the case in general education by official instructions and diverse forms of recommendation – in a top-down way? Are they recognized by chance from grass-roots initiatives? Such a question deserves to be considered in this particular world, whose institutional organization differs widely, in its diversity, from the very institutionalized structure of general education (see, for example, Dubet 1992).

This presentation is based on a PhD thesis recently defended (Levoïn 2015), which relies on fieldwork in music schools, and critical discourse analysis work.

B3: Music

Which culture is transmitted in music textbooks?

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The research demonstrates a perspective based on critical and post-critical pedagogies regarding cultural transmission in the primary school music curriculum of the País Valencià, being this one recognized from the emptying and analysis of the textbooks in this discipline. This qualitative investigation, in which content and discourse analysis are the main methodology tools showed how the textbooks are clearly tools of transmission of an androcentric and patriarchal culture with a Eurocentric world view that has not breached the walls of the colonialism, and which relates to other cultures and popular culture only from a distance and by means of exoticism. Furthermore, we note that this pedagogical tool feeds the alienation of the subjects, fomenting the individual work of teachers and students. This culture reproduces a mechanical and technical school model where the value of knowledge is decided by major publishers corporations and resides in the pages of a book that have the function of transmitting and reproducing the dominant hegemonic culture. Moreover, this study has contributed to showing the importance of textbook analysis in teacher training.

B3: Music

How are the didactic materials for Brazilian five-course guitar written? textbooks and educational media in the teaching of stringed instruments

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This report is part of the research under development in the Music Master's Program of the Federal University of Paraná – UFPR. The investigation analyzes the content of printed and virtual didactic materials for Brazilian five-string-course guitars (known as Brazilian viola), mainly in musical notation, with the purpose of investigating: privileged aspects of these materials; what use may be made of them; to whom they are directed; what information they carry; which music points are chosen for registration and which are excluded; as well as understanding if the form of distribution of information is appropriate. Subsequently, a discussion is presented of the possibility of making a method for Viola Caiçara, an instrument not yet explored by five-string-course guitar instructors, because it is limited to a restricted local culture of the south coast of the state of São Paulo and the north coast of the state of Paraná. The theoretical framework of this research is based on researches related to traditional music culture as well as authors that understand textbooks as privileged objects for research, since they have reference, instrumental, documentary, ideological and cultural functions (Choppin, 2004).

B4: Physics and Climate change

A ReVEA project case study: French physics and chemistry teacher profiles and their work with educational media

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What do we know about what teachers do before they teach their students? In this vague area, when students' activity has yet to take place, teachers may redefine their tasks in a thousand ways between resumption of the same and creation of new materials. Understanding teachers' preparation phases and the resources they use is one of the aims of the ReVEA project. More precisely, this project seeks to document the various modalities of teachers' activity and their motivation. It questions in particular the modes of organization, the means and tools used to search, select, transform, and save resources.

Neither the data nor the intermediate steps in the production of resources are readily available. What we get by means of interviews are partial and subjective. However, our results show a large variability of practices.

To illustrate this result, we focus in this text on eight physics and chemistry teachers all teaching in French secondary schools. We present their profiles obtained by means of semi-directive interviews, a few classroom observations and sometimes activity sheets given to students. We describe how they search and select between a multitude of pedagogical resources, how they take into account different time scales (the next classroom session, week, annual schedule), how they transform the resources, and in what way their work organization evolves or stabilises (storage, format).

We try to understand the influence of training, heritage, important encounters, interest centres or the institutional or material environment (national curriculum, educational establishment, lab materials). Finally, it seems that independently of the constraints in their environment, teachers are mostly guided by personal motivation.

B4: Physics and Climate change

A quantitative analysis of Brazilian high school physics textbooks –

students' opinions on qualities, themes and focus

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The purpose is to identify some characteristics of Brazilian high school physics textbooks according to students: (a) the most and least important qualities of a textbook, such as images, summaries, diagrams or digital multimedia content; (b) favorite themes and focus, such as easy experiments, mathematical focus, uses of cartoons or sport contexts. With this aim a cross-sectional survey was used, with questions based on previous qualitative studies. The data was collected through questionnaires given to 374 students from five Brazilian regions, between 2012 and 2014. With this data, it is possible to recognize differences among subsets, such as regional or gender differences. The Brazilian results are similar to some international results, such as weight and electronic content are not important qualities (Dake 2007; Nogova 2011), although some other researches identify a student's preference for e-textbooks (Moravec, Pešková 2016). The less important qualities according to students are the weight of the textbooks, group tasks, and digital multimedia content. On the other hand, the most important qualities are abstracts and diagrams and not having misconceptions. The less important themes and focus are biographies, historical contexts, group activities, and newspaper and magazine articles. The most important themes and focus are admission test exercises, technology and easy experiments. The subsets comparison shows that the main differences are in gender, with 12 variables, including mathematical focus and technological products operation (more desirable by boys), and digital multimedia content, artistic works and short texts focused on content (more desirable by girls). Other differences are in age and type of school. Older students are more interested in themes that could be useful in their lives; exercises are more important in private schools; and images, links, digital multimedia content, and group tasks are more important in public schools.

B4: Physics and Climate change

The complexities of climate change in Norwegian primary school textbooks

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This paper explores the semiotic representation of climate change as a topic in Norwegian textbooks for primary schools.

In international politics, climate change has been and is still a complex issue, characterized by conflicts of interest, unclear consequences and several possible solutions with uncertain results (Hulme, 2013, pp.1-11). Within the field of climate science, the concept of climate change has also been constantly reinterpreted since the first IPCC report in the early 1990s (Hulme, 2013, p.8). Furthermore, it is a circumstance that is not wholly a natural phenomenon in a traditional sense, but rather something that arises where human culture and social interaction intersects with nature (Ekström & Svensen, 2014, p. 18). This complex and cross-disciplinary nature makes climate change a challenging topic for education, but it can also be a source of renewal (Knain, 2015, p.111).

The aim of this study is to explore new perspectives on how the complexities of climate change has been construed in Norwegian textbooks for upper primary schools, and how these representations relate to broader discourses of both climate change and school science.

My research draws on the fields of social semiotics, critical discourse analysis and science literacy (Fairclough, 1992; Knain, 2015; Van Leeuwen, 2005).

several possible solutions with uncertain results (Hulme, 2013, pp.1-11). Within the field of climate science, the concept of climate change has also been constantly reinterpreted since the first IPCC report in the early 1990s (Hulme, 2013, p.8). Furthermore, it is a circumstance that is not wholly a natural phenomenon in a traditional sense, but rather something that arises where human culture and social interaction intersects with nature (Ekström & Svensen, 2014, p. 18). This complex and cross-disciplinary nature makes climate change a challenging topic for education, but it can also be a source of renewal (Knain, 2015, p.111).

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My research draws on the fields of social semiotics, critical discourse analysis and science literacy (Fairclough, 1992; Knain, 2015; Van Leeuwen, 2005).

B4: Physics and Climate change

The physics and science textbooks in focus: a decade of academic production revisited

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This presents the results of work that aimed to compile, analyze and categorize researches by teachers and students of the Postgraduate Education Program of the Federal University of Parana into various aspects of physics and science textbooks. The initial time frame was 2006, in which the process of evaluation and distribution of textbooks began for high school students via the Brazilian National Textbook Program (PNLD). The results of these researches were presented in dissertations, theses, periodic papers and events, that served as empirical material for analysis. During that period, many themes were approached, in which the relation between textbooks and teacher training is highlighted, as well as the study of contents and themes covered in the textbooks, the selection criteria and teachers' usage strategies, the presence and role of digital resources incorporated in the textbooks, the multiple and mutual influences exerted by local culture on the use of textbooks, and the textbook as a market element. Furthermore, during this decade of investigations, from 2006 to 2016, a growing articulation among the researched themes started to emerge, through which more complex relations were established between the studies regarding textbooks.

B6: Language

Getting the best of all worlds in classroom materials for tertiary ESP

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In this presentation the author describes the background, principles and pitfalls of material design for English for Specific Purpose (ESP) courses. Foreign language teaching in the 'post-method era' strives for an ambitious format that reflects current trends of autonomous learning, collaborative learning, scaffolding and CLIL, develops creativity and critical thinking while combining traditional and new media. Building on these approaches and incorporating their elements into ESP materials effectively and in a purposeful manner presents a daunting task to the authors. ESP at tertiary level is a domain where the identities of learners (both their language and academic identities) are a powerful instrument that has to be taken into account and developed to maximise learning. The aim of this presentation is to offer an insight into the background, starting points and process of material design in tertiary ESP, which draws on research into identity in language learning and shows examples of materials designed to meet the current requirements regarding teaching materials.

B6: Language

Printed vs. electronic textbooks: the offer of multimedia in foreign language textbooks

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What is the advantage of e-textbooks over printed textbooks for foreign language teaching and learning? How do foreign language e-textbooks differ from printed textbooks as for the occurrence of (multi)media? What didactic potential does multimedia offer in e-textbooks? Based on the example of foreign language textbooks, the paper aims to answer these questions by comparing electronic and printed textbooks used in Czech lower secondary schools. In the Czech Republic, although the market of e-textbooks has grown in recent years, their didactic potential is still unclear as most e-textbooks offer only a limited amount of multimedia and additional content in comparison to printed textbooks. In this paper, we present the results of an analysis of electronic and printed counterparts of selected current English and German as a foreign language textbooks. More specifically, we focus on the frequency and didactic potential (type of activities, subject matter, instructions for learners and teachers) of multimedia occurrence in the e-What is the advantage of e-textbooks over printed textbooks for foreign language teaching and learning? How do foreign language e-textbooks differ from printed textbooks from the point of view of their multi(media) content? What didactic potential do multimedia offer in e-textbooks? Based on the example of foreign language textbooks, the paper aims to answer these questions by comparing electronic and printed textbooks used in Czech lower secondary schools. In the Czech Republic, although the market of e-textbooks has grown in recent years, their didactic potential is still unclear as most e-textbooks offer only a limited amount of multimedia and additional content in comparison to printed textbooks. In this paper, we present the results of an analysis of electronic and printed counterparts of selected current English and German as a foreign language textbooks. More specifically, we focus on the frequency and didactic potential (type of activities, subject matter, instructions for learners and teachers) of multimedia occurrence in the e-textbooks. The analysis will be approached both quantitatively (providing an overall view on media occurrence) and qualitatively (providing a deeper view on selected examples of multimedia). The results will be discussed in relation to current theoretical and empirical studies (e.g. Mayer, 2009; Plass & Jones, 2005).

B6: Language

The Common European Framework of Reference for Languages and its influence on Spanish textbooks in the National Textbook Program (PNLD)

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This research analyzes Spanish textbooks for high school classrooms in the National Textbook Program (Programa Nacional do Livro Didático - PNLD). Spanish language has been object of great economic interest in the past decade, especially regarding its commercialization as an international language, and Spanish teaching as a foreign language. In this process, Spanish textbooks have an important role in foreign language teaching. Most adopted textbooks for Spanish teaching in the Brazilian context are under the Common European Framework of Reference for Languages. However, the recent inclusion of modern foreign languages in the National Program produced a reconfiguration of these materials. In order to follow the demands of the Program, the Spanish textbooks must follow the criteria for high schools in the official documents that guide national education, and the books must contribute to a critical reader formation. Thus, they have distanced themselves, a priori, from the approach of most Spanish as a foreign language textbooks, which are guided by the 'centripetal force' represented by the Common Framework. In this context, based on Bakhtin's circle theory of language, this research analyzes these books against the framework's theoretical references. This research assumes that language teaching in regular schools focuses on different goals than those in a language center. Therefore, the research reflects on how the materials distributed by the National Program aim at achieving these objectives, since they address a very distinctive reality – Spanish teaching to Brazilian high school students – and they must consider its peculiarities.

B6: Language

For ‘concrete and immediate applications in the classroom’: A linguagem didática no ensino moderno and teacher training for the use of teaching techniques and methods (Brazil, 1960)

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How have teachers been instructed for actual classrooms? What guidance have they received for the use of methods and didactic materials? This report intends to examine these questions using a pedagogic manual entitled *A linguagem didática no ensino moderno* as reference. The manual was conceived by Luiz Alves de Mattos and was edited in Rio de Janeiro (Brazil) by Editora Aurora in the 1960s, covering, in its 143 pages, the subjects for the discipline ‘Didática Geral da Faculdade Nacional de Filosofia’ (Brazil) at that time. The mentioned school was responsible for the graduation of teachers in the so-called ‘magistério’ – nowadays known as ‘pedagogy’ – and the lessons from the manual were established for studies in six classes from the discipline. The main text for the manual is divided into four sections: didactic language; didactic exposure, didactic interrogatory, and language and experience. The author signals his interest in guiding ‘concrete and immediate applications on classrooms; it is a text presented in practical and functional terms, as such, being useful to all teachers’. His scripts allow us, in this perspective, to know some ways proposed for teachers on techniques and methods of teaching. Taking into consideration that Mattos’ book, aside from contemplating the lectures at Faculdade Nacional de Filosofia, also discussed themes predicted for *Escolas Normais e Institutos de Educação*, which leads us to think about the great influence of his work. It is, nonetheless, a valuable resource for asking whether teachers know the prescribed topics of their own courses; in particular, the topics referring to their pedagogical training.

B7: Digital textbooks

Digital learning resources scaffolding project-based learning

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This paper presents results from a two-year project involving eight liberal schools. The schools have been experimenting with the use of digital learning resources in project-based learning, focusing especially on inclusion and innovation. In the present sub-study we examine the role of digital learning resources in scaffolding project-based learning. We draw on a mixed methods approach combining a quantitative base-/endline-measurement (teacher surveys and structured observations) with qualitative data including video observations, systematic collecting of students' products, and interviews with students, teachers, school consultants and school principals.

In a precursor to the present study it was demonstrated that teachers' scaffolding in project-based learning has statistically significant effects on students' use of academic language and reasoning; on their way of collaborating; on the quality of their products; and on their scores in tests on 21st-century skills (Illum Hansen and Bundsgaard 2016, 26; cf. also Devolder, van Braak, and Tondeur 2012; Azevedo and Hadwin 2005; Pea 2004).

In the present study we focus specifically on the use of digital learning resources in scaffolding students' development of what we call "project competencies", i.e., cross-curricular competencies of inquiry, production, process management and reasoning (Mikkelsen et al. 2015). The broad set of data allows for a multi-faceted analysis looking at a range of topics including changes in the use of learning resources over time; differences in scaffolding practices between teachers, disciplines and school types; teachers and students' reflections on scaffolding and learning resources; the impact of learning resources and scaffolding on students' collaboration and on their products; and the situated interplay between the scaffolding function of the learning resources and the scaffolding actions of the teacher in relation to the students' self-directed learning. The scope of the study is to provide new insights into the design of digital learning environments that are both inclusive and innovative.

B7: Digital textbooks

The Problem and Status of Digital Textbook in Japan

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Textbooks are published as paper editions in Japan all of which are approved via the Ministry of Education, Culture, Sports, Science and Technology's certification.

Many teachers use official approval textbooks at school while teaching.

In this situation, the reviewing has started regarding whether the digital materials which based on textbook are certified to "Digital Textbook" or not.

In "Ministry of Education's final summary of review meeting regarding position of Digital textbook", there are 4 educational advent of the ICT utilization.

1: We can get a large quantity and various kind of information. We can also review the information after arranging and analyzing it in class.

2: We can customize it easy.

3: We don't have to think the time spatial limitation into consideration because ICT let us accumulate a sound, an image, data and transmit and receive.

4: ICT device has interactively to be able to exchange information wherever you teach.

In other words, it supposes their intention will make use of these specialities and to promote practical use in case of contribution have maximum chances of scholarship more than paper textbooks. The situation is matched with the practiced demonstration by author.

However, there are following 4 problems found by preceded situation for importation digital textbooks.

1. Whether there are enough devices to go around or not
2. Whether all teachers are able to manage or not
3. The digital textbook is free-of-charge or not

4. Whether digital textbook for a scholar and for a coach will be unified or not

There are following two points of ICT education in Japan.

At first, we don't have enough tablet devices for teacher's training. Not all the teachers (in Japan) can learn and progress their teaching skills with ICT devices (in training). Thus, it is to be difficult to improve the ICT utilization leadership of the teacher. Then, the digital textbook for leaders is integrated with a digital textbook for learners. The utilization scene by the class is limited, and it in this way comes out to become easy to get the common understanding in the school.

However, I expect these problems could be solved if tablet terminal environment improved. In addition, I suppose (even we use it free or not free,) we will be have more opportunities to use tablet devices in schools when the price of them becomes reasonable.

Based on these situation, the key points in ICT education is how to solve the above mentioned problems with making the most of ICT advantages.

B7: Digital textbooks

Textbooks and companion websites: investigating transmedial coherence

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Since the introduction of the current curriculum in 2006 with its emphasis on digital skills the main Norwegian publishers have supplied their textbooks with companion websites. The increase of resources, media and platforms adds a complexity to the educational media systems that might lead to fragmentation.

For some years, practically all students in Norwegian upper secondary schools have had access to a personal laptop. In classrooms, digital educational resources are now as widely used as textbooks (Norwegian Centre for ICT in Education, 2013). However, the ICT share of the resource mix is not increasing, and the report from the 'ARK&APP' project suggests that a mix of paper-based and digital resources will be the normal configuration for some years to come (Gilje et al., 2016). While textbooks seem to provide learners with structures for autonomous work and teachers with structures for planning, ARK&APP's classroom studies find that when using digital material from different sources, the teacher is indispensable for helping learners integrate the knowledge.

In this paper I will present how we can investigate transmedial coherence in educational media systems using text linguistic concepts like cohesion and coherence (Beaugrande & Dressler, 1981; Halliday & Hasan, 1976; Hasan, 1989) and supplement this text-oriented approach with perspectives from Eco's reception theory (Eco, 1979, 1994). An investigation of transmedial coherence in five textbook–website systems for Norwegian as a school subject shows that the systems instantiate different 'model authors' or 'voices' and that the different voices in a system often are fairly autonomous. Another finding is that the digital resources provided as companion to the book tend to neglect the associated textbook as a relevant source of knowledge for working on assignments. My research indicates that the teacher must be experienced both as a teacher and as a user of the systems to be able to integrate and actualize the learning potential of the resources in these cross-media systems.

B8: Policies and textbook production

New textbooks for democracy? Educational politics and textbook production in the

Free State of Braunschweig in Weimar Germany

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The presentation focuses on the question of how the transformation of society and correlating changes in educational politics caused or influenced developments in textbook production and vice versa. Following the Great War the Weimar Republic faced tremendous challenges and at the same time great opportunities to democratise its people. One of the ways thought to be appropriate was to rewrite textbooks such as those used in history teaching. The Free State of Braunschweig is an ideal field to pursue historical research on this topic: the numerous changes in social democratic and bourgeois governments were followed by several decrees that changed the directives in school teaching. Religious education was excluded and then re-included several times in the schools. New textbooks were produced and specifically designed to suit the purpose of the respective government. The newly founded 'Institute for educational science' was intended to lead the way towards a totally new school system in a spirit of a democratic state. This institute also started with a distinct international approach and included research on new media such as educational film.

By comparing the political actions and ideas to those of the scientific institutions and publishing houses it will be shown how a new school for democracy was negotiated and which types of media played the key role in the process.

The presentation shows the first results of one of the case studies in the collaborative research project focusing on 'New Knowledge in New Media? Teaching Social Studies and the Challenges of Media Change and an Increasingly Open Society during the Twentieth Century' conducted at the Georg-Eckert-Institute for International Textbook Research. This presentation is linked with the one submitted by Steffen Sammler.

B8: Policies and textbook production

Has the use of classroom teaching and learning resources changed? An analysis of TIMSS Studies 2007-2015 data on the use of resources

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This paper reports on an analysis of the questionnaires data from TIMSS Studies in 2007, 2011 and 2015 regarding the use of classroom teaching and learning resources in mathematics and science lessons. Comparing data from the three studies the main question was formulated as follows: What changes can be tracked regarding the frequency and way of using the classroom resources? Is the change really happening? Can the transition to digital resources be tracked and confirmed based on the TIMSS data?

Three specific research questions included: 1) 'How often do the teachers ask students to read their textbooks or other resource materials in science lessons?' 2) 'How often do the students use a computer/tablet for schoolwork at school?' and 3) 'How often do the teachers have students use a computer for doing specific activities in science and maths lessons?' First, the TIMSS data regarding classroom resources use were identified in International TIMSS Databases. The data were sourced from large-scale teachers' and students' surveys conducted by TIMSS. Next, the countries were selected that had participated in all three studies, to be able to compare the data. The sample thus included 26 countries for 4th-grade data analyses and 28 countries for 8th-grade data analyses. For statistical analyses of differences among the findings from the three years the non-parametric Mann-Whitney tests were applied. The results suggest a relatively high level of constancy in using the resources both among different countries and in international average outcomes. No significant differences have been proved regarding the frequency of reading textbooks in science lessons in the course of time. Although the students reported an increase in using computers at school, the data from teachers on specific student activities with computers did not back up the conclusion.

B8: Policies and textbook production

Shared course designs in digital learning platforms: affordance and patterns of design

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With the nationwide implementation of learning platforms (LMS) in the Danish public school, teachers' course designs have become shared and visible overnight. The platform designs offer similar yet different affordances vis-a-vis both course design and sharing functions that invite teachers to view, share, re-use and remix course designs and eventually collaborate on them. The sharing can be done individually, within the particular school, school district or nationwide – depending on both the platform and teachers' preferences. Hence, the digital platforms give us a unique opportunity to study teachers' course designs and use of learning resources.

Depending on the policy of the local school authority teachers are 'encouraged' to design and share courses in the platform and thus to explicate learning goals, activity sequences, learning resources, and assessments of student work (Binkley et al. 2012; Bures et al. 2013). We are interested in exploring if the course design practices in the platforms with their affordances favour task designs that aim at the training of skills rather than student-centered, inquiry-based or knowledge constructing learning. Furthermore, we aim at characterizing practices concerning design of student tasks and use of learning resources in the platforms.

Our research question is:

What characterizes teacher's course design in the digital learning platforms, i.e. the didactic principles and theories of learning underlying the course design, setting of learning goals, design of student tasks, and selection of content and use of learning resources?

We present the results of our analysis of the 100 nationwide most shared course designs across subjects within three different platforms. In our analysis, we draw on theory of teaching (Graf 2017), theory of learning resources (Hansen/Gissel 2017), the concept of affordance (Gibson 1979) and previous empirical studies on teaching, task design, and the use of educational resources (Hansen/Bundsgaard 2016; Hansen, Bremholm & Slot 2017).

B8: Policies and textbook production

Digital resources production and differentiation among design students

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Differentiated instruction is a major challenge for higher design education. Indeed, it responds to the need to define for each student a singular work territory. This implies an adapted differentiated teaching approach focusing on groups as much as on individual student needs.

In this paper, we present a process of resource production by students for students supported by a differentiated instruction approach through creative-watch and curation. Resources are considered, in this context, as elementary 'grains', irreducible and reusable educational materials.

We study a creative-watch and curation-based on-line educational platform in which students post about design projects. Those productions are resources in two ways: first as they support the learning of creative-watch and curation, second because they become resources for the student groups.

Our analysis focuses on two groups of graduate students in design (16 and 18 students) and their two lead teachers over a one-year period.

Our questions are focused on two levers of differentiated instruction: content and production.

In order to carry out a cross-analysis we use three kinds of data collection: through semi-directive interviews with lead teachers we document instructional and assessment strategies, especially the moderation process, students' competences progress and management of students' profiles. Through focus groups with students after their participation, we document resources consultations and their subsequent use and selection of the curation content.

Data from the platform help qualify students' pathways. The information collected relates to design domains, themes, sources and consultation frequency. We analyse our material in a thematic way and use the 'three levels pyramid' method combined into a quantitative analysis of the platform data. Early results show that students use cross-adjustment strategies such as militant motivations during curation to influence their peers' design culture.

B9: Primary

On which online resources can primary teachers rely to teach a new subject? The case of informatics in France

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In France, until recently, informatics has not been considered a specific subject in primary education and, accordingly, almost no teacher training has been organized in the past 15 years. But, since last October informatics has entered the curricula of primary schools even in the early years. As a result, primary teachers are under pressure. How do they cope with such a situation?

This paper, based on the DALIE1 research project, examines to what degree and how primary teachers rely on online resources to teach this new subject.

The French Ministry of Education currently offers a limited number of resources concerning programming and algorithmics for the new 'computing' curricula. Besides these official resources, three main types of (re)sources are available both online and in printed form:

1. Some free resources are guaranteed by computer scientists. They are scientifically exact because they are based on the work of researchers.
2. Private initiatives, such as 'La main à la pâte', a semi-official institution endowed by the French Academy of Sciences, publish types of practical textbooks. Their main interest at the moment is in programming robots. Their style is relatively directive, probably in order to be accessible for a majority of teachers.
3. Finally, informal resources may also be found on the internet.

Early analysis of the data collected from the DALIE project showed that experienced teachers rely on their pedagogical knowledge and on informal networks to create original solutions and their own resources, even though they are not familiar with informatics. The situation is more complicated for the least experienced teachers. Nevertheless, as no specific training has yet been provided, the risk still exists that educating young students about the digital world will not really be addressed within the school system but outside of it, by private initiatives.

B9: Primary

The homework space: two distinct orientations to homework-based learning resource design and development

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Homework can be described as an enculturated expectation of our schooling discourse both nationally and internationally (Horsley & Walker, 2013). It can also be defined as 'independent learning to complement work that is undertaken in class' (Queensland Government, 2006, p. 3). From country to country, classroom teachers set and provide homework for their students. However, in Australian primary school classrooms, the provision of homework tasks is not supported by the use of textbooks or by textbook activities.

Rather, the classroom teacher is responsible for the design, development and implementation of homework-based learning resources. They do so through the use of a generalised model (Richardson, 2013) for resource development practice; a 'systems-down, classroom-up' model that contextualises resource development through teacher articulation of resource purpose, resource type and the source of the materials for the resource. Teachers' views about each of these aspects – combined with the specific teacher practices used – inform the design and development of homework-based learning resources.

This paper revisits the 'systems-down, classroom-up' resource development practice model favoured by Australian primary classroom teachers and advances understandings about the way classroom teachers develop homework-based learning resources. The paper foregrounds and describes two very distinct orientations to the way in which the teachers use the model to design and develop homework-based learning resources. Both orientations have emerged through the findings from qualitative, classroom-based research that examined teacher homework practices in the Australian primary school context. The first orientation that is presented describes the design and development of homework-based learning resources by 'early years' teachers (those working in Prep – Year 3). The second orientation articulates the design and development of homework-based learning resources by 'middle years' teachers (those working in Years 4 – 7).

B9: Primary

The crisis of patriarchy in primary school textbooks

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This paper takes its point of departure in a textbook assessment that was carried out by the Swedish Schools Inspectorate in 2010, focusing on fundamental values in chemistry textbooks used in 14 primary schools, years 4-5. The aim is to further explore and discuss the results of the Inspectorate's analysis, highlighting some thought-provoking cultural identities and discourses, as part of Swedish self-image, and to discuss these identities and discourses on different contextual levels. First, they can be seen in the light of recent (Swedish) debates on children's books, identity politics and national values. Secondly, they can be discussed in relation to worldwide social changes, sometimes referred to as the end of patriarchy and the crises of multiculturalism, with the rise of an extreme right-wing populist culture in the wake, maybe to be called 'the revenge of patriarchy'.

The study presents parts of the material that were not included in the report, and also compares the results with primary school textbooks published since 2011. The cultural discourses that are the foundation are specific images of Swedish gender equality and Swedish antiracism. The first image identified in the material presents a reverse gender hierarchy, where men tend to be subordinated, whereas the second is hidden in an inherent white structure in the textbooks. These Swedish self-images are then deconstructed within the field of critical race and whiteness studies. Thus, the textbook texts are made visible as discursive documents of their time, revealing traces of the past as well as a special orientation towards the future, that already a decade ago indicated the mentioned changes in society.

B9: Primary

The role of printed textbooks in the content and methods of primary education

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The presentation presents the findings of research into the influence of textbooks on teachers' decisions about the content and methods of their teaching, especially in comparison with other materials and factors. The survey of this study was realized by an online questionnaire in which 592 teachers participated. The results of our study, like many before, appears to confirm that printed textbooks are still essential. A closer look at the data indicates that teachers are willing to work with other resources; however, in reality they do not do this very often. For example, the average use of encyclopaedias and educational software in primary science and social studies lessons is surprisingly low. According to the result of the research, a new challenge for the designers of textbooks is to create materials that enable teachers to put finishing touches to the textbook framework and allow them to feel free to decide on using additional materials or resources according to their own beliefs about the proper way of teaching. The challenge for pedagogical education could be to help future and current teachers to reflect their beliefs and develop their skills. Furthermore, teachers should be trained to use different sources to fulfil the systematic goals of instruction.

C1: Selection and approval

Coordinates of textbook research

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Textbooks are essential tools for science and geography education, which is why there is a rich tradition of academic research dedicated to them. However academic interest in textbooks often waxes and wanes and the research itself is frequently descriptive with its methodologies lacking in innovation. What are the reasons for this lack of continuity? What methods are used in textbook research? What is the main theoretical foundation for textbook research and what methodologies does it contribute to? This paper seeks to answer these questions by examining the content, level and methods of selected studies dedicated to biology, chemistry, physics, science and geography textbooks and by including examples from those studies.

C1: Selection and approval

Development of textbooks, study tools and the National Educational Portal

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The presentation is about a content development project that has been carried out in recent years in Hungary. New experimental textbooks have been prepared for almost all subjects at all elementary and secondary levels. New digital materials have also been added to the textbooks, and all materials have been made available for teachers, students and parents via a new public education portal. The most important novelty is that final versions of the textbooks have been accomplished as a result of a three-year development process. In the first year the first versions of the textbooks were made, in the second year the experimental textbooks were tested in schools, and in the third year the textbooks and digital materials have been revised on the basis of the opinions and suggestions of teachers and students.

The survey of teachers' opinions was carried out in via questionnaires, focus group interviews and workshop sessions. Based on these data, summaries were made for the editors. In addition, 30-50 teachers per textbook recorded their experience in the form of a weekly online log. Teachers evaluate the texts, tasks, layouts, visual elements and other didactic tools of each lesson in the textbooks. As a result of this process, the teachers' judgements of the textbooks significantly improved. The average score given by grade 1 teachers before and after the revised version grew from 6.59 TO 8.21, in grade 5 from 5.75 to 8.15, and in grade 9 from 5.53 to 8.0.

The project has also provided the possibility of collecting many direct experiences and research data about teachers' textbook usage.

C1: Selection and approval

The selection of textbooks by teachers of settlement schools: criteria, dialogues and tensions

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This reports the results of research that aimed to analyze the processes of textbook selection in countryside schools by teachers in schools located in Agrarian Reform Settlements, in southern Brazil. It presents the Countryside Education and Rural Education as two distinct paradigms of education for the Brazilian countryside. It analyzes schooling and its elements based on the assumptions and propositions of the Countryside Education and the MST Education project, in dialogue with the concept of the 'social construction' of the school (Rockwell and Ezpeleta, 2007). It analyzes the conditions in which textbooks are chosen and the criteria used by teachers and it establishes relationships with the coexisting education proposals in the school, that is, the proposals produced by the Municipal Education Department of the municipality, the MST Education project and the Countryside Education proposal. This empirical work was carried out in settlement schools. The information was collected via questionnaires and interviews with teachers of the initial years of Elementary School, in addition to participant observation. The analysis was articulated around two categories: a) tensions between autonomy and imposition in the decision processes regarding textbooks and b) dialogues and tensions between coexisting educational proposals in Settlement schools. The analysis showed that: the changes in the specific program for countryside schools lead to a reduction in the participation and autonomy of educators in the choice of school systems; the presence of different proposals establishes tensions between the choices made, reducing the presence of the MST propositions and strengthening official proposals of the municipality and the Federal Government; the criteria pointed by the educators value the presence of the reality of the countryside in textbooks, but also the presence of universal knowledge.

Keywords: Settlement Schools. Textbooks. PNLD and PNLD Countryside. Selection processes by educators.

C1: Selection and approval

The production process of the National Guide to Textbooks (PNLD) for Portuguese language in Brazilian High Schools in 2012

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This presents a study about the production process of the the National Guide to Textbooks (PNLD), including the current criteria used for approving and adopting Portuguese language textbooks in Brazilian high schools. The presentation takes the 2012 guide as an object and source of study, investigating how it constructs the criteria. The study seeks to show the relation among all stages in the process of production. First, the role of the State, represented by the Ministry of Education, which initiates the process that originates the guide, selecting an institution responsible for the material's planning and execution. Another point is the specialist's discourse for the books' approval, creating parameters and directions to the collections to be evaluated and approved. This process reaches as far as the school, where the books will be used inside the educational context and will carry the conceptions and beliefs of the specialists who are supported by the Ministry. By establishing the conditions for approval, PNLD also orders the writing and edition of the titles it recommends, and can be considered as both a description of the selection of the textbooks and guidance for the writing of textbooks. These aspects are essential in order to understand the textbook as a product and the place occupied by both the PNLD and textbooks within the school culture.

C2: Management of resources and research

Teachers' personal educational resources management: presentation of some teachers' profiles

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As part of a PhD dissertation based on research led within the project ReVEA*, we are interested in how secondary school teachers manage their own educational resources. We aim to understand the daily management processes and individual tasks and activities (research, selection, use, modification, creation, sharing, etc) performed by teachers with educational resources. For that, we refer to Glushko's works concerning the organization of information, as well as research on Personal Information Management (PIM), in particular the works of Diekema and Olsen about teachers' organizational principles.

The intent is to develop teacher profiles to better understand their organizational processes. The profiles will be completed by descriptions of teachers' personal environment and their educational establishment. The interaction between the different levels (individual work, collective tasks, teachers' groups of practices, national provisions and the prescriptions of the Ministry of Education) reinforces the dependence on the environment and the infrastructures proposed or developed by it. In a general way, teachers' practices, in particular their resource management processes, are difficult to document because they are often implicit and determined both by their personal circumstances and their disciplinary culture, and evolve in a specific professional environment.

Our study therefore focuses on very personal practices (access to the personal working environment of the teacher) that are difficult to observe and document (we see only material traces) because they are built over time (habits, culture, and in particular the disciplinary culture specific to the subjects to be taught). We conduct an ethnographic survey (observation, immersion) in order to study as closely as possible the personal practices. We have already collected a dozen interviews (45 to 125 mins) which show the importance of three processes demonstrated in the ReVEA project: inheritance, trust and collection, and also organizational trends (storage, management of paper and digital resources, etc).

C2: Management of resources and research

Teachers' and academics' resources used for transferring research knowledge

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The aim of the contribution is to present the outcomes of a pilot survey which focused on educational research transfer between academic and teachers from a general point of view. We present the preliminary results that deal with the following research questions: a) What kind of resources do teachers and academics choose for transferring research knowledge to school improvement? b) How are the chosen resources related to research knowledge used by teachers? These results represent one part of the overall perspective of transfer. The theoretical background of transfer is based on Rogers' theory (2003) about diffusion of innovation (describing the most important elements of transfer: the innovation, communication channels as resources, time and actors as social system). The second theory which is important for understanding the technology of knowledge flow is Havelock's (1971) theory about the dissemination and the utilization of knowledge.

According to Havelock (1971) we distinguish the following resources: written media (reports, journals), spoken media (conferences, colleagues, debates), mass media (TV, radio, internet), and individuals' media (school-generated knowledge, local authority etc.). The resources as a form of communication channels (media) convey possible potential of barriers that can influence the overall transfer process and success of teachers' professionalization or school improvement. These types of media could be used for teaching by teachers as a competitive media to textbooks.

In order to find out the resources used by teachers and academics, a research instrument was developed and piloted with 55 teachers and 32 academics in the Czech Republic. In the research instrument, we focused on variables related to demographic data, attitudes toward transfer, social system of teachers and academics, the rate of utilization of knowledge, and the resources as communication media.

C2: Management of resources and research

Textbooks and professional teaching: tensions and contradictions

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The main aim of this article is to analyse the importance of school textbooks in the configuration and concretisation of teaching and learning in the classroom and their influence in the role of teachers in this process. This analysis stresses the importance of school textbooks in the configuration and concretization of teaching and learning processes in the classroom. It also emphasises the influence of textbooks in teachers' work supported by a specific ideology and a pedagogic and didactic model that constrains the teachers' performance. In several scientific journals, we can observe at national and international levels the relevance of the relationship between textbooks and the role of teachers. Many articles stress tensions some of these that are contradictory that have influenced the development of teaching as a profession and raises several tensions: teachers are asked to make decisions in what refers to curriculum having in mind contexts of teaching and students characteristics; on the other hand, teachers are supposed to follow textbooks. Although teachers might be considered as unchangeable elements in the development of new generations and consequently in the development and change of society, their social recognition and professional status have been losing importance. This situation cannot be separated from educational and curriculum policies, which have given teachers more responsibilities but constrained their competencies and weakened their autonomy. These policies have also made teachers worry only about what is fundamental and led them to use educational tools that make teaching tasks easier, such as textbooks. School textbooks are considered important pedagogical, cultural and ideological tools, which are important for conformity in the form and contents of school knowledge. Linking issues concerning the sequence and rhythms of knowledge transmission, textbooks have important pedagogical and didactical aims, which are accomplished through the tasks provided and the means of evaluation of knowledge and skills as well as relevant pedagogical and didactical functions. Therefore, it is important to reflect on the importance of school textbooks in the configuration/accomplishment of teaching and learning processes and their influence in the role performed by teachers.

C3: Class uses

Cultural change in classrooms through the use of educational materials

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This paper analyzes the current uses of educational materials in the classrooms of Argentinian primary schools.

Educational materials are essential for the development of a class. There seems to be no teaching without a variety of materials used in combination. Whether printed or digital, produced specifically for the school – such as textbooks – or taken from the web for use in teaching, both are transformed when included in teaching practice.

The ways in which they are used in the classroom define the rhythms of school times, delimit the uses of space, allow groupings of children to carry out the tasks and, fundamentally, put in play the contents to be transmitted, the ways of teaching, the conceptions about the children and their ways of learning. These uses are based on educational intentions that seek to respond to the needs of daily practice, needs that relate the school to other cultural dynamics.

The research strategy consisted of a case study, where field work was carried out in two primary schools of the City of Buenos Aires during 2013 and involved classroom observations, interviews with principals and teachers, and children's focus groups.

The results of the study showed that teachers select a variety of materials to teach the same subject. Each material is assigned a function to promote learning (motivate, create, exercise, evaluate). When teachers select materials they emphasize the participation of children through oral and written words; the expression of emotions when they read, observe, listen or write; the relationship between knowledge to learn and everyday life. These criteria reflect the universe of meanings of these teachers, whose practices generate diverse learning contexts.

In this set of practices and contemporary senses, traditions and novelties are combined, giving rise to new pedagogical definitions, including the current place of children in school and the ways in which they learn, how to teach and the textbook as educational material.

C3: Class uses

The use of textbooks: deficient training, dependent teacher, different material

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Based on Brazilian educational legislation and on the literature on uses and functions of textbooks – mainly Choppin (2002, 2004); Gérard; Roegiers (1998); Lajolo (1996); Oliveira; Guimarães; Bomény (1984); Richards (2002), Nóvoa (1999); Almeida Filho (2010); Eres Fernández (2009); Fiscarelli (2008); Leffa (2008); Munakata (1997, 2012) – we applied three complementary research instruments (questionnaire, interview and class observation) to identify the different uses of a textbook by two high school teachers: one working in the public sector and the other in a private school. We observed that those teachers are highly dependant on the students' book (SB) in class, which suggests there are deficiencies in their original training. At the same time, they make very little use of the teacher's manual (TM), which aims to be a support for classroom practice. Considering the theoretical and methodological content and complementary information to the SB, the TM could fill some of the training gaps and contribute to the teachers' continuing development. With the aim of encouraging increased use of these teacher's resources, we proposed and developed a visually attractive TM that integrates characteristics of two genres: informative (a magazine) and pedagogical (a teacher's manual). This TM certainly is not intended to remedy the deficiencies of the Brazilian primary, secondary and higher educational systems, but may motivate teachers to use this resource, with a view to improving their practice.

C3: Class uses

Understandings of collaboration with practitioners in design-based research

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Design is no longer limited to traditional areas of design, but is finding its way into a whole array of disciplines. This paper addresses the growing trend of trying to implement design methods in other disciplines by focusing on the field of educational research. Researchers within this field abandon the laboratory and develop educational interventions in collaboration with educational practitioners in the messy settings of everyday educational institutions.

The purpose of this paper is to provide a more nuanced view of how collaboration with practitioners is considered and carried out by design-based researchers when designing learning resources. How is the concept of the practitioners conceptualised? How do teachers, school managers and pupils compare to users in more traditional fields of design?

In order to answer this, the paper revisits the literature review carried out by Anderson and Shattuck (2012) and the close to fifty articles covered by their review. Whereas the aim of the original review was to highlight the basic features of design-based research (DBR) and describe the trends towards the increased use of DBR, this paper focuses solely on conceptualising and categorising understandings of how user involvement is perceived in the most cited design-based research articles. While the original review covers articles published in the years 2002-2012, this paper additionally analyses articles written in recent years.

The findings will not only benefit researchers working with DBR but will also give valuable insight into what happens when attempts are made to integrate design and design methods in new disciplines and specifically when designing learning resources.

Anderson, T., & Shattuck, J. (2012). Design--Based Research: A Decade of Progress in

Education Research? *Educational Researcher*, 41(Jan/Feb.), 16-25.

C3: Class uses

Which teaching practices with digital resources in a context of partnerships between schools and private companies? The case of vocational training for vehicle maintenance in France

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In France, vocational schools aim at preparing students to have a job at the end of their studies. So, one of their features is the strong links they have with private companies. These links are implemented in several ways:

- Between professional organizations and the national Ministry in order to create and renew curricula.
- In the pedagogical field, for providing teachers and students with professional resources and specific training.
- In the teacher practices and their references to professional practices (Veyrac and Asloum, 2009). This implies the use of proprietary resources produced by companies.

In the field of vehicle maintenance training, accessing professional resources is an issue, not only on account of their cost. Students attending vocational schools tend to have special needs (social difficulties, handicaps) and often are in a situation of school failure (Jellab, 2005). So, teachers have to train students in difficulty with resources that have been designed for professionals and are unadapted to their case. How do they cope with this problem?

We led a qualitative research, over two years, in four schools, based on interviews with teachers and their managers, and observations in classrooms. From a theoretical point of view, we used activity theory Engeström (1987), in order to identify tensions in the case of students preparing the Baccalaureate and their effects on training.

Our results show that teacher practices for creating pedagogical scenarios are strongly dependent on professional resources produced by the great French companies. Many teachers also share resources on the Internet in order to explain the functioning of technical systems (e.g. Youtube videos about the inner organisation of an engine). Besides, the cost of technical resources may lead teachers to circumvent copyright regulations in order to collect specific technical information complementing what private companies freely disseminate.

C5: New tools

Applications as innovative tools for learning: an experience with WhatsApp

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The study begins with the recognition that the current dynamics of knowledge communication and diffusion is impacted by different technological innovations. Several media (computers, smartphones, applications, etc.) transform the modes of expression, with new types of language and resources made available in a single device or program. This has prompted the University to promote changes in the way of teaching, learning and living together to meet present demands. The research presented here is underway at Universidade Federal Fluminense (RJ- Brazil) with pedagogy students and other undergraduate degrees. It is developed as action research, focused on the evaluation of the use of Whats App, as a learning tool, by students and teachers. Research questions: To what extent does WhatsApp make teaching more motivating? What factors increase this motivation: speed, practicality, communication flexibility with the teacher, greater students' protagonism? Does this procedure encourage deep study habits, promoting student maturity, or does it induces only strategic or superficial study habits (Newble and Clarke, 1986)? The research proceeded as follows: first, groups were created in WhatsApp, by choice of the students themselves (a sample of about 80). All the didactic material was made available to groups in the application; the extra-class contact between student and teacher, through WhatsApp, is free. Teachers participate actively in the learning group, including observing the process of group structuring; the questionnaires were specifically designed to collect data to answer the research questions; the focus group sessions aim to deepen and better understand the observed phenomena. The treatment of the data is quantitative and qualitative; the answers already analyzed respond positively to the questions that guided the research.

Keywords: WhatsApp; Study habits; new technologies; University students.

C5: New tools

The use of mobile devices in a school

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Mobile technologies are ubiquitous in Australia but knowledge about their widespread effective application for school education is patchy. The research reported in this paper is part of a three-year research project investigating the complex factors that promote or inhibit quality teaching and learning with mobile technologies in secondary school mathematics and science. The project included a set of case studies of schools in which the use of mobile technologies was known to be extensive. This paper reports on one of these case studies. Data were collected from the school through two visits of two days each. The visits included observations, interviews, focus groups and the collection of artefacts. The overarching pedagogical approach at the school has evolved to exploit the school's use of tablets. The school teachers and students work in a diverse range of ways and in varied groupings that are embedded in the timetable. These groupings include classes and whole-year cohorts working either as a class, independently or in small groups on a variety of projects. The students and teachers always have access to their own tablets in and outside school but the materials used in teaching and learning are varied. Students exercise a great deal of control in choosing how they work, manage time, with whom they collaborate, the materials and apps they use and the way in which they provide evidence of their achievement of learning outcomes. Their learning experiences are differentiated for each topic with students deciding from among three levels of educational challenge. The teachers and students manage difficulties that sometimes undermine the use of mobile technologies in other schools, including students being distracted and internet access crashes. The ways in which the school is organised and manages learning, as well as dealing with ownership and use of devices, help to mitigate difficulties.

C5: New tools

Analysis of the effects of using an iBook on the motivation and the concentration of pupils visiting a museum

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The touch screen tablet is identified as an emerging technology whose educational use is likely to generate positive impacts (Johnson & al., 2012; Sapers, 2012). It is considered as a tool with cognitive potential (Depover & al., 2007) whose exploitation can promote active pedagogy and amplify communication and collaboration between students as well as between students and teachers (Karsenti & Fiévez, 2013; Huber, 2012). Its portability allows learning outside the classroom, for example when visiting a museum. One of the applications useful for this occasion is the iBook. In front of an exhibit, this digital medium allows us to communicate additional information or detailed explanations. These contents are presented in a varied (multimedia), interactive and playful way, which is likely to stimulate and maintain the interest of the student and to foster his/her learning.

The paper reports on an analysis of the effects of using an iBook on the motivation and the concentration of 22 pupils aged 11 during a visit to a museum. Two variables enabled us to understand the motivation, perseverance and cognitive engagement: on the one hand, an observation grid is based on Viau (2003) and, on the other, a questionnaire that the pupils completed at the end of the visit. In order to measure the concentration, we used a distractibility indicators list.

Our observations highlight a positive effect on motivation by using touch screen tablets during the visit. The analysis of questionnaire replies confirm this output. Indeed, more than 88% of pupils declared that they appreciated the visit of the museum using the iBook. However, the use of the touch pad during this visit was a source of distraction for some subjects.

Also, a questionnaire for museum guides informs us that 60% of the 123 respondents find the digital book more interesting than an audio-guide and they are willing to experiment with it during museum visits. Fifty percent of respondents believe that the iBook would allow students to acquire new knowledge and develop their skills related to observation.

C5: New tools

Preschoolers' use of tablet devices

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We are living in the middle of a media revolution that extends to preschool children. The flexibility in the use of tablet devices has given them a growing part in small children's lives, even if the value or risks associated with their use are not fully understood. Therefore, in situ research is needed to explore how children act with the devices. The aim of this research was to identify patterns in preschool children's use of tablet devices. Information was collected through case studies within an ethnographic approach. Giving the protagonists' freedom to choose activities within certain frames the interplay with the tablets was studied. The focus was broad, aiming at identifying a holistic picture of the kind of activities related to tablet devices that were preferred. The results indicate that children start from activities with familiar elements from other contexts. The results also indicate that children choose activities close to their proximal zone of development. The possibility of being in interplay with the device affected the choice of activity.

C7: New tools, new pedagogy? | Special needs

Videogames and education: reflections from a review of international research carried out between 2010 and 2016

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Our aim was to review the international literature regarding research carried out on videogames and education. The principal objective was to identify the main lines of research in the field, focusing our attention on work published since 2010. For this purpose, the study sample consisted of publications included in the following academic search engines and databases: TESEO, ERIC, REBIUN, ProQuest Dissertations & Theses Global, Dialnet, CSIC-ISOC and ScienceDirect.

After analyzing the contents of the documents, we identified nine major lines of research. It was observed that the relationship between videogames and potential behavioural effects, such as aggressiveness, was widely studied, as were the cognitive effects on users such as motivation, attention and problem-solving. An increase was also observed in the number of publications on the design and evaluation of videogames specifically developed for the learning of curricular contents.

Recent lines of research include the effects of videogames on students with functional diversity, the use of videogames to increase physical activity, and the creation of videogames by students themselves.

C7: New tools, new pedagogy? | Special needs

The 7Cs – And the problem of schooling and personalized learning paths

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The 7Cs model by Conole offers a method for discussing educational design. It has gone through several changes ending in a version from 2013 consisting of seven stages gathered in four phases: Vision (conceptualize), Activities (capture, communicate, collaborate, consider), Synthesis (combine), Implementation (consolidate) (eg. Conole, 2014: 74). The latest model seems quite static and we find that it lacks the ‘problem of schooling’.

When students enter into a learning environment they often accept the discourse of ‘School’ understood as a semiotic domain ‘...of specialized representations, modalities, knowledge, and practices’ (Gee 2008: 137). In a semiotic domain people are expected to act, talk and position themselves according to the expectations of the domain, framed by Gee as ‘doing being’ someone.

Through an analysis of concepts and ideas as well as written communication between teachers and students from completed MOOC courses in our institution we found that this schooling frame made important changes to the design. When planning the MOOCs, one of the main important concepts was that each student should be provided with their own learning path, ideally to be unique for each of them, because the students accepted into the MOOC seem to have a variety of backgrounds (also see e.g. Gynther 2016). This makes the idea of a personalised learning path necessary.

But since our MOOCs were organized through a combination of f2f-teaching and MOOC studying, the students acted as if in a school domain which seems to be in opposition to the expected personalised learning pathways, and instead they seem to follow the same, teacher-instructed learning path.

To bring the 7Cs model alive we suggest that it is taken into consideration that this school discourse plays an important role when planning MOOCs, and we therefore present some changes to the model.

C7: New tools, new pedagogy? | Special needs

Analysis and classification of didactic materials for the inclusion of people with hearing impairment

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The aim of this study was, firstly, to identify didactic materials and resources developed for the hearing-impaired, together with other materials not originally conceived for this group but which may be useful for facilitating their inclusion in ordinary classrooms; and secondly, to classify and organize these materials according to a taxonomic scheme so that they may be accessible to teachers and the community at large for use in classrooms or society in general. After identification and interpretation, a repository was made accessible to the entire educational community, thus breaking down barriers to inclusion.

Our investigation involved an exhaustive review of bibliographic resources available on internet blogs, repositories and the web, as well as in physical libraries and specialized centers in printed formats. The sample consisted of 400 analyzed materials. We used a mixed qualitative and quantitative methodology, which allowed us to identify the intratextual and formal characteristics of the resources, as well as classify and compare them according to criteria such as typology, target, format, and other criteria based on similar scientific literature. In addition to identifying materials, a content analysis was carried out in order to classify them according to the criteria previously mentioned. These criteria also served to organize the materials and make them accessible to teachers and the community in general.

C8: Production of resources

How to involve student teachers in composing learning material?

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Being a professional teacher calls for several competences in relation to learning material. The teacher must be able to analyse and evaluate learning material but, in addition, he/she must be able to apply different didactic methods to create and produce learning material for specific education programs. This is a question of a certain professional didactic for the teacher to master. But how can a teacher achieve these competences?

The Danish communication and research centre Taste for Life (Smag for Livet) invited student teachers to co-operate in developing definite education programs. In collaboration with teaching staff and researchers in the centre, the students created didactic learning material for primary school in the subject of food education. In this way, a strong and unique tie was established between research, project work, teacher education and professional practice. The outcome of this establishment is learning material that is published by the centre on their e-learning platform, as well as education for professional didactics and practice in composing learning material.

So the main issue in this presentation is: How can teacher education be arranged in a way that qualifies student teachers to plan lessons taking learning material into account? Examples will be shown of student teachers involved in composing learning material by participating in didactic discussion and reflection, practical testing and mentoring with professional partners. To put together the numerous didactic connections contained in this case a meta-didactic model will be introduced based on the classic didactic triangle, the design triangle (Hansen, 2012) and a general didactic model on activity forms (Hansen, 2015).

C8: Production of resources

The project ‘Avanguardie Educative’ and the activity of auto-producing textbooks in Italian schools

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Since 2014 INDIRE ‘Avanguardie Educative’ project has been applying a new model of research: supporting Italian schools in their educational and organizational work, while at the same time studying the transformation processes taking place in the schools themselves.

‘Avanguardie Educative’ aims at unveiling the innovative power of schools, recognizing the great potential of many of them, which are sometimes silent or relegated to specific areas without wider recognition.

One work group of the project ‘Avanguardie Educative’ is dedicated to ‘Integration CDD/Textbooks’, an idea which helps schools to overcome the traditional logic of study purely as a form of textbook rote-learning, to engage students in designing and rewriting knowledge by producing Digital Educational Contents, or self-produced supplementary textbook sections.

This idea is linked to an institutional plan by the Ministry of Education, which since 2013 has included a review of textbooks adoption’s rules. This new political trend has been aimed at reducing household spending fostering a virtuous use of new technology to engage students in designing and manufacturing textbooks. In fact the Art. 6 of Law 128 (2013) and, more specifically, decree n. 781 - 27 September 2013, offers schools the opportunity of producing their own textbooks for the study of disciplines. Behind the idea of self-production lies the logic of teaching through hands-on strategies of learning. The aim is above all to engage students in a process of active construction of knowledge, which sees the creation of a cultural product as a pretext to enable in-depth courses. This work supports and promotes teamwork, encourages discussion and planning, thus providing a dynamic centre for the cognitive and social growth of students. The paper presents the research activity carried out during the past two years.

C8: Production of resources

Recommendations for instructional designers and textbook writers concerning the correction of significant and persistent errors in arithmetic and algebra

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A systematic identification of the most conspicuous and significant errors made by learners during three years of testing their progress in learning arithmetic and algebra throughout the Kassel Project in England and Greece was accomplished. The persistence of these errors over three years in the officially provided school instruction of arithmetic and algebra in these countries has also been shown. The learners' errors in arithmetic and algebra stemmed from a sample comprised of 200 English students and 150 Greek students. The sample was selected according to students' participation in each testing session in the development of the three-year project, in both domains simultaneously (arithmetic and algebra). Specific recommendations are presented that should be taken into account by instructional designers and textbook writers, for the correction of these learners' errors. These recommendations were founded on the rationality of theoretical accounts concerning the explanation, prediction and control of the errors, on the conceptual metaphor, and on an analysis that tried to identify the required cognitive components and skills of the specific tasks, in terms of psychology and cognitive science as applied to information-processing. The aim of these recommendations is not only the correction of these errors but the achievement of the mathematical competence, which was defined as being constituted of three elements: appropriate representations, appropriate meaning and appropriately developed schemata. The study has shown that not only the instruction, but also the educational media (textbooks etc.), are responsible for the emergence and persistence of these errors in the learners' minds.

C8: Production of resources

Students' development of competences of digital production in digital learning environments

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The aim of this project is to investigate how students develop competences of digital production based on digital learning material and other semiotic resources available to make visual layout, scenography, crafts and arts. Theoretically, the project draws on a sociocultural understanding of multimodal text production and learning (Jewitt 2008, Bezemer & Kress, 2016). Furthermore, the study draws on a previous large-scale research project on task-based instruction and student production in Denmark focused on subject-related learning (Slot et al 2017).

Our research questions are:

- How do teachers scaffold students' use of digital learning material and resources in project-based courses?
- How are the students' digital competences applied in their product work?

Methods and Research Instruments

Data were collected in eight schools in 6th grade. The quantitative part of the study was based on the collection of a large number of student products, classroom video-observations, and teacher and student interviews. Baseline data was collected in March 2014. Endline data was collected April 2015.

Background information

The project is a part of a Danish national project called 'Inclusive digital project-based learning in liberal schools'. The overall goal is to contribute to students' development of 21st-century skills by supporting their acquisition of four key competences in authentic situations: self-directedness, open-minded and critical inquiry, production and communication, and a sense of quality within and across subjects and domains.

C9: Language

The state of published research on teaching materials in Early Childhood Education: a first approximation

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The work that we present here offers a classification of different lines of investigation related to classroom or teaching materials in Early Childhood Education. We identified five relevant lines of investigation and decided to add a group where we included lines of investigation with different themes: a) studies about classroom materials and teacher's training and opinion about them, b) studies about digital materials in Early Childhood Education, c) studies about robotics as teaching material in Early Childhood Education, d) studies about toys as teaching material in Early Childhood Education, e) studies about teaching materials and the areas of the curriculum in Galicia in this stage, and f) other studies about teaching materials in Early Childhood Education.

The methodology used for this classification was a bibliographic review based on search, selection, analysis, reading, synthesis, and reconstruction of the information. For the search we identified a few useful descriptors to find investigations that could fit our needs, such as "teaching materials", "lines of investigation", "Early Childhood Education" and their different combinations, using them also in different languages (Galician, Spanish and English) in national and international fields.

These lines of investigation offered us important information about the reality of research in this field and to continue our investigation taking into account this background.

C9: Language

Textbooks and changes in the teaching of Spanish as a foreign language in schools of Paraná, Brazil: 1990–2015

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This work aims at presenting an investigation that sought to understand the changes in the teaching of Spanish in Paraná from 1990 to 2015. First, it intends to show how the investigation built on research into the scope of the History of the Subjects and of the School Culture about the teaching of Spanish in Paraná that resulted, in 2003, in the publishing of the book 'História, Memória e Ensino de Espanhol (1942–1990)'. Second, it proposes to explain how the investigation extended the analysis of the textbooks used in five schools in Paraná, in the period from 1990 to 2015. In addition, the investigation plans to understand the theoretical-methodological discussions during that period about the teaching of foreign languages and its broader relationship with media in general (newspapers, magazines, television and cinema, among others, including digital media). The period studied, 1990-2015, starts with the consolidation of the Mercosur Treaty in 1995, a moment of a considerable increase in the offering of Spanish language courses. In 2005, with the enactment of Law 11.161, which made the offering of Spanish compulsory in high school, many schools started offering Spanish in their curriculum. In order to understand those changes, this study draws on the contributions of authors like NOVOA, LE GOFF, BOURDIEU, FOURQUIN and BAKHTIN. The primary sources of the investigation were school libraries, interviews with teachers and the textbooks. School deliberations and regulations will be analyzed as secondary sources. The issues presented in this investigation are about the conditions for the implementation of the Spanish language as a compulsory school subject, the textbooks that were effectively used and the privileged methodological approaches.

C9: Language

Universal contents and the local experience in textbooks for elementary school: an approach from didactic research on the possibilities to build relations

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Since the 1980s, Brazil has had a program to evaluate and distribute free textbooks for all subjects to all grades of elementary school. The National Textbook Program (PNLD) is an action of the Federal Government that has been maintained regardless of the changes that occurred in the country due to the presence of different political parties in power. From 1990 on, the textbook evaluation processes have been gradually improved, with the participation of different educational agents and with the proposal of certain criteria to assess the books' content and form. The Federal Government's official notices provide general and specific assessment criteria for each school subject to guide the publishers in the development of books. There is a strong consensus around the idea that the program has brought positive transformations and that textbooks are nowadays better than three decades ago. Studies conducted by the Center of Research in Didactic Publications (NPPD/UFPR) showed that there has been progress in Brazilian textbooks regarding different aspects, for example the inclusion of an evaluation criterion which requires the books to contemplate the diverse cultural and social experiences of the students. How do publishers and authors comply with the requirements of the Ministry of Education's notices, in order to ensure their textbooks' inclusion in the catalogs for teachers' selection? These issues constitute the set of problems addressed in this text and are related to the discussion of the problem of reconciling universal contents with the diversity of cultural and social experiences. The research analyzes textbooks of elementary urban and rural schools using a didactic approach, exploring particularly the exercises and evaluation activities proposed in students' textbooks.

C9: Language

Children's identity in printed textbooks: narrating the 'real' or constructing the 'ideal'?

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India is one of the biggest systems of formal education in the world, with 1.4 million schools and 220 million students. The state of Maharashtra caters to almost one tenth of total students and renders access to printed textbooks as a right, with limited digital and other educational materials. Under the Indian Right to Education Act 2009, printed textbooks produced by the State Textbook Bureau of Maharashtra are mandatory for about 84,000 schools in the state. Textbook-centric examinations also make paper-textbooks the main source of what Michael Apple famously termed as 'valid knowledge', in addition to being the most important teaching-learning material in schools.

Research about printed textbooks in different parts of India generally views them as tools for exercising socio-cultural politics in favour of dominant classes. Contrary to their claim to portray 'social reality', printed textbooks actually validate only the practices and values of the dominant cultures. Due to the unquestioned and sacrosanct status enjoyed by the textbooks, they become the source of changing, manipulating, creating and perpetuating certain identities imposed on young learners in the learning experience. It is significant to understand the cultural bearing of textual construction and perpetuation of identity not only in the consideration of Indian social diversity but also the fact that content of textbooks is an important reason for the psychological connect or disconnect that pupils feel with schools. The process of textbook development in Maharashtra suggests visualisation of certain norms in children, and a desired childhood. With this rationale, my paper attempts to examine the portrayal and representation of children in printed Marathi language textbooks of Maharashtra state in order to understand the nature of identity favoured and propagated through them. It also explores and analyses the nature of imagination involved in the portrayal. The method involves analysis of the content and illustrations with the help of analytical categories of caste, ethnicity and gender

D1: Selection and adoption

Teacher opinions about textbook quality and changes in the adoption process in Bulgaria

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The paper briefly describes the latest legislation changes to the textbook adoption process and especially the prescribed more active role of teachers in textbook approval in the context of this year's educational reform in Bulgaria. As there is no research on teacher attitudes towards their intended greater involvement, some data from a survey – textbook evaluation checklists, self-report questionnaires and informal interviews – conducted with a purposive sample of 50 experienced and highly motivated teachers participating in textbook evaluation qualification courses are presented. Although the majority of teachers share the public negative stereotypes towards textbook quality, they evaluated their textbooks as highly satisfactory in regard to all 38 checklist indicators. Forty-two of the teachers declare that they will select the textbooks written by the same authors who have written the ones used up to now. The differences between the expectations of educational policy makers and teachers to the changes of adoption process are also clarified. Some explanations for teachers' opinions are proposed, and finally questions for further discussion, analysis and research are outlined.

D1: Selection and adoption

Teachers preparing their lessons: the complex stage of selecting resources

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The number of available resources is constantly increasing. Teachers are both users and designers, and the activity of resource selection has become crucial. According to the documental approach to didactics (Gueudet et al., 2012), we analyse teachers' activity through their interactions with resources. This theoretical framework is based on an instrumental approach (Rabardel & Béguin, 2007) and on documentary engineering (Pédauque, 2006). We use the notions of documentation genesis and scheme to analyse how teachers develop their information literacy skills. The designing of learning resources is at the centre of documentation work. According to Vergnaud (2009), conceptualization comes from activity. For him, a scheme is an invariant organization of the activity undertaken to achieve a type of task. The aim of this contribution is to identify and characterize the scheme of selecting a resource, in the designing process.

This study is part of a French national programme research (ANR-ReVEA), in which researchers study teachers' interactions with resources in different subjects: mathematics, physics-chemistry, technology and English. In this contribution, we present a case study of an English teacher. Our methodology is based on reflective investigation (Gueudet et al., 2012). After a first interview, the English teacher filmed herself as she was preparing a lesson plan on a new topic, and explained at the same time what she was doing. She did this again one year later for the same lesson.

According to our analysis, the scheme of selecting a resource is led by different types of knowledge (didactic, curricular, experience). The evaluation and selection processes are also closely linked with goal representation, information needs and evaluation. This is a significant part of the definition of documentation expertise.

D1: Selection and adoption

How teachers select, use and store their resources: discourse analysis of secondary school teachers in vocational education

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This research is a part of the RéVEA project (1). One main goal of this research is to document how teachers design, search, select, edit, and reconstruct the resources they provide to their students in order to support their activities.

Documenting teachers' tasks in the management of educational resources is not easy as, according to Diekema & Olsen (2014) for example, it depends heavily on the context: subject matter, school level, students' knowledge, school equipment, and so on. Furthermore, resource management is a 'craft activity' (Brown, 2007) and each teacher chooses his or her own way.

We will present results from an analysis of French BTS (2) bank teachers' discourses, collected via semi-structured interviews. These interviews took place in the room where each teacher usually works, near their own computer to see their current organization.

Because BTS Bank doesn't concern a large number of students; it is not profitable to publish specific textbooks; it is not profitable to publish specific textbooks. So teachers have to find, select and adapt resources that are often designed outside of any educational context.

Our first results highlight the implementation of routines. Over time, the format may change (videos may be used more frequently, for example) but the design and the transformation process remain similar. Teachers make list of sites, blogs, or newspapers that they consider reliable and easy to use and from which they systematically pick out resources.

Concerning their choices of resources, the first criterion is the quality or relevance. Copyright or license for use is not taken into account. They consider that the priority is to provide the best and the most appropriate resources for their students. Shared platforms are only visited occasionally; teachers find there mostly a source of ideas and if they decide to download an educational resource, they will transform it before using it.

1. See <http://www.agence-nationale-recherche.fr/?Project=ANR-13-APPR-0006>

2. BTS is a two-year French technical degree in higher education (but not in a university context).

D1: Selection and adoption

The Spanish textbook: the choice of teachers of public schools of Paraná, Brazil

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The objective of this research is to analyze the discourse of Spanish teachers from the public school system of the State of Paraná regarding the choice of Spanish language textbooks approved in the National Textbook Program (PNLD) to integrate their work in the classroom. It is hoped that the didactic material will stimulate the reading of the world, developing the knowledge of different subjects and social sectors, and helping to improve the learning of the students. The content contained in the didactic works, in turn, unfolds in the school, in the pedagogical doing, which can occur in a limited way, because it is the perception of different subjects that owns their own values, concepts, cultures and subjectivities. Thus, the research aims to find out - initially through a virtual questionnaire sent to all teachers in the State of Paraná and later by conducting interviews with teachers selected in the first stage – the criteria of choice of textbook used in the classroom, starting from Bakhtin's ideas about language as well as the conceptions of culture and interculturality proposed by theorists such as Eagleton and Canclini. To do this, we seek to know which culture conception about the language in question is mobilized in this process of choice and whether, in fact, the books approved by the Ministry of Education correspond to the expectations of the teachers, also taking into account the training of teachers and, more specifically, how the content in the chosen collections is selected and worked out by the authors.

D2: Scaffolding

Scaffolding an inquiry-based approach to teaching literature

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This paper presents a multiple intervention program for improving quality in literature teaching based on digital learning material that scaffolds an inquiry-based approach to teaching literature. The focal point will be the development of a research-based learning material based on a systematic review of 216 studies.

This research-based learning material is a central part of a Mixed-Methods design with which this paper tries to answer the following research questions:

- What characteristics could an inquiry-based approach to teaching literature have?
- How can we scaffold such an approach?
- How can we measure such an approach?

Literature teaching is facing a major challenge. General reading comprehension strategies are not suitable for aesthetic texts because aesthetic texts are characterized by their unique aesthetic form, and thus require a particular process of semiosis and production of meaning on the part of the reader.

The systematic review provides a preliminary answer to the research questions drawing on cognitive, socio-cognitive and sociocultural studies. A set of empirically-substantiated, cognitive strategies that show a positive effect on students' literary reading comprehension has been identified. Furthermore, research in literary inferencing and non-literal interpretation points towards a bottom-up approach involving online inferencing where the reader continually constructs local coherence and meaning. Readers are rarely involved in the construction of global coherence and meaning context in their online inferencing. These processes generally come into play when readers metacognitively rise above the continuous activation of cognitive schemata and make inferences in continuation of the immediate reading, i.e. offline inferencing.

The design of both digital learning materials and the RCT-study with a competency test transforms the above evidence base into a multiple intervention program for improving quality in literature teaching with experiment and control in 175 schools in Denmark.

D2: Scaffolding

Scaffolding strategies in printed learning resources used in Czech lower secondary schools

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The paper presents the empirical findings in the theory of textbooks and educational media focused on finding scaffolding strategies incorporated in history and civics textbooks in Czech elementary schools. The theoretical and methodological background are sociocultural approaches, the scaffolding concept and the framework for scaffolding strategies' analysis (van de Pol et al., 2012). The research question is: What scaffolding (i.e. what specific support) is provided for pupils in history and civics textbooks and which scaffolding strategies can be identified in them?

The main aim was to describe, on the basis of educational materials analysis, scaffolding strategies included in the printed textbooks and subsequently to classify them. The secondary aim was to carry out semi-structured interviews with selected teachers on the subject of pupils' learning support and to ascertain how it is perceived and actually used in the classroom. The result is a typology of educational scaffolding with regard to type, purpose and means.

D2: Scaffolding

Designing and measuring the impact of using digital learning materials for scaffolding students' independent decoding and comprehension of unfamiliar texts

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In a design-based research project the aim was to design and measure the impact of using digital learning materials that scaffold Danish second graders' independent reading of unfamiliar text without controlled vocabulary.

In the design process a prototype was evaluated and refined iteratively to see to what extent different students could use the learning material as intended, i.e. in accordance with the envisioned learning trajectory. The design uses text-to-speech technology combined with other scaffolding features (Wood, Bruner & Ross, 1976). The theoretical base is connectionist models of reading and reading acquisition (Seidenberg, 2007) which would predict that in order to lead to strengthened decoding skills through mapping between orthography and phonology, students would have to use text-to-speech only as a backup when their attempt at decoding fails. Furthermore, the design supports students in identifying the most relevant spelling patterns in words they cannot decode independently or effortlessly.

In the formative evaluations, students' interaction with the learning material was recorded using screen recording software.

The effect of students using the learning material was measured in a randomized experimental design. In the RCT the control group used the most widely used analogue learning system in Denmark, which has a systematic, phonological approach to reading instruction. Results showed that using the digital material showed no statistically significant difference on decoding measures between the control and treatment group. However, a substantial, statistically significant advantage was found in the treatment group on measures of reading comprehension.

D2: Scaffolding

Designing digital learning resources: arresting the decline of writing standards in the Australian secondary school context

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Whilst effective writing skills are considered to be indispensable to participate in contemporary society (Smedt & Keer, 2014), external standardised testing used in the Australian school context indicates a steady decline in student writing standards. National Assessment (Naplan, 2009-2016) mean scale scores indicate a decline in mean scale score from 568.9 in 2009 to 546.5 in 2016 nationally. Over the same timeframe, Australia's performance in PISA (Program for International Student Assessment) indicates a similar decline in student writing standards as Australia's relative position against OECD countries also lowered. Whilst these external tests and others like them are 'point-in-time' tests, they nonetheless provide data for participating schools that highlight deteriorating student writing outcomes.

This paper reports on how one Sunshine Coast (Australia) secondary school has responded to external testing data (NAPLAN mean score decline from 563.9 to 502.6) through the development and use of purpose-designed, school-based digital learning resources. The resources can be described as a digital writing intervention aligned to the school's existing effective reading programs, embedded across faculties within each section of the secondary school.

This paper describes how staff at Coolum State High School designed, developed and implemented the learning resource. Key aspects of the process include:

- (a) initial use of school-based writing curricula with an internationally acknowledged Six Traits (Northwest Regional Educational Laboratory) approach to writing to generate a framework based on instruction, feedback and dialogue;
- (b) teacher use of the writing framework to assist students to plan, evaluate, discuss and revise their writing;

(c) preparation of digital resources based on short-listed titles (Children’s Book Council of Australia) to introduce metalanguage, rubrics and prompt questions to facilitate student self-assessment of writing; and

(d) evaluation of the efficacy of the learning resource through analysis of student data sets, student work samples and teacher commentary.

D3: Texts and textbooks

Children's reading and media habits in 2017: new requirements for the use of texts in school

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How have the last 5-10 years of digital development influenced children's reading and media habits? In what way can schools take this development into account in order to promote children's commitment and academic skills in school lessons?

At a time when the role of literature in school is up for debate, there is also a broad consensus that both the strengthening of children's reading skills and their engagement in leisure reading is one of the core tasks of schools. How do schools solve this task in the light of an increasing number of pupils experiencing a gap between reading in school and reading in their spare time? Most children today have access to their own digital devices. Thus reading – and the use of texts in general – has quite different conditions compared with just 5-10 years ago. Hence, we need new knowledge about what stimulates children's reading today. What do children themselves say? How can schools continue to support children's reading for leisure in effective and inspiring ways? And how can teachers integrate new knowledge into their teaching and target different reading activities for different age groups with differentiated needs and preferences? These are some of the questions that the results of this survey will be able to clarify.

This paper will be based on key trends from a new national survey of children's reading and media habits in Denmark. The results will point to the opportunity of working with a broad spectrum of texts at school, including appeal structures in texts and digital media. Taking this into account might help make a better and more rewarding connection between school activities and children's own reading and media habits.

D3: Texts and textbooks

Rural youths and textbooks: a case study in a settlement school linked to the

Landless Workers' Movement (MST)

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The aim of this paper is to present the results of a research about the relationships between young students from rural areas and the textbooks evaluated, acquired and distributed for all public schools in Brazil by the National Textbook Program (PNLD). Based on the theories of reference, the youths are understood here as a social category. The term 'youth' is related to discussions about diversity, highlighting the plurality of the concept. This means that we refer no longer to youth, but instead youths, in the plural (Novaes, 1998). The research approached the countryside youths during the schooling process in a settlement school linked to the Landless Workers' Movement (MST). This school has attempted to develop a different pedagogical process, especially regarding new ways of organizing pedagogical work, in order to favor elements such as history, culture, social conflict, collective organization and work. Conceptually, the starting point of the research is the school, understood as a social construction (Rockwell and Ezpeleta, 2007), and this qualitative research favors the context of discovery (Lessard-Hebert et al, 1990). The information was collected through questionnaires with open and closed questions applied to the students and teachers of a High School located in an Agrarian Reform Settlement in a municipality of Southern Brazil. The results indicate, among other points, that young people find it important that the textbooks deal with issues that are relevant to their lives, as well as social issues. The research also shows the conditions and ways that textbooks are used in the classes. It was possible to listen to the voices of the youths and their teachers about the need for specific textbooks focusing on countryside and city schools. They disagreed with the PNLD proposal to produce different textbooks to countryside youths and urban youths. But they recognize the need and the possibility to produce complementary specific materials which would include the local culture and specific social experiences.

Keywords: Textbooks; Countryside school; High School; Young students

D3: Texts and textbooks

The textbook's invitation to disciplinary literacy and text-based learning in the language arts

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In this study, I investigate how two textbooks for Norwegian language arts in lower secondary schools facilitate text-based learning as a way to obtain disciplinary literacy. The concept 'text-based learning' is derived from how Kintsch (1998) defines the difference between reading comprehension as such, and what is needed to learn from a text, namely the ability to apply the acquired information a reader comprehends from reading a text to new situations, even to solving problems. As cognitive reading research has pointed out, being able to use relevant reading comprehension strategies is important to comprehend a text and thus, to be able to learn from the text.

'Disciplinary literacy' perspective (Goldman et al., 2016; Moje, 2015; Shanahan & Shanahan, 2008) includes discipline-specific ways of thinking, reading, writing and speaking. Therefore, a textbook that is to facilitate text-based learning as a way to obtain disciplinary literacy, must invite usage of disciplinary-appropriate reading comprehension strategies. In my analysis, I consider such invitations as potentially present in all of the textbook's semiotic resources (Kress, 2010; Van Leeuwen, 2005).

As a reconceptualization of Iser's (1978) 'implied reader', I propose that for the textbook genre the 'implied student reader' is given by the sum of implicit and explicit invitations to employ reading comprehension strategies, and that the implied student reader has the potential to convey a disciplinary literacy type of learning. The study is intended to contribute to the knowledge of how textbooks can be optimized for text-based learning and thus, disciplinary literacy.

D3: Texts and textbooks

How should school textbooks be improved?

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The paper aims at finding the conceptualization and meaning, and ways of thinking about how school textbooks should be improved when the national curriculum changes. Every ten years the Ministry of Education in Japan revises the national curriculum of elementary and secondary schools. The school textbooks are therefore required to be revised and improved in accordance with the changing ideas and contents of the curriculum.

In Japan, by law, school textbooks are mandated to be used in classes. The Ministry of Education has the power to review and authorize every textbook that is to be purchased and used in schools. Ideas and guidelines for textbooks are provided by the Ministry of Education.

Ten years ago, the national curriculum was revised and the guidelines for textbooks were updated. In 2018, a new national curriculum and textbook guidelines will be provided. By comparing the two curricula and the two sets of textbook guidelines, we can gain an understanding of the characteristics of high quality textbooks. In the past IARTEM has shown us what the good and bad school textbooks are. Whether good or bad, the school textbooks should be discussed in relation to the different approach of the curriculum. This paper challenges this aspect of school textbook improvements, using the Japanese experience as a case study.

D5: Images and visual

Designing for teaching and learning with MOOCs - Intended and implemented designs

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In curriculum research, it is common to distinguish between three different curricular levels, namely the intended curriculum, the implemented curriculum and the attained curriculum. The distinctions have later been applied in educational design research to differentiate between different representations of design. Discussing findings from a study on MOOCs developed using a design-based approach, this paper explores how the three notions can be used as an analytical framework for designing, implementing and evaluating interventions in an educational context.

The paper argues that the concept of the intended, implemented and attained designs may serve as a means to better understand the process of designing new educational formats and to anticipate unwanted discrepancies between the intended idea and the solution that is actually implemented. We argue that such unwanted differences between intended and implemented designs are often caused by a lack of consensus as to what constitutes the core idea of an intended design and we hence proceed to discuss the need for finding meaningful ways for educational designers to communicate their intended designs to those who are to implement them.

D5: Images and visual

The place of the image: from the textbook to the digital environment, with an emphasis on higher education

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To address the image and the place that it occupies in higher education, especially in the frame of training for the level of elementary education as well as in the frame of the Bachelor's in the Sciences of the Education at the National University of Luján, we will refer to the role of public policies, considering also what happens with representations in textbooks and digital environments. This allows to gather and dispose of information to account of the scenario, placing it in Argentina and relating it to its present situation. However, as we are dealing with public policies, we will describe the most distinctive features of what happened by means of images / text books / digital environments / teaching, since 1960 till now

When analyzing the contents in terms of image processing, we will add what happens with digital classrooms and ICTs. Normative and praxis will be represented when we speculate on the recurring questions that teachers have about the use of images in education and, in that sense, we will offer to the audience some findings from our work on the subject.

Without sustaining the concept of univocality in the given meaning, but at the same time, without ignoring the fact that it is not possible to apply just any meaning to what we see, analysing the subject we are presenting, will paradoxically allow us to notice, how images have been working as part of a hidden curriculum.

It seems that higher education does not need images ... but they are there. Because we rarely stop to think about them, we propose to give them some time for reflection.

D5: Images and visual

Use of hypertext in digital didactic materials in distance education: the point of view of students

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Distance education in Brazil has grown exponentially in recent years, reaching almost 1 million enrollments according to the Ministry of Education census in 2015. This modality depends on the didactic materials used. In distance higher education in Brazil, there is a growing appropriation of audiovisual language and materials presented in multimedia being used in conjunction with printed materials. Another study presented in 2016 (BRITO and JAMUR) identified the lack of possibility of co-authoring and interferences of students on the digital materials used. Continuing this question, the present research is an exploratory study still in progress at the Federal University of Paraná, which aims to survey the study habits of students in the modality in question, analyzing the possibilities and desires of interaction, specifically co-authoring, from the point of view of the students. The guiding question of this exploratory study is summarized as: what study habits of distance education students can contribute to the format of the digital didactic materials offered, considering a cooperative proposal? This survey seeks to understand the space that the coauthoring occupies in the current format of teaching and the relation of the student to the digital didactic material. The study opted for the conception of cyberculture of Levy (2010), the concept of interaction and cooperation of Belloni (2010) and Primo (2013), and the conception of Freire (1996), especially with regard to teaching content. A questionnaire was developed as a data collection tool, available on the Google Docs platform. The participants in this research will be a group of students of the University Center with headquarters in Curitiba. At the end of this process, the answers will be analyzed in comparison with the results of the previous study, in order to answer the main question.

D5: Images and visual

A study of colour theory and practice with online resources

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This paper presents aspects of the creation and development of an online resource (blog and video channel) about the teaching of colour theory and also its application in extension courses offered by the Faculty of Arts of Paraná (Campus of Curitiba II) UNESPAR. The purpose of using information and communication technologies (ICT) in teacher education was to train teachers and professionals of the visual arts, in the study of colour theory and practice (Lévy, 1999; Castells, 2000). Also, we considered the demands in this area of knowledge in art and, in particular, the difficulties of supply and access to continuing education courses. The first stage of this research dealt with discussing, testing available technologies and evaluating online tools and resources for teaching colour theory. Among the resources evaluated are multiple blogging platforms, including WordPress. (Blood, 2000; Recuero, 2003; Cruz, 2008). Subsequently, it was necessary to develop the content and resources for interaction with the target audience of the project (Carvalho, 2005, 2006). A qualitative research was carried out in training courses for art teachers and other professionals (teachers' courses 2015-2016), with the application of a semi-structured questionnaire and meetings for discussing the use of these resources. It is observed that the use of applications and digital tools to teach colour theory will contribute fundamentally to learning practices of art, to facilitating exchanges between teachers and students, to extending the networks between courses in art and the community, as well as disseminating technologies and innovating procedures.

D6: Teacher training

Training, teaching content and new technologies

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This paper presents the results of a research conducted by the Center for Generative Communication (CFGC, University of Florence) in collaboration with Alessandra Anichini (INDIRE researcher) and Jose Antonio Cordón García (Director of Electra Group of the University of Salamanca). Through a process of narrative inquiry, the research investigates and describes the practice and study habits of Italian and Spanish university students, while referring to the integrated use of traditional textbooks and digital tools (Wikipedia, thematic portals, discussion sites, blogs, social networks, etc.).

The project's main goal is to understand how students study for an exam in the humanities. In particular, it intends to highlight and verify how new digital instruments integrate the use of paper volumes and the traditional forms of communication and examines their role during exam preparation.

In this vast field of investigation, our research focuses primarily on the presence of the 'dialogue' in students' study practices; a dialogue understood as a relationship that establishes itself at various levels between student and teacher, student and colleagues and the student and texts of study. The analysis attempts to describe the way in which new communication tools and new texts are able to promote or, in some cases, inhibit the relationship between students and teachers, colleagues and educational content, by exclusively using the learned habits of study. In this scenario, digital tools may, in fact, represent an added value only if they foster in students a truly creative and proactive attitude that allows them to appropriate and reprocess various content addressed individually (Jenkins 2006).

Following the 'generative methodology' (Toschi, 2011) we closely analyzed the dynamics at play within a class of students, to understand how the relationships that develop among the students, among teachers and among the study materials, create, de facto, a complex learning environment.

D6: Teacher training

Educational photocopying in French secondary schools: how does a technology adjust the content being taught to students' reading and writing skills?

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Among the documents consulted, adapted and produced by teachers, pedagogical photocopies are particular objects. First, because they are documents most often 'composed' by teachers. Then, because they are made for their students. These documents are part of a complex process and strongly linked to contextual elements such as curriculum, textbooks, classroom dynamics and school set-up. In the framework of the Revea project (www.anr-revea.fr), inspired by Horsley (2012) and Horsley & Walker (2011), a quantitative study on pedagogical photocopying has been conducted (Boelaert & Khaneboubi, 2016), in which 46 French high-school teachers have been interviewed about how they conceive and use photocopying for their students. In what part of teaching strategies are photocopies used? Why is it impossible for French teachers to avoid photocopies? How flexible are photocopies in the classroom? In which documentary ecosystem are photocopies produced?

In the 4 schools visited, the budget for photocopying is very important: approximately 40,000-100,000 copies are made each week. According to the teachers, the design of a photocopy is based on the sample of textbooks and documents found by using Google web search. The analysis of the interview makes us consider photocopies as hand-crafted, tailor-made, modifiable and ephemeral textbooks. The most important criterion that guides the teaching strategy and best explains the importance and nature of photocopies is students' reading and writing skills. Depending on whether students need to practice reading, writing or being 'active', teachers implement a teaching strategy based on the production of a document. When students are good readers/writers, support becomes invisible and teaching is focused only on content. Moreover, these documents are a way of managing the class and the activities of the students.

D6: Teacher training

Textbooks in rural schools: perceptions and practices of teachers in the initial grades of Basic Education

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This presents the results of an investigation that aimed to analyze how textbooks are used in rural schools that received them within the scope of the Brazilian National Program (PNLD Rural 2016). The research was done with teachers in the initial grades of Basic Education, who answered a questionnaire including questions about their formation, the local community where the schools are located, the process of choosing the textbook, their experience in the school, the use of the textbook inside the classroom, and the book's role regarding learning school subjects. The investigation used as reference the theoretical assumptions of social construction of Ezpeleta and Rockwell school (1989) based on a group of meanings of a specific social group (Pérez Gomez, 2004). It was evidenced that the local culture directly influenced the pedagogical actions and the teacher's expectations regarding the students' learning. It was found that, because it did not satisfactorily contemplate these practices and expectations, the textbook for rural schools (PNLD Campo 2016) is considerably limited and out of context, resulting in teachers adapting and complementing it with other materials. Furthermore, the influence of the local culture on the use of textbooks was noted, as well as the existence of gaps in the discussion of public policies to improve the usage of PNLD Rural textbooks.

D7: Stories, narratives, reading

Digital stories as a learning resource for immigrant students

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This paper presents the first step in a study of how digital stories could function as a learning resource for newly arrived immigrant students in Norway. The project will explore how digital stories could increase immigrant students' possibility of expressing themselves and their identity, and simultaneously improve their communicative skills.

The pilot study includes two types of data sets: 1) Visual diaries made by four immigrant students, in which the visual diary functions as a preparation for the digital story. 2) Semi-structured interviews with the immigrant students about challenges regarding their text production and clarifying the meaning potential of their stories. The overall aim of this project is to develop and increase multiple literacy skills (linguistic, multimodal and digital skills) of newly-arrived immigrant students. The project will include teaching and training of students in how to design stories (personal narratives) in combination with writing activities.

Digital storytelling is a method developed in the United States during the 1990s. The method has emerged as a powerful teaching and learning tool that engages both teachers and students (Robin, 2008). The emerging digital technologies of the 1990s offered new tools for expression and involved collaborators who wanted to explore how digital media tools could empower personal storytelling. According to Mills (K. Mills, 2015) the rapid digitalization of literacy practices – also referred to as the 'digital turn' – calls for different ways of doing and theorizing literacy. Our project will draw on experience from former research that indicates that multimodal literacy practices and use of digital technology may develop the students' cultural identity (Mills, Davis-Warra, Sewell, & Anderson, 2016).

Theoretically and methodologically, our research draws on social semiotics, critical discourse analysis and critical literacy theory (Fairclough, 1992; Janks, 2010; Kress & van Leeuwen, 2006).

D7: Stories, narratives, reading

Academic reading in courses of study at the UNMdP: academic genres and university traditions

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This paper reports initial findings in the research project 'Politics, rights and texts in dialogue: claims, imprints and senses of and in academic literacy', including preliminary aspects of the doctoral dissertation 'Academic texts in courses of study at Universidad Nacional de Mar del Plata (UNMdP): in between teachers' assessment and university traditions'. It includes initiatives and queries in the development of teaching and management activities, both in classroom and e-learning format courses as well as research and post-graduate education. Preliminary enquiries integrated activities related to educational material and academic texts, including its structure, medium, capabilities and mediation. The focus of our interest arises from concerns about the teaching of the course 'Methodology of intellectual work' in combination with research and university community action programs. These activities, in which teachers, researchers, students and volunteers were involved, aimed at problematizing (challenge) questions regarding knowledge, education and communication in university life.

One of our research areas focused on understanding academic traditions and teachers' assessments of material selected for the teaching of undergraduate courses at the UNMdP. In order to do so, we analyzed teachers' perceptions about how cultural and technological changes operate on knowledge mediation and the text corpus they select for their courses. In each of this corpus, academic genres and prototypical disciplinary texts are identified and characterized. We have considered, among others, scientific papers, essays, dictionaries, encyclopedias, teaching guides, reports, manuals, norms, tests and disciplinary texts, looking for text configurations and categorization including the recognition of elusive borders in textual constellations offered to the students in the bibliography of mandatory courses

D7: Stories, narratives, reading

Where has so much changed in the last 10 or so years?

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At the 2005 IARTEM conference in Caen, France, Alan Peacock and Ailie Cleghorn gave a keynote address: *What do we believe are the issues with text-based and other learning materials? Are we caught in the web or lost in the textbook?* Since then, and despite much talk about new media and new ways of teaching and learning, it seems that not much has changed, especially in the economically disadvantaged 'majority world' classrooms affected by the digital divide. For example, in Rinelle Evans' and my 2012 book *Complex Classroom Encounters: A South African Perspective*, we talk about the construction, content and use of teacher-made worksheets for foundation phase learners in classrooms where neither the learners nor the teachers are first language speakers of the instructional language (English). In the book, we point to what we called 'instructional dissonance', defined as the bewilderment that evidently comes from the interaction between a teacher's poor command of English, the culturally inappropriate instructional materials and the larger issue of the importance of readability of text materials in linguistically diverse school settings. More recent data from another southern African country in 2016 suggests that teachers in such diversely populated classrooms now bridge the divide, but also widen it, through indiscriminate and uncritical use of what is available off the Internet without taking the African context and local literacies into account. We now ask how today's new technologies might help the teachers and learners out of this conundrum; it would appear that much more than new media is needed. In this presentation, Evans and I will provide concrete examples of this complex and widespread issue, whilst inviting our audience to offer some solutions.

D7: Stories, narratives, reading

‘Close Encounters’: interactive stories as a path to 21st-century learning

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Close Encounters’ presents interactive stories that put the reader in contact with the characters, leading him or her to participate actively in the narrative by solving mysteries, following clues, or figuring out problems. Focused on elementary students aged 11 to 14, the project makes smart use of digital media to offer a new way of learning.

Our aim is to help students develop cognitive skills alongside social-emotional skills, based on UNESCO’s four pillars of learning for the 21st century: learning to know, learning to do, learning to be, and learning to live together. The project also refers to the guidelines of international curricula (like the Brazilian BNCC) to incorporate topics and competences in specific areas.

Gordon Allport’s Big Five theory will guide the interactive moments throughout the narrative by stimulating openness to new experiences, extraversion, kindness, awareness, and emotional stability.

These interactivities will take place through dialogues and challenges (in a chatbot-like system) that involve multidisciplinary contents applied to hands-on, plausible situations. Communication between users and characters might involve text messages, video, voice, or images.

Such moments in the story do not limit the reader’s path through the narrative: there are always options to continue reading. If readers do not figure out some situations, they can proceed through storylines with less information, leading to diverse outcomes.

In other words, the story can be read several times, in different ways, depending on readers’ choices. Tips related to the challenges will be available throughout the story for them to access or not.

‘Close Encounters’ will be multi-platform and can contain multiple stories, as well as expansions (as in a game). Each content can be activated through access codes or online payment. Premium features, such as teacher reports, can also be added to the roadmap.

D8: Identities

On representations of the British in Taiwan's junior high school textbooks from 1953 to 2002

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This paper – unlike other traditional imagological studies on Chinese images of the British, which mostly examine how the British were depicted as ‘the Other’ in Chinese literature or political texts – aims to explore how the British and their culture were represented in the senior high school history textbooks in Taiwan from 1952 to 1999, an era when unified versions of textbooks were adopted nationwide and their contents were scrutinized to make sure they were in accordance with the ideology of the government. As textbooks are deemed an authoritative source of knowledge and are read by a much larger number of people than other individual literary works, a study of the images of the British found in the Taiwan's senior high school history textbooks may therefore help us to clarify the intertextual relationship of the images of the object between the literary works and the textbooks. Since one can hardly comment on ‘the Other’ without referring to one's Self as a contrast, the images of the British in the history textbooks concerned thus more or less mirror the images of the Self, namely the Taiwanese, from 1952 to 1999. This paper, therefore, will not only expound on possible meanings of images of the British as ‘the Other’ in Taiwan's senior high school history textbooks, but will also analyze the historical significance of reflected images of the Taiwanese in different eras.

Keywords: image, textbook, the Other, the Self

D8: Identities

Voices of male and female authorship – legitimations and identities in literary textbooks

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The literature textbook contains a range of voices (e.g. the textbook writer, the authors, experts etc.) who legitimize certain perspectives on the authorship (Dahl 2015). The aim of this paper is to discuss how voices are used and combined to legitimize female and male authorship in five literature textbooks for upper secondary schools in Sweden.

The analysis is based on Theo van Leeuwen's (2007) concept of legitimation, Bakhtin's (1991) concept of voice and Norman Fairclough's (1992) concept of intertextuality and interdiscursivity. Intertextuality focuses on how voices, i.e. explicit references, are used to authorize a specific perspective on the authorship. Interdiscursivity highlights texts as social practices constituted by combinations of voices, discourses and genres. My analysis of interdiscursivity examines how voices and discourses are articulated in the legitimation of the authorship and how it is realized linguistically.

The result indicates differences in how male and female authorship are legitimized. Typical for the discourse of the male authorship is that the textbook writer's voice interacts with the voices of the author and authorities in literature, shaping a polyphonic discourse in which literary concepts and theory are predominant. The male authorship is legitimized as artistically significant in the history of literature. In comparison, the legitimization of the female authorship is characterized by a monophonic discourse with few references to authorities in literature. Interdiscursively, the voice of the textbook writer is more evaluative and the legitimations focus on the author's social and empathetic ability. The result raises questions about the construction of male and female identities and didactic implications regarding language, identity and power in textbooks.

D8: Identities

Films in feminist classrooms and intercultural learning: between knowledge-building, critical public pedagogy and edutainment

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The paper presents films (featured films, documentaries) and other visual materials (television episodes, video clips, etc.) as a communication medium of unique quality and a powerful teaching and learning tool. Films are discussed as a resource of video pedagogy and edutainment (education + entertainment) for learners belonging to the 'TV generation' with specific observational learning style (Andrist et al, 2014). Films combine entertainment and politics and become a site of critical public pedagogy with new cultural politics by creating opportunities for civic education and public engagement and connecting politics, personal experiences and public life with larger social issues (Giroux, 2011). The pedagogical potential of films is derived from their capacity to create visual portraits of abstract theories and concepts and present them in a contextual setting. The author refers to the theory of Karl Maton (2014) on semantic structures and semantic waving as recurrent shifts in context-dependence and condensation of meaning. Films in the classroom could be treated as a means to create stronger semantic gravity (SG+) and weaker semantic density (SD-). It allows meaning to become more dependent on context and less condensed. Respectfully, theoretical materials and activities in the classroom (lectures, readings, assignments, evaluation strategies) become means of weakening semantic gravity (SG-) and strengthening semantic density (SD+). Contextualisation of theories and concepts and processes of strengthening semantic gravity and weakening semantic density go in line with critical theory and intention to recognise the cultural experiences of the learners and knowers (women, working class, racial approach) and bring the curriculum closer to the cultural background of the learners (Maton, 2014). The paper presents empirical data on the use of films in several university courses on gender studies and intercultural learning in Lithuania. The data illustrate semantic waving as a combination of theoretical concepts (intersectionality, postcolonial feminism, performativity of gender, social construction of gender, politics of identity, hetenormativity and hegemonic masculinity) with visual stimuli and strong emotional content. The author analyses learning goals and outcomes, teaching materials and evaluation strategies, and presents a content analysis of students' assignments.

D8: Identities

Types of discrimination In Turkish For Foreigners textbooks

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Although there have been many changes in education media and technology, textbooks are still a main resource of teachers today. In particular, textbooks used in foreign language teaching can be the basic source of learning when the target language is not spoken in the country where the language is being taught. Thus, it can be mentioned that the resources used in education indirectly play an important role in shaping the historical, cultural and social perception of learners. The cultural heritage of textbooks transmits values to the future generations. They should therefore be designed to be free of stereotypical and ideological bias and discriminative expression and should offer objective information. This paper argues that the explicit or implicit messages in textbooks may lead to social polarization and the formation of societal mental boundaries and stereotypical beliefs in society. Educational research on discrimination in textbooks is generally limited to militarism and sexism, so the aim of this research to analyze the Turkish language textbooks according to other types: age, race, ethnicity, disability, colour, sexism, sexual orientation, property, religion, belief, language, addiction, social class, differentiation, occupation, pregnancy, individual differences, and marital status, as declared in the European Non-Discrimination Law of the European Union Agency for Fundamental Rights (European Commission, 2017). The research analyzes the Turkish language textbooks for foreigners to answer the questions below, using a content- analyzing scale according to the types of discrimination: 1. Are there discriminatory expressions in the written and vocalized texts? 2. Are there elements of discrimination in the visuals (graphics, pictures)? The research has not yet been completed so the results will be added after the findings are completed.

Key Words: Textbook, Discrimination, Bias, Prejudices