Sig Writing Conference 2022

20-22 June 2022

Umeå University





Content

Abstracts Monday 3

Session 1 3

Session 2 17

Session 3 25

Session 4 37

Session 5 52

Abstracts Tuesday 69

Session 6 69

Session 7 80

Session 8 94

Abstracts Wednesday 107

Session 9 107

Session 10 117

Session 11 128

Organising Committee Sig Writing Conference 2022:

Eva Lindgren

Kirk Sullivan

Carina Hermansson

Maria Levlin

Elisabet Norlin Rehnmark

Nina Vandermeulen

Erika Sturk

Department of Language Studies, LITUM, Umeå University

MONDAY 20 JUNE

Session 1

Paper presentations: Writing process

True or not? Can writing processes reveal if a narrative account is self-experienced or invented?

Presenting Author:Victoria Johansson, Lund University, Sweden; Presenting Author:Kajsa Gullberg, Lund University, Sweden; Co-Author:Roger Johansson, Lund University, Sweden

This paper presents the initial study of a larger project, aiming at investigating a) if/how writing processes, such as planning and revision, differ between accounts of self-experienced and invented narratives; and b) how such potential effects compare to corresponding spoken narratives. The underlying assumption in this project is that cognitive load will increase for the writer/speaker when s/he is is changing or inventing parts of an otherwise self-experienced series of events. This builds on theories of how limited working memory capacity leads to increased pausing behavior in accordance with increased cognitive demands (Berninger & Swanson, 1994; Kellogg, 1996; McCutchen 2000), and that the need for revisions will increase when the writer wants to meet the goal of convincing the reader that something is true (cf. the relation between planning, translating and revision described in e.g. the model of Hayes and Flower, 1981). This paper specifically focusses on comparing written accounts, collected with an experimental design. Participants (n=40) were presented with four elicitation videos, depicting certain misdemeanors (e.g., cheating on an exam, stealing a bike). Each participant performs four accounts across the four films: two written, and two spoken. For one account in each modality the participant is asked to lie and alter “who did it”. Modality, films and invented/self-experienced accounts are balanced for order. Data is collected online: written data through keystroke logging (ScriptLog). The participants repeated the experiment four times with two weeks apart, to allow for comparisons of consecutive accounts of both invented and self-experienced narratives. Initial results show preferences for longer time on task for the invented narratives. These narratives were also produced with an overall longer percentage pause time of total writing time, and the P-bursts were shorter. Additionally, the invented narratives had a higher number of pauses occurring just before words — all indicating an increased need for planning.

Finally, invented narratives showed more revision and pausing at the point when the writers started to change the story. Overall, these results support our expectations and indicate salient differences regarding writing processes between narrative accounts of invented and self-experienced events.

Exploring effective writing processes of upper-secondary students in two genres in L1 and L2

Presenting Author:Nina Vandermeulen, Umeå University, Sweden; Co-Author:Maria Levlin, Umeå University, Sweden; Co-Author:Christian Waldmann, Linnaeus University, Sweden; Co-Author:Eva Lindgren, Umeå University, Sweden

Background. There is a strong connection between the writing process and text quality: students adapt their writing process to the circumstances (for example, L1/L2 language and genre), and the quality of the resulting text depends on actions during the writing process (van den Bergh et al., 2016). Aim. This study aimed to explore effective writing processes of argumentative and narrative student writing in L1 (Swedish) and L2 (English). First, we explored whether language (L1/L2) and genre (argumentative/narrative) have an impact on the process. Second, we related the process to

the text quality and explored effective writing process patterns, taking into account language and genre. Method. 158 upper-secondary participants each wrote four texts: one narrative and one argumentative text in L1 and L2. Text were rated analytically. Writing processes were registered with keystroke logging tool Scriptlog and analysed with Inputlog. A total of 33 keystroke logging variables related to several writing process aspects (general production and timing, higher order pauses, lower order pauses, production fluency, revision) in various episodes of the process (beginning-middle-end) was taken into account. We used mixed model analyses to explore effects of language and genre on the process, and multiple regression analyses to explore effective writing process patterns. Results. First, both language and genre proved to have an effect on the majority of the writing process variables under study. So, students adopt a different writing approach according to the language in which they write and the task genre. Second, we identified effective writing process patterns for each language-genre combination. Four predictor variables explain 64% of the variation in text quality for argumentative L1 writing. Five variables predict 56% of the quality of narrative L1 texts. 69% of the variation in text quality of argumentative L2 texts can be explained by five predictors. Five process variables predict 64% of the quality of narrative L2 texts.

Writing in a foreign language: How language proficiency shapes writing processes

Presenting Author:Lisa Haake, Leibniz University Hannover, Insitute of Psychology, Germany; Co-Author:Joachim Grabowski, Leibniz University, Germany

Writing skills can be used across languages: Strategies that are used in L1 are usually transferred when writing in a foreign language which goes hand in hand with the quality of these strategies (Cumming, 1989). Yet, language proficiency contributes to the fluency with which a text is compiled and the quality of the outcome. Research has shown that foreign language writers tend to produce shorter texts, pause more, and write fewer words between pauses (Van Waes & Leijten, 2015). To gain further insight into how language proficiency and language-overarching writing skills are reflected within writing processes and products, 24 native German students performed two prompted writing assignments, counterbalanced one in German and one in English, while keystroke logging data was recorded with Inputlog. The tasks were designed to emphasize linguistic knowledge by reproducing simple and familiar everyday subjects and procedures. Language proficiency levels were assessed using a standardized cloze test. Results of repeated measurement ANOVAs revealed that participants paused longer ($F(1,21)=18.26$, p

Paper presentations: Assessment

Latent Profiles of Writing and Their Relations to Writing Performance

Presenting Author:Gary Troia, Michigan State University, United States; Co-Author:Heqiao Wang, College of Education, Michigan State University, United States; Co-Author:Frank Lawrence, Michigan State University, United States

This study aims to expand the limited research on writing profiles of late elementary students who typically exhibit a great variability in their written expression. We first sought to identify writer profiles based on a series of measures aligned with writing theory using latent profile analysis. We also determined the influence of four demographic variables on membership in the derived latent profiles. Finally, we evaluated how well each latent profile predicted text quality in each of three macrogenres—narrative, opinion, and informative. A range of writing-related measures aligned with Hayes' (1996) model were selected to capture a thorough description of students' writing heterogeneity, including (a) transcription fluency, (b) writing-related component skills such as spelling and vocabulary,

(c) word reading, (d) verbal working memory, (e) essay planning, (f) writing knowledge, and (g) writing motivation for tasks in the three genres. A total of 335 fourth- and fifth-grade students from 24 Midwestern U.S. schools participated, with 46.6% fourth graders, 55.2% girls, 6.3% non-native English language learners, and 8.4% with special education needs. Based on multiple model fit criteria, a five-profile solution was derived with each subtype pattern named as (a) Globally Weak (n = 48), (b) At Risk (n = 87), (c) Average Motivated (n = 85), (d) Average Unmotivated (n = 51), and (e) Globally Proficient (n = 64). Additionally, we found that being a fifth grader, female, native English speaker, and student without a disability significantly increased the probability of being classified as Globally Proficient. Profile membership was dummy coded and, using ordinary least squares regression, used to predict text quality in each genre. Results indicated that for each genre, most of the latent profiles were significantly inversely related to the average quality of papers written by students who were classified as Globally Proficient. However, Globally Weak and At Risk writers did not significantly differ in their writing quality, nor did Average Motivated and Average Unmotivated writers. Thus, the five profiles predicted three levels of writing quality. This study illustrates how measures representing a widely used model of writing can capture the heterogeneity of late elementary writers.

Writing German capitalization. A comparison of high- and low-achieving pupils in fourth grade.

Keywords: Evaluation and assessment of writing competence, Learner characteristics, Links between writing and/or reading and/or speaking, Spelling Presenting Author:Katinka Mangelschots, Université du Luxembourg, Luxembourg; Co-Author:Constanze Weth, Institute for Research on Multilingualism, University of Luxembourg, Luxembourg; Co-Author:Sonja Ugen, University of Luxembourg, Austria

In light of children’s individual learning trajectories, differentiation in spelling and grammar instruction is essential to foster children’s writing competences. This paper presents the varying difficulty patterns of high- and low-achieving pupils in a topic that integrates spelling and grammar, namely capitalization of nouns in German.In German orthography, all nouns are capitalized. This apparently simple rule presents a challenge for inexperienced writers (Bîlici et al., 2019; Günther & Nünke, 2005). The present study compares the capitalization performance of fourth graders with different proficiency levels (1st and 4th quartile, 192 and 195 pupils respectively). The results show that high- and low-achieving pupils are influenced to varying degrees by the lexico-semantic type of the noun (concrete, abstract, nominalized) and its syntactic context. The low proficiency group obtains low results in most item conditions. They reach chance level only for familiar, concrete nouns referring to tangible objects that are presented in the syntactic context they learned to memorize in school. The high proficiency group succeeds on concrete nouns independently of the syntactic context as well as on less frequent, abstract nouns presented in different syntactic contexts. This suggests that this group is able to go beyond that which is explicitly taught in formal education and can identify the noun in various contexts. In our paper, we present the results and the didactic implications for teaching German, and language writing in general.

Assessment practices to develop students’ academic writing in upper secondary school

Presenting Author:Per Blomqvist, Department of Language Education, Stockholm University, Sweden

This study is part of a larger research project on writing assessment in upper secondary school in Sweden, with the purpose to explore how assessment practices can be developed to better support students' academic writing.The aim of the study is to describe and analyze teachers' conversations about writing assessment in the subjects Social science and Swedish in upper secondary school. The

research questions are: What characterizes teachers' descriptions of the assessment practice and what impact do they express that the assessment practice has on students' writing?Theoretically, the study is based on concepts and models from formative assessment, especially regarding scaffolding in relation to develop students' academic writing and deepen their subject knowledge (Hayes, 2012; van de Pol et al., 2010).The empirical data consists of video recordings of teacher groups' conversations from five upper secondary schools in Sweden, compromising a total of nineteen teachers. The conversations were conducted as so-called collective remembering interviews (Middleton & Brown, 2005), a method to stimulate the participants' memory through social interaction, and focused on addressing issues on how writing assessment has changed over time. Topic analysis (Linell, 2001) was used to analyze the conversations in order to identify common descriptions and expressions among the teachers in each group.The result highlights two different assessment practices that are described as giving students different opportunities to develop their academic writing. One of the assessment practices is characterized by teachers explaining to the students what the grading criteria mean andshowing sample texts that correspond to a certain grade. The teachers describe that this assessment practice has led to a formalized, instrumental and product-oriented writing culture that has negative consequences for the students' development of their academic writing, which often lacks independent reasoning, own conclusions and understanding of concepts. The other assessment practice is characterized by students examining text qualities and discussing a variety of sample texts to understand what different texts require. These teachers describe the assessment practice as an exploratory work that leads to more creative writing processes where the students gradually deepen their understanding of subject-specific texts and develop their academic writing.

Paper presentations: Academic writing

Written academic linguistic proficiency in Hebrew-speaking students across the school years

Presenting Author:Leah Haim, Tel Aviv University, Israel; Co-Author:Dorit Ravid, Tel Aviv University, Israel

Writing development relies on language proficiency side by side with other factors. In Hebrew, a language with rich morphology, morpho-lexical abilities are at the core of developing writing skills (Berman, 2008). The current study investigates a set of tasks aimed to characterize the written academic language competence of Hebrew speaking students. These tasks were designed to classify participants into three clusters of academic language proficiency as part of a doctoral dissertation investigating the development of Hebrew writing abilities (Haim, 2021).Participants were 550 native Hebrew-speaking students in 4th, 7th and 11th grades, and college educated adults. Each group was administered a set of age- and school level appropriate written morpho-lexical tasks reflecting literate academic language. Overall, the tasks represented knowledge of morphology, advanced lexical skills, and metalinguistic syntactic skills. Latent Cluster Analysis was used to classify participants' performance into three proficiency levels, with the diagnostic value of each item calculated using Item Response Theory (Reise & Revicki, 2014).Results indicated that the tasks were diagnostic of participants' age-specific academic linguistic proficiency, classifying each group into three clusters of participants with high, medium and low skills. The number of diagnostic items and tasks decreased with age and schooling, suggesting that more complex linguistic tasks were required in older writers. Item diagnosticity reflected regularity and frequency, as well as linguistic category and task requirements such as context. Younger students with high morpho-lexical skills were markedly different than the other clusters, whereas in the adults, low skilled writers were more clearly distinguished.This study indicates that across the school years, the quality of linguistic

knowledge and cognitive resources for concept representation evolves in meaningful and quantifiable ways. Our results support the claim that academic language skills are at the root of developing writing abilities.

Finnish university students as writers of rejection letters

Presenting Author:Esa Laihanen, LAB University of Applied Sciences, Finland

Esa Laihanen LAB University of Applied Sciences Language Centre esa.laihanen@lab.fi Paper presentation Finnish university students as writers of rejection letters This work examines genre knowledge (i.e. understanding of the traits and norms of the genre) and ways expressing interpersonal meanings on the basis of rejection letters (N=53) produced by Finnish students of engineering during a university-level writing course (Finnish as mother tongue). The students' genre knowledge of rejection letters was assessed by analysis of the functional structures. Swalesian genre theory (Swales 1990) was used in the analysis. The rhetorical choices the student writers make when constructing the authorial voice and reader in their texts were analyzed by text analysis and attitudinal evaluative voices were recognized by applying the appraisal theory (Martin & White 2005). Textual analysis of the functional structures utilized by the student writers showed that they had some sense of the genre of rejection letters: they seem to use similar functional structures in their texts as are used in real-life rejection letters. However, the feedback given to the applicant-reader is more personal and precise than in real life rejection letters. Selection of formal and informal means of addressing the reader is uneven and causes problems constructing and maintaining a realistic relationship between the writer and the reader. Based on the findings, it is concluded that knowledge of the genre of rejection letters, typical functional structures and interpersonal aspects of such texts are relevant issues that should be considered when teaching literacy skills for working life. It is further concluded that practicing the writing of rejection letters in business writing courses is beneficial and a valid approach for exploring the interpersonal metafunction in teaching of writing.

Find a native speaker: Impacts of Assumptions and Mislabelling in Peer Reviewer Comments

Presenting Author:Kirk Sullivan, Umeå University, Sweden; Co-Author:Virginia Langum, Umeå University, Sweden

A significant body of work examines the role of bias in peer reviewing and academic publishing (e.g., Politzer-Ahles et al. 2020). Furthermore, the existence of a deficit or disadvantage among English as Another Language (EAL) academic writers has been both advanced and contested (e.g., Hyland 2016; Politzer-Ahles et al. 2016). We see the role of peer reviewers and their interactions with authors as a significant part of this discussion.In our current research, we focus on particular peer review comments concerning the authors' status or lack thereof as native speakers. One such comment is: "have your paper read by a critical but supportive first-language user of English." Yet these comments are often directed (unwittingly) to first-language users, where the reviewer has assumed that the author is not a native speaker of English or the language of the article. One possible reason underlying this assumption is that the author's data is in another language. Whatever the reason, these comments often mislabel other errors (such as proofreading and content errors) as language issues stemming from being inexpert in the language of the article.In this paper, we outline our current project to determine the impacts of such "find a native speaker" peer reviewer comments on academic writers at various stages in their careers. We will present preliminary results from a pilot questionnaire. We intend to follow up our questionnaire with more in-depth interviews.

Paper presentations: Pedagogy

Teacher educators' talk about writing instruction in teacher education: Positions and perspectives

Presenting Author:Ingunn Ofte, Norwegian University of Science and Technology (NTNU), Norway;
Presenting Author:Hildegunn Otnes, Norwegian University of Science and Technology (NTNU), Norway

We will present findings from a study in which we explored teacher educators' perspectives on writing and writing instruction in teacher education as these are revealed in collegial conversations. Building on social constructivist perspectives on writing and applying relevant aspects from positioning theory (Harré & van Langenhove, 1999), we have analyzed the content of the teachers educators' utterances, and what this revealed about their professional positioning as writing teachers. The overarching research question of our study is: What positions, perspectives, and priorities regarding writing and writing instruction are expressed in teachers educators' collegial conversations? We first categorized a selection of single utterances across the conversations according to three overarching approaches to writing instruction: Writing to lean, Learning to Write and Writing to become teachers to explore potential variations in priorities and purposes among the teachers with regards to writing instruction. Then, we analyzed an episode from a conversation relating to a specific aspect of academic writing instruction, namely supervision. We found that while there is some variation in the positions the teachers take in this respect, we were not able to identify strongly divergent or particularly explicit positions among the teachers or across the disciplines represented. However, there is some diversity when it comes to purposes and priorities between different subjects and different teachers. The fact that the individual teachers do not position themselves explicitly within a theoretical paradigm suggests a lack of explicit professional positioning. However, the findings also indicate that they position themselves collectively, albeit tacitly, within a social constructionist paradigm as members of a teacher education tradition which is characterized by shared traditions, enacted practices – and enacted professionalism (Vanassche & Kelchterman, 2014). By exploring these teacher educators' positions, perspectives and priorities in this manner, the study adds to the existing knowledge about how teacher educators understand writing and writing instruction in teacher education.

Developing a model for exploring the teaching of writing in theory and practice

Presenting Author:Erika Sturk, Umeå universitet, Sweden

For many student teachers it is a challenge to link theory and practice (Darling-Hammond, 2014). To meet this challenge, a model for Reflective Observation of School writing (ROS) was developed through a collaborative approach together with teacher educators and students with the goal to explore the nature of discourses of writing enacted in Swedish school years F–3 and 4–6 (ages 6–12). The aim of this study is to investigate benefits and challenges for researchers, student teachers and Teacher Education in collaborative research on the teaching of writing. The study is underpinned by Ivanič's (2004, 2017) theoretical and analytical framework for discourses of writing: skills, creativity, process, genre, social practice, socio-political discourses, and discourse of thinking and learning. Based on our ROS-model the student teachers used Ivanic's framework to reflect on the teaching of writing in school practice. Student teachers for school years 4–6 (n 104) at 5 universities observed writing in school practice. Further, using artefacts of school practice (Ball & Cohen, 1999) student teachers for school years F–3 (n 38) at 1 university, and 4–6 (n 24) at 2 universities studied schoolbooks. The data in this presentation consist of observation protocols, researcher's notes from reflective seminars, and two questionnaires and were content analysed taking a holistic perspective.

Preliminary findings reveal benefits for both the researcher and the student teachers. First, results indicate that all seven discourses proposed by Ivanič were evident to different extent. Second, the students could appropriate the analytical tools presented in the ROS- model gaining insights in how to reflect upon practices from a theoretical framework. Challenges on validity and reliability will be discussed.

The study makes an important contribution to the field of the teaching of writing, by linking research theory and methodology with educational practice in teacher education.

Developing confident writing teachers in primary grades – outcomes from an intervention study

Presenting Author:Lennart Jølle, Norwegian University of Science and Technology (NTNU), Norway; Co-Author:Daroon Yassin Falk, Örebro University, Sweden

Writing is a complex skill that requires instruction and confident and knowledgeable writing teachers. This is especially critical in the primary grades to ensure that students get off with a good start and to prevent students to fall behind. Yet, few primary grade teachers feel well prepared to effectively teach writing after preservice preparation (Graham et al 2021). Competence development programs can be seen as a way to foster inservice teachers' development as writing teachers.This study is part of the research project FUS - Functional Writing in Primary School (Skar et al 2020). FUS is an intervention study that relies on teachers to mediate externally devised resources for instruction and as such it involves professional development (Borko, 2004). The purpose of this study is to examine teachers' perceived development as writing teachers during their participation in the two-year intervention program. The study builds on two data set:

a) pre and post surveys with grade 1-2 teachers (n=105), b) pre and post semi-structured interviews with a limited number of the teachers (n=10). The data collection followed a convergent parallel design (Creswell & Plano Clark 2011).Preliminary findings indicate that the teachers' perceived development as writing teachers is rather limited, but at the same time it is found that their self efficacy to teach writing is rather high. Details and possible explanations are discussed.

Symposium

Symposium: Conducting high-quality writing interventions (part 1): Design and Implementation

Chairperson: Renske Bouwer, Utrecht University, Netherlands

Organiser: Fien De Smedt, Ghent University, Belgium

Discussant: Gustaf Bernhard Uno Skar, Norwegian University of Science and Technology, Norway

Currently, a new volume in the Studies in Writing Series entitled 'Conceptualizing, Designing, Implementing, and Evaluating Writing Interventions' is being prepared. This volume aims to move the field of writing research further by discussing methodological issues researchers may face when designing, implementing and evaluating writing interventions in various educational contexts. This research method book will help future writing researchers to consider crucial methodological issues and approaches and consequently support them in setting up a methodologically sound research plan for conducting high-quality writing intervention research. In this symposium on conducting high-quality writing interventions (part 1), we highlight three upcoming chapters of the volume that focus on the design (paper 1) and implementation (paper 2 and 3) of writing interventions. As for the design, intervention researchers must decide on crucial design choices based on theoretical and/or empirical research. The first paper of this symposium describes a step-by-step approach on how to design a writing intervention and provides an overview of key recommendations on how to report

such a design process in research articles. In light of ecological and social validity, we opt to focus on the implementation process of interventions in authentic classroom contexts by teachers and educational practitioners themselves.

Consequently, effective research partnerships (paper 2) have to be developed and the implementation of the interventions must be carefully monitored (paper 3). More particularly, the second paper highlights the importance of research-practice partnerships between academics and professionals. This requires genuine and inclusive partnering with teachers, recognizing that they are crucial actors in implementing and scaling-up sustainable interventions. The final paper in this symposium focusses on the need to monitor the accuracy with which a writing intervention is implemented as intended. During this presentation guidelines on planning for, measuring, reporting, and interpreting treatment fidelity data will be presented and discussed. Please note that the abstracts of the individual papers do not always follow the requested structure of an empirical research study (cf., aim, theoretical framework, methodology, conclusions, relevance to the domain) as the presentations focus on methodological challenges when conducting writing intervention research.

Designing and Reporting Writing Interventions

Presenting Author:Fien De Smedt, Ghent University, Belgium

A high-quality writing intervention is aimed at improving particular cognitive, motivational and/or self-regulatory writing processes that are needed to become a skillful writer. Once these particular writing processes are determined as the key focus of instruction, the next step is to meticulously lay out the design of an educational writing intervention. During this presentation, I will outline a three-step-approach on designing an intervention through the construction of design principles. These design principles are theoretically and empirically driven and constitute the blueprint of an instructional intervention within a given context (cf., phase 1). Based on this blueprint, the second phase focusses on designing concrete instructional activities and learning activities. The instructional activities outline what teachers need to do to stimulate students' writing, while the learning activities describe what students are expected to do during the instructional writing activities in view of reaching the intended writing outcomes. Finally, based on the envisioned instructional activities and learning activities, tangible intervention materials such as instructional materials and student materials can be developed (cf., phase 3). Critical design choices and approaches are often only vaguely described in current research publications on writing interventions. Due to this lack of detail on the design process and choices, researchers in the field have called for more structured and analytic descriptions of writing interventions in light of fostering theory building, replication, dissemination, and implementation of evidence-based writing practices (EBP's) (Bouwer & De Smedt, 2018; Fidalgo et al., 2018; Rijlaarsdam et al., 2018). Hence, clear descriptions of the design of interventions in research publications provide guidance for writing researchers to further theorize conceptual writing models, to replicate EBP's, and to bring writing interventions to scale. Eventually, such detailed descriptions can also inform educational writing practitioners to effectively implement these writing practices into everyday practice. Therefore, I will provide recommendations and guidelines on how to systematically report an intervention program in research articles.

The importance of Research Partnerships with Teachers in Writing interventions

Presenting Author:Judy M. Parr, University of Auckland, New Zealand; Presenting Author:Debra Myhill, University of Exeter, United Kingdom; Co- Author:Rebecca Jesson, University of Auckland, New Zealand

Research topicThis paper sets out to address and reframe thinking about research partnerships with teachers in the design of writing interventions. In recent years, there has been a default stance of privileging randomised control treatments (RCTs), seen as allowing causal inferences, to provide evidence of efficacy. However, such an approach does not acknowledge sufficiently that interventions work differently in different contexts for different students with different teachers. Designing, implementing and sustaining more effective writing pedagogy requires that teachers collectively inquire into the impact of their teaching refinements on their students' learning, and build the capability to adapt interventions to meet students' learning needs. Theoretical frameworkTheoretically, the paper draws on and critiques traditional stances towards writing interventions, characterised by a strong emphasis on 'true' experiments. This reflects the fact that 'evidence' has emerged internationally as a key requirement to inform improvements in education, with less concern about the ecological validity and professional implications of such evidence (Myhill & Jones 2007; Cartwright, Goldfinch & Howick, 2010; Biesta, 2017). Methodological designThe paper does not report a single study but synthesises experiences and outcomes from a range of writing interventions by the authors, including standard RCTs (Myhill et al 2012); and studies underpinned by strong teacher-researcher partnerships (Parr & Hawe, 2017; Jesson & Spratt, 2020).

ConclusionsWe argue that for research to have scalable and long-term impact on the teaching of writing and on positive outcomes from this teaching, much more attention is required to process, to the socio-culturally shaped ways in which writing is taught and understood. We argue that this requires genuine, inclusive partnering with teachers, recognising that teachers are crucial actors in an intervention. Without such a reframing, promising findings are likely to continue to dissipate, and experiments will continue to come and go with no discernible ongoing impact on writing pedagogy or student outcomes in writing. Relevance to domain of writing The presentation focuses directly on writing instruction, the modes used to determine efficacy and gather evidence in writing instruction, and the importance of bringing together research and professional practice.

Fidelity of Implementation

Presenting Author:Amy Gillespie Rouse, Southern Methodist University, United States

In this paper, I define fidelity of implementation, or treatment fidelity, and discuss its application and importance in writing intervention research. Despite its importance, treatment fidelity is often left out of study designs, even in research published in high-quality journals (O'Donnell, 2008; Smith et al., 2007). From a review of the literature, I outline challenges associated with planning for, measuring, reporting, and interpreting treatment fidelity data, and summarize ways treatment fidelity has been measured and documented in writing intervention research. I discuss examples of how different writing research groups have documented fidelity of implementation of the structure (i.e., content and quantity) and process (i.e., quality) of their K-12 writing interventions using procedural checklists, audiorecordings, videorecordings, and teacher self-reports. I highlight how researchers might plan for measuring and documenting treatment fidelity in writing intervention research as well as how they might train research staff to accurately assess treatment fidelity. Lastly, I make recommendations for the future, in terms of defining, measuring, and reporting treatment fidelity in the field of writing intervention research. This topic is important to discuss within the domain of writing, as measuring treatment fidelity in writing intervention research is critical for gauging the impact of writing interventions as well as determining how effective writing interventions can be applied as in classroom settings (Gabriel & Davis, 2015; King-Sears et al., 2018). Measurement of treatment fidelity allows researchers to monitor the accuracy with which a writing treatment is delivered to students as planned and delivered consistently across participants. With data indicating a writing treatment was implemented as planned, researchers can better

demonstrate that students' outcomes are attributable to the writing intervention and rule out other sources of influence (Sanetti et al., 2021). With treatment fidelity data, researchers can also examine reasons why a writing treatment might have failed to produce hypothesized student outcomes (e.g., McMaster et al., 2020). Treatment fidelity data further provide important insight when considering how a treatment can be scaled up to larger groups of participants and to authentic classroom settings with teachers as implementers of the intervention (McKenna et al., 2014).

Symposium

1. Symposium: Motor aspects of children's writing

Chairperson: Olivia Afonso, Oxford Brookes University, United Kingdom

Organiser: Guido Nottbusch, University of Potsdam, Germany Organiser: Stefan Hess, University of Potsdam, Germany

Discussant: Mark Torrance, Nottingham Trent University, United Kingdom

There is substantial evidence that the planning processes for writing single words (and sentences) is not complete initially, but that several processes, such as the retrieval of graphemes and motor plans, operate in an incremental fashion, i.e. serial and parallel at the same time, and that this fashion is not limited to experienced adult writers. Therefore, this symposium is dedicated to shed light on the various motor aspects of children's handwriting and typing and their interplay with higher order cognitive processes.

Starting from the analysis of single letters and digits (Hess & Nottbusch), the scope will be widened to single letters vs. words (Fitjar, Rønneberg & Torrance) and word writing after dictation and copying (Afonso, Suárez-Coalla, & Cuetos). Finally, Naomi Weintraub will compare handwriting and typing abilities of children and adults in copied texts. Developmental aspects will be covered in all talks, concerning several age groups, starting from beginning writers in 1st grade, via 2nd, 3rd, 4th and 6th graders to adults (for control). Dyslexic children are also in the scope of this symposium (Afonso et al., Hess et al.). All talks discuss the impact of motor aspects on spelling / orthographic processes and their components (lexical, sub-lexical and orthographic working memory). The individual papers are taking into account one or more variables of the following: grade of automaticity (number of velocity peaks per stroke), writing latencies, writing speed, pen-on-paper durations, pen-in-air durations, trajectory length, legibility, errors, and accuracy. Methodological aspects will also be covered.

The results of the studies above and their impact on a model of writing will be discussed by our discussant Mark Torrance (Nottingham Trent University).

Spelling impairments in children with dyslexia and their impact on motor processes

Presenting Author:Olivia Afonso, Oxford Brookes University, United Kingdom; Co-Author:Paz Suarez-Coalla, University of Oviedo, Spain, Spain; Co- Author:Fernando Cuetos, Universidad de Oviedo, Spain

It is well known that children with developmental dyslexia often experience spelling difficulties and that these difficulties may affect motor aspects of handwriting. It has been recently shown that, as a group, children with dyslexia exhibit spelling difficulties consistent with problems affecting the lexical spelling route (i.e., information stored in the orthographic output lexicon), the sublexical

route (i.e., the application of the phonology-to-orthography conversion procedures), and the orthographic working memory system. However, it is still unclear if all children with dyslexia suffer from the same type of difficulties, or if, on the contrary, different profiles of spelling impairment can be identified. In this presentation, we present the results from a series of analyses conducted to identify individual differences in the pattern of spelling difficulties exhibited by Spanish children with and without dyslexia aged between (7-12 years-old). The performance of children with dyslexia (n = 20) in a copying task and in a spelling to dictation task will be compared to that of chronological age-matched controls (n = 20) and reading age-matched controls (n = 20). In these tasks, children were asked to produce words that varied in word frequency, phonology-to-orthography consistency and word length. Specifically, analyses conducted on error rates, written latencies, writing durations and in-air time durations to identify specific profiles of impairment will be reported. Moreover, handwriting fluency (as reflected by the number of velocity peaks), legibility scores and trajectory length will be reported to better characterise the effect that impairment to different components of the spelling system (lexical, sublexical and orthographic working memory) have on motor aspects of handwriting. Findings will shed light on the scope and generalisability of spelling difficulties in children with dyslexia and the impact of these deficits on peripheral processes during handwriting. Moreover, the extent to which each spelling process affects (or does not) the unfolding of handwriting movements will be discussed.

Developmental trends of keyboarding versus handwriting

Presenting Author:Naomi Weintraub, Hebrew University of Jerusalem, Israel

Theoretical framework and aim: Handwriting and keyboarding are two writing modes that require similar as well as different linguistic, cognitive and perceptual- motor functions. As most motor-learned activities, they are expected to improve with age and practice. Whereas developmental trends of handwriting have been previously described, data relating to keyboarding is lacking. Additionally, handwriting is still systematically taught at schools, as opposed to keyboarding that is often acquired in a non-systematic (spontaneous) manner. This study compared the development of handwriting and keyboarding speed as well as the correlations between them at different age levels. Methodological design: The sample included students in: 4th grade (n=47, Mage=9.2), 6th grade (n=44, Mage=11.2) and higher-education (n=33, Mage=24.0). Participants were administered a copying task while handwriting (measured for speed and legibility) and keyboarding (measured for speed and accuracy). Expected Findings: Handwriting and keyboarding speed as well as handwriting legibility significantly increased with age, but not keyboarding accuracy. Interestingly, whereas handwriting and keyboarding speed were moderately correlated in 4th and 6th grades (r=.67; r=.69, p

Children's handwritten letters within a word

Presenting Author:Camilla Lausund Fitjar, University of Stavanger, Norway; Co-Author:Vibeke Rønneberg, University of Stavanger, Norway; Co-Author:Mark Torrance, Nottingham Trent University, United Kingdom

There is evidence, for adult writers writing single words, spelling is not always fully prepared prior to the first pen-stroke or keypress. Instead, at least some of the letters that make up the word are retrieved after, or in parallel with output, or at least during pauses that occur between letters. The present study aimed to determine whether this is also true for students at the start of their school career.90 Norwegian first graders completed a spelling-to-dictation task, with their writing timecourse captured on digitizing tablets. Target words varied in length and in frequency but had

otherwise carefully controlled structure. The students also completed a single-letter dictation task, again on digitizing tablets, producing the same letters as appeared in the words. Digitised traces were then marked up and analysed using MarkWrite (Simpson, Nottbusch, and Torrance; https://github.com/isolver/OpenHandWrite), giving measures of handwriting fluency - particularly counts of velocity peaks. Comparison of fluency for single letters and the same letter when it appeared in a word provides a direct measure of the effects of length and frequency on production. These effects will be present only if spelling is not prepared in advance of production onset.Data collection is complete but at time of writing data analysis is still in progress.

References

Bonin, P., Roux, S., Barry, C., & Canell, L. (2012). Evidence for a limited-cascading account of written word naming.Journal of Experimental Psychology. Learning, Memory, and Cognition, 38(6), 1741–1758. https://doi.org/10.1037/a0028471 Scaltritti, M., Arfé, B., Torrance, M., & Peressotti, F. (2016). Typing pictures: Linguistic processing cascades into finger movements.

Keywords: spelling; handwriting; children; fluency; letters

Analyzing children's and adults handwritten letters

Presenting Author:Stefan Hess, University of Potsdam, Germany; Co-Author:Guido Nottbusch, University of Potsdam, Germany

Real-time research on handwriting production has flourished over the past four decades. As a result, models that describe and explain spelling and motor mechanisms of handwritten language production have been developed. However, mark up of collected high-resolution handwriting data is typically still done manually, which makes studies very expensive. Furthermore, it is often difficult to disentangle whether changes in kinematic variables are induced by orthographic or motor characteristics of the to-be-produced word or letter shape, respectively. Within the OpenHandWrite software project, we developed and implemented an algorithm, which automatically segments data into strokes. Based on these strokes, OpenHandWrite users can easily cluster data in bigger meaningful linguistic units such as letters or words. It, thus, forms a critical tool for handwriting production research.

In our talk, we want to exemplify these analyses on alphabet writing tasks by 1st, 3rd and 5th graders (the latter with and without dyslexia), and adults. In the study, we asked the participants to write the letters of the alphabet on pen tablets (from memory, in their own time and under time pressure). Our analyses sought to determine how stroke types affect kinematic variables such as velocity and fluency in order to gain an insight into characteristics that determine letter production in beginning to proficient writers. The kinematic variables in a very simple task like this can help to dissociate effects of spelling and motor processes and this knowledge can then be transferred to data from spelling tasks. Moreover, we hope to contribute to the further development of models of handwritten language production from a developmental perspective. At time of writing the data collections is still in progress.

Symposium

Analysing Writing Processes of People with Acquired and Developmental Writing Difficulties

Chairperson: Åsa Wengelin, University of Gothenburg, Sweden Organiser: Åsa Wengelin, University of Gothenburg, Sweden

Organiser: Luuk Van Waes, University of Antwerp, Belgium Discussant: Luuk Van Waes, University of Antwerp, Belgium

The fact that the ability to write is imperative to function in today's world, presents great challenges for people with cognitive and linguistic disorders. As society is becoming increasingly digitalised, the need for written communication is growing such that in the Western world we are writing—and debating writing abilities– more than ever. While reading research has been fairly successful at identifying possible causes and remedies for reading problems, this is not really the case for writing studies. Writing processes of persons with writing difficulties, due to for example intellectual and cognitive disabilities, language learning disorders or post-stroke aphasia, are still poorly understood. (Connelly, Campbell, MacLean, & Barnes, 2006). In clinical or educational contexts, they are therefore, both under-recognized and under-treated (Berninger et al, 2008). It is, therefore, of uttermost importance that we increase our understanding of writing difficulties and their consequences, as well as the role of writing in the assessment linguistic and cognitive disorders. Therefore, in this symposium we bring together three presentations on writing behaviour by people with different types of writing difficulties. In common for all three studies is that they used online real-time approaches such as screen-recordings or keystroke logging to data. This enabled them to investigate not only the finally edited texts and potential errors, but also fine-grained details of the writing processes, challenges met by the writers, and strategies to meet these challenges. The purpose of the first is to contribute towards an increased understanding of how language-related screening tools for Alzheimer's disease could be improved. The authors use keystroke logging to explore the potential of observing writing process dynamics during typing to identify cognitive decline. In the second, the authors also used keystroke logging, but their focus is to increase our understanding of written language production by persons with post-stroke aphasia, linking observed temporal patterns and the underlying cognitive processes. Finally, the third presentation uses screen recordings and stimulated recall interviews to understand whether and how a speech recognition tool affects the writing processes of students with developmental reading and writing difficulties.

Writing processes in Alzheimer's disease: exploring the potential of a process-based screening tool

Presenting Author:Catherine Meulemans, University of Antwerp, Belgium; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands; Co-Author:Luuk Van Waes, University of Antwerp, Belgium

Research on the development of language-based screening instruments for Alzheimer's disease (AD) focuses primarily on the characteristics and progression of cognitive decline based on product measures (i.e. final texts). Moreover, the currently available language-related screening tools have hardly changed in the last 30 years even though the group of computer literate elderly is continually growing. Therefore, we aim to complement existing studies by exploring the potential of observing writing process dynamics during typing to identify cognitive decline. We examined the extent to which overall writing process measures and pausing behavior during writing differ between 15 cognitively impaired patients (probable AD and mild cognitive impairment (MCI)) and 15 age- and gender- matched healthy controls. On a computer, participants completed two typed picture description tasks that were registered with Inputlog, a keystroke logging program that captures keyboard activity during text production. First, we examined the effects of group on time on task and number of characters per minute.

Second, the influence of group on pause variables such as number of pauses and P-bursts per minute, proportion of pause time to time on task, and duration of P-bursts were observed. Third, the influences of group and part-of-speech on more specific process variables (i.e. pause times between

words in general and for word categories) were examined. Because the data were hierarchical, we used mixed-effects models. Analyses were carried out in R. Results showed a main effect of group on all variables. Cognitively impaired patients spent more time on completing the task and wrote less characters per minute. Moreover, patients paused less often and their proportion of pause time was higher. They also wrote in more and shorter bursts, and paused longer between words than healthy controls. In addition, a main effect of part-of-speech was found for pause time between words. These results indicate that writing process analysis could possibly serve as a supplementary tool for the screening and follow-up of patients with probable AD or MCI. Moreover, it illustrates that specifying word categories could be an added value in interpreting writing process data.

Speech-to-Text Technology's Influence on Writing Processes in Lower Secondary Education
Presenting Author:Marianne Engen Matre, University of Agder, Norway

In the last decades speech-to-text (STT) technology has become available as an integrated part of most writing software. A hypothesis posted by researchers such as Arcon, Klein and Dombroski (2017) suggests that if students could dictate, rather than transcribe, they would reduce constrains pertaining to spelling and orthography, and their texts would increase in quantity and quality. The aim of this study was to explore the writing processes of adolescents with reading and writing difficulties using STT. The methodological approach stimulated recall was chosen to be able to explore the writing processes. Stimuli provided were screen recordings captured while the adolescents were writing an argumentative text using STT and keyboard. The adolescents were presented with the screen recording within hours after writing the text and prompted to describe their experience. 7 Norwegian lower secondary school pupils (M: 14.91 years) took part. All pupils scored on the 30th percentile on a standardized spelling test (Skaathun, 2013), 2 had a diagnosed learning disability. Findings show that the pupils experienced both benefits and constrains caused by the STT-technology during the writing process. Benefits were presented as the opportunity to use words that they did not know how to spell and oral skills to produce arguments in a text. The constrains mainly related to transcription errors and technological inaccuracies. A second finding indicated that some elements that may have been considered a benefit of using STT, compared to typing or handwriting, also caused participants some distress. For example, the faster process of speaking instead of typing – which was expected to lead to more fluent production - was not considered a benefit by all. Instead, the participants reported that the use of speech recognition resulted in reduced control, limited planning, and increased proofreading. These findings indicate that although STT may reduce concerns about spelling for adolescents with low writing achievement, it does not address other essential aspects of the writing process such as planning and editing.

Pause distributions in the writing processes of persons with post-stroke aphasia

Presenting Author:Ingrid Henriksson, Institute of Neuroscience and Pshysiology, Division of Speech and Language Pathology, The Sahlgrenska Academy, University of Gothenburg, Sweden; Co-Author:Charlotte Johansson-Malmeling, Institute of Neuroscience and Physiology, Sahlgrenska Akademy, Gothenburg University, Sweden; Co-Author:Åsa Wengelin, University of Gothenburg, Sweden

Approximately one-third of all stroke survivors suffer from aphasia. Aphasia is a [IH1] multimodal language disorder that affects the ability to understand and produce spoken and written language. Previous research has mainly focused on spoken language and to a certain extent on reading but very little is known about writing difficulties in persons with aphasia. We have have earlier shown that people with aphasia are slow, struggling, disfluent writers whose writing processes are characterised by frequent pausing and a large proportion of word level revision. (authors, 2020).

While increased pause rate is often associated with processing difficulties in developing writing (e.g. Olive & Kellog, 2002), the effects on the writing processes of someone who has lost existing writing skills is more or less unknown. Therefore, the purpose of the current study was to investigate pause distributions in different linguistic contexts during text writing by persons with post-stroke aphasia. 15 participants with post-stroke aphasia and a reference group, matched for age and educational level, were invited to participate in the study. All participants wrote two short narratives. Keystroke logging was used to record their writing processes. Analyses of interkey intervals (IKIs) identified two patterns that were characteristic for the participants with aphasia but not for the participants in the reference group. The first was that the participants with aphasia made more and longer pauses in connections with micro-contexts related to revisions, and the second that they needed very long time at word onset, most likely reflecting word finding problems. The results indicate that the distribution and duration of pauses in the writing process of persons with aphasia are related to language processing difficulties, but further investigations are called for. Furthermore, our study demonstrates that detailed pause analysis can provide an increased and in-depth understanding of the various components of writing ability in persons with aphasia and provide new knowledge about how different sub-processes interact during writing by a person with an acquired language disorder.

Session 2

Round tables

Generic or domain specific writing instruction?

Presenting Author:Edith Alkema, RICDE / University of Amsterdam, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands; Co- Author:Daphne van Weijen, University of Amsterdam, Netherlands

Secondary school students usually find source based writing a demanding task and thus need to be actively taught how to do so. In the Netherlands, all kinds of synthesis texts, based on sources, are written in language as well as in subject classes. Therefore, improving students' synthesis writing skills is a task for both language and domain-specific teachers. The problem is, however, that many language- and domain-specific teachers either have their own method for performing writing tasks, or, even more alarming, no method at all. That is why the first author, a teacher of several subjects at a secondary school and PhD-researcher, started a case study to find out 1) if a scientifically tested method can teach students of different kinds of subject classes to write texts based on multiple sources, and 2) if it is possible to create more coherence at school in how to approach source-based writing in different subjects. ObjectiveThe aim of the round table is to discuss whether there is a need for generic or domain specific writing instruction for source-based writing. As a teacher of different school objects, I propose that we are better off with a generic instruction model which can be adapted to the needs of students and teachers for different school subjects.[2]Implementing such a generic model will likely result in more clarity, openness/communication, coherence, and pleasure at school regarding writing tasks.

Getting a Grip on Academic Writing Processes with The Writing Machine

Presenting Author:Janneke van der Loo, Tilburg University, Netherlands; Co-Author:Renske Bouwer, Utrecht University, Netherlands

Despite many efforts in higher education to develop students’ academic writing skills, the quality of their writing remains low. To turn students into better writers, we have developed the digital platform ‘the Writing Machine’ (https://academischschrijven.nl/en/). With the Writing Machine, we

aim to enhance students' self- regulated writing skills, which is essential in writing education (Graham & Harris, 2018). For students to become good writers, they must be able to set goals, monitor their progress, and persevere when things get difficult (Sala-Bubaré & Castelló, 2018). However, this is where things often go wrong, e.g., students put off writing until the last minute, they do not set goals and they find it difficult to persevere when the going gets tough. With the digital tools of the Writing Machine, we shifted the focus in academic writing instruction from the product to the underlying writing processes by: (1) orientation with knowledge clips, (2) goal setting with the quiz "What kind of writer are you?", (3) process feedback with keystroke logging (Vandermeulen et al., 2020), and (4) assessing texts with comparative judgment. Over the past year, we have tested the Writing Machine with approximately 300 students at two Dutch universities. Currently, we are evaluating students' experiences, with both a quantitative and qualitative user evaluation. We are also investigating the validity of the quiz, and we are exploring to what extent the quiz results match the behavior students display during the keystroke logging activity. In the round table discussion, we would like to discuss several issues that arose during our evaluation. How can we integrate the information from the various components of the Writing Machine in a meaningful way so that students not only gain more insight into their own writing process, but are also empowered to regulate their own process by applying effective writing strategies? How can we map a complex process as academic writing, which typically takes place during several sessions, spread out over multiple days or weeks? How stable are the quiz results over different assignments? The outcomes of this round table will be used for follow-up research and further development of the digital platform.

Supporting teachers to develop interventions on argumentative writing strategies

Presenting Author:Maria Luna, Universidad a Distancia de Madrid (UDIMA), Spain; Co-Author:Lieke Holdinga, University of Amsterdam, Netherlands; Co- Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands; Co-Author:Jannet van Drie, University of Amsterdam, Netherlands; Co-Author:Ruth Villalon, University of Cantabria, Spain; Co-Author:Elena Martín, Universidad Autonoma de Madrid, Spain; Co-Author:Juan Antonio Núñez, Universidad Autonoma de Madrid, Spain; Co-Author:Isabel Martínez-Álvarez, Universidad a Distancia de Madrid, Spain; Co-Author:Isabel Cuevas, Autonoma University of Madrid, Spain

In this roundtable we propose the following issue: what is necessary to help to develop teacher-implemented interventions to improve primary and secondary students' writing strategies. Nowadays, there is abundant evidence on the elements that make writing interventions effective (e.g. Koster, Tribushinina, De Jong & Van den Bergh, 2015) as well as specific proposals on the design principles that can be used to develop them (Rijlaarsdam, Janssen, Rietdijk and Van Weijen, 2017). The interventions that help to generate this knowledge, as highlighted by Finlayson & McCrudden (2020), are usually researcher-implemented and focused on understanding precisely which elements make them effective to improve student performance. Without denying the relevance of this knowledge, we also need to know better how writing instruction can be effectively translated into a classroom context by school teachers. There are indeed fewer studies in which the intervention is teacher-implemented and the focus is on understanding how to help teachers that may struggle to develop those evidence-based interventions. In this roundtable we will explore which elements of the teacher training and support can be most helpful to teachers. Thus, the organizers, belonging to two research teams from the Netherlands and Spain, will begin by briefly presenting the design of two studies. In both of them attention is paid on helping secondary school teachers to include instruction on argumentative writing in their subjects. Afterwards, most of the time will be

dedicated to analyzing which are the greatest obstacles and best aids so that teachers would be willing and capable to continue the instruction in their daily practice.

Demos

An Existing Tool with a New Purpose: The Use of Eye Tracking to Teach Writing

Presenting Author:Jason Wirtz, Hunter College, City University of New York, United States

Eye tracking is an existing technology that has been in use as a teaching aid across several fields including teacher preparation, reading development, pilot preparation, website creation, and training for an array of medical procedures. Eye tracking has also been used to study the writing process. There is, however, a gap in the literature describing the use of eye tracking as a tool for teaching writing. This demonstration session will share examples wherein eye tracking is used to inform both advanced (published) writers and beginning (first-year college) writers.Eye tracking, while not a new technological tool, is a new way to deliver writing instruction as it provides novel ways of viewing the writing process for both advanced and beginning writers. To demonstrate the use of eye tracking as a tool for teaching writing this session will share: (1) data collected from the writers themselves via cued retrospective accounts about the benefits of viewing their eye tracking videos with accompanying data and (2) a representation of video excerpts collected from both advanced and beginning writers demonstrating particular writing strategies and approaches captured via eye tracking.Benefits of viewing eye tracking videos and data have surfaced insights from both advanced and beginning writers including: the centrality of recursivity in writing and revision processes; the role of micro-moments of incubation; larger patterns within writing as demonstrated by gaze duration and pupil dilation; shifting strategies and approaches as the written product develops over time; revision as a differently patterned process than first-draft writing; previously unconscious characteristics of writing being made visible to writers.Another pedagogical benefit of eye tracking is the ability to share what is known in the literature as examples of “expert gaze.” Expert gaze is the capturing of eye tracking videos and data from experts within a chosen field and the subsequent sharing of these videos and data with novice practitioners to aid in the development of expertise. Writing classrooms can utilize expert gaze to show beginning writers what experts do when they are writing as well as introduce and demonstrate innovative writing strategies.

GenoGraphiX-LOG: Graph-based Data Visualisation & Analytics for Insights into Writing

Presenting Author:Hakim Usoof, University of Peradeniya, Sri Lanka; Co-Author:Christophe Leblay, University of Turku, School of Languages and Translation studies, Finland; Co-Author:Gilles Caporossi, HEC Montréal, Canada

Graph theory-based networks have been used to visualize complex relationships, and further visualizations of these networks allow for the revealing of hidden structures, and thus amplifies human understanding, leading to new insights (Ahmed. et. al., 2005). Text genetics (Grésillon, 1994) helps understand the writing process from different perspectives and keystroke logging in computer-aided text development allows for data acquisition and opportunity to reveal phenomena about writing (Strömqvist et. al., 2006). GenoGraphiX-LOG (GGXLog) is a software that uses keystroke logging to gather writing data, analyse and visualize this data using graph theory to provide insights. GGXLog emphasises is on using data visualisation (Sinar, 2015) to humanize writing data for learning and research. Data visualisation enables faster processing of information by the human brain, identifications of patterns, correlations, trends and allows the user to interact with the data. In addition to graph visualisations, graph statistics and graph-based pause analysis, GGXLog provides s-Notation (Kollberg, 1996) and linear representations (based on ScriptLog and TransLog), statistical

analysis, burst and fluency analysis, text-length analysis, analysis of editing-distance and micro- level analysis of the session. The GGXLog software is intended to be used by teachers, students, researchers and writing professionals. GGXLog works on Microsoft Windows, MacOSX and Linux distributions. References

Inputlog: New perspectives on keystroke logging

Presenting Author:Luuk Van Waes, University of Antwerp, Belgium; Co-Author:Floor Buschenhenke, Huyghens ING (KNAW), Netherlands; Co- Author:Alessandra Rossetti, Universiteit Antwerpen, Belgium; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands

The keystroke logging program Inputlog is often used as an observation tool in writing research. In this demo, we present the most recent (major) developments of the program. We would also like to briefly present future plans.

- Logging environment

So far Inputlog was mainly designed to log writing in MS-Word. However, other writing environments are becoming more popular. Therefore, two new logging components have been added to Inputlog, i.e. GoogleDocs and LibreOffice.

- Feedback reports

Inputlog generates a student-centered feedback report providing different perspectives on the students' writing processes, including process graphs. A default template is provided, but it is also possible to generate reports tailored to your specific needs.

- Logging Chinese characters

So far Inputlog was designed to log Latin script. In the current (beta) version, it is also possible to use Chinese script (using Pinyin).

- Copy task dashboard

Inputlog includes a standardized copy task to measure and assess typing skills in 12 languages. The copy task is a combination of components that consist of a short sentence, three-word combinations and letter clusters.

We have also developed a corpus of +5000 anonymized copy tasks, along with an interactive dashboard (R-Shiny) to explore and download this corpus. Through the dashboard, researchers can also compare their own copy task data against the corpus. To engage more researchers in the further development of new analyses of keystroke logging data, we plan on creating a GitHub environment that will welcome new and innovative analyses (in R or Python) and will make these available to the writing community.

Towards linguistic modeling of writing: A first implementation

Presenting Author:Malgorzata Anna Ulasik, Zurich University of Applied Sciences (ZHAW), Switzerland; Co-Author:Cerstin Mahlow, Zurich University of Applied Sciences (ZHAW), Switzerland

Producing written texts is a non-linear process: in contrast to speech, writers are free to change already written text at any place at any point in time. Linguistic considerations are likely to play an important role in the analysis of the written text production, but so far, no linguistic models of the writing process exist. We present an approach for the analysis of writing processes with a focus on

linguistic structures. It is based on the novel concepts of transforming sequences, text history, and sentence history. The transforming sequence is used to store differences between text versions on the surface and record the editing operations involved. The text and sentence histories allow for reproducing and visualizing the genesis and history of a text and its individual sentences. The main focus of our approach is the constant linking of the process and the product. By processing raw keystroke logging data and applying natural language processing (NLP) tools we extract the product and process data. We create structures that store the data and can be used for further detailed processing and filtering. The data is automatically enriched with relevant morphosyntactic annotations.We present a fully functional implementation of our approach. It is an open-source software tool which allows for generating text and sentence histories and visualizing them. The tool does not require any manual intervention which enables researchers to analyze large amounts of writing process data without the need for manual work. The tool uses XML-based idfx format produced by Inputlog which is the de- facto standard for storing and exchanging keystroke-logging data. This way we enable seamless integration with a variety of other applications.We have conducted two small scale exploratory studies in German and Greek with the use of the tool and performed experiments with English texts. The results indicate both the feasibility of the approach and that writers actually revise on a linguistic level. The latter confirms the need for modeling written text production from the perspective of linguistic structures beyond the word level.

Online Posters

Dealing with multiple sources in informative writing: How do students select and link information?

Presenting Author:Caroline Schuttkowski, Universität zu Köln/ University of Cologne, Germany; Co-Author:Lina Schothöfer, Universität zu Köln/ University of Cologne, Germany; Co-Author:Joerg Jost, Universität zu Köln/ University of Cologne, Germany

Scientific and professional writing requires the ability to use information from different sources (e.g., texts differing in length and style, diagrams) for text production. Correspondingly, writing-from-sources arrangements (Gradwohl Nash, 1993) not only require the use of several different materials but also multiple document comprehension: When readers read multiple sources they have to select and prioritise information concerning the task (Britt & Rouet, 2012). Previous research distinguishes a taxonomy of discourse synthesis strategies in scientific writing at universities (e.g. Segev-Miller, 2007). However, research regarding students' abilities to successfully synthesise multiple sources in school is still needed. We intent to analyse how students deal with information during reading and writing activities while working on writing-from-sources tasks: How do students choose macropropositions – in terms of content units (Spivey & King, 1989) –, how do they build links between macropropositions, and what purposes do these patterns serve in their text products, e.g. expressing relations of cause and consequences?

In our pilot study 11th grade students (N = 10) wrote informative essays based on a set of 8 different texts working on an exemplary task for the A-level exam (duration: 210 minutes). In a first step, we systematically determined all task related macropropositions given in the source texts. In a second step, we analysed students' texts with a focus on the complexity of discourse synthesis (reflected in the choice and linking of macropropositions) and the overall text quality (rated by 5 main criteria of text quality; cf. Nussbaumer, 1996) in order to detect if and how they influence each other. Therefore, we utilized a coding manual to investigate the quantity and the type of the predetermined macropropositions the students actually connected and what purposes they serve in their texts. The coding manual includes the main categories content (e.g., choice and linking of macropropositions),text structure (e.g., text composition), intertextuality (e.g., references to source

texts) and language skills (e.g. grammar). First analyses indicating a variance in types of linking strategies by connecting two (or more) macropropositions on the one hand and an interrelation between source integration and text quality on the other hand will be discussed.

Effects of a writing fluency training on writing motivation of third and fourth grade students

Presenting Author:Alina Koch, Mercator Institut for Language Training and German as a Second Language, Germany; Co-Author:Michael Becker-Mrotzek, Mercator Institut for Language Training and German as a Second Language, Germany

Writing competence is crucial for academic and professional success and coping with everyday life. Nevertheless, numerous research findings indicate that not all students have sufficiently mastered basic writing skills, in particular writing fluency (Alves & Limpo, 2015). In addition to the promotion of writing fluency, especially students' writing motivation is a factor that should not be neglected. Studies have shown that writing motivation correlates with all aspects of the writing process and plays a central role in the development and promotion of writing skills (Hidi & Boscolo, 2006). Students with low writing fluency have less cognitive resources for higher order writing skills. For these students writing is cognitively highly demanding and thus they find writing to be a very stressful activity. It can be assumed that after improving students' writing fluency, students experience themselves as more competent and perceive writing as less strenuous, which in turn could have a favorable effect on the various aspects of writing motivation. In this context, the aim of the present study was to examine the effect of a writing fluency training on theoretically derived aspects of writing motivation. To investigate this relationship a writing motivation questionnaire with five scales was developed and administered within an intervention using a writing fluency training. The sample comprised 211 third and 199 fourth-grade students attending five German primary schools. The analysis indicates good reliability for most of the motivation scales (desire to write, α=.81; writing interest, α=.54; competition, α=.77; self-concept, α=.70; self-efficacy, α=.79). To measure the impact of the writing fluency training on writing motivation, research data from control and experimental group were collected and compared before and after the training by means of ANOVA. The poster will give insights into the motivation questionnaire and will show the impact of the fluency training on writing motivation.

High-level writing skills in upper-primary students with learning disabilities or ADHD

Presenting Author:Olga Arias-Gundín, University of León, Spain; Co-Author:Paula Lopez, University of León, Spain; Co-Author:Vanesa López, University of León, Spain

One of the most diagnosed disorders of childhood is attention deficit hyperactivity disorder (ADHD). Students with ADHA often experience problems with writing. Research on expertise writers has shown than high-level writing skills play an important role in writing. However, few studies have explored and compared students' use of high-level processes such as planning and revising; specifically in students with learning disabilities and students with ADHA. The current study sought to examine if there are differences in high-level writing skills in students with learning disabilities and ADHD. In this study took part 62 students with ages ranged between 9 and 12 years; on the one hand 23 females and 19 males had been identified as students with learning difficulties, and on the other hand 5 females and 15 males were identified as students with ADHD.In the first day quality and planning were assessing by mean of narrative story that students had to write. In the second day revising was assessing through task in which students had to locate, diagnose, and correct in a research-created text six mechanical and six substantive mistakes. Text quality was assessed through reader-based measure. Planning was evaluated with a scale ranging from 1 to 6. Related to revising,

we assessed if: in location students underlined the error in the text; in diagnosis they properly defined the mistake; in correctionvstudents proposed one and we also evaluated whether was effective or not. Preliminary analyses have shown that there are not statistically differences between two groups neither in textual quality nor in planning nor in revising. Students in both groups wrote low quality texts, which have been poorly planned and revised. Thus, it can be assumed that the instructional programs that have been effective in students with learning disabilities will also be effective in students with ADHD. However, it is necessary to implement studies to corroborate it. This research has been supported by the Spanish Ministry of Economy and Competitiveness through a project EDU2015-67484-P (MINECO/FEDER).

Student Perceptions of the Writing Process and Academic Success

Presenting Author:Justin Young, Eastern Washington University, United States; Co-Author:Charlie Potter, Eastern Washington University, United States

Our proposed poster will present a mixed-methods study of students' perceptions of their own writing processes at a U.S. university in order to examine the relationship between these perceptions and academic outcomes. An understanding of the process of writing has been widely acknowledged in both American and European research as critical to efforts to effectively teach and improve writing (Portanova et al., Vandermeulen, et al., 2020). Currently, very little empirical research on the writing process occurs in the U.S.; in fact, Takayoshi (2018) documents a steady decline since the early 1980s in empirical research in the U.S. on the writing processes used by students. Our project captures and analyzes U.S. university student perceptions of the processes (i.e., planning, drafting, revising) they use to write. Our analysis is based on qualitative and quantitative survey and demographic data collected from post-secondary students across the disciplines. Our project relies upon a logistical regression in order to assess whether specific student perceptions of their own writing processes (such as how often they engage in a drafting and revision process, or seek feedback from others) predict specific academic outcomes, such as success in required writing courses, general academic performance, and retention. Baseline equivalency will be established and evaluated for all data.

How Are Cognitive Activation and Classroom Management Related to Students' Spelling Competence?

Presenting Author:Jessica Jaeuthe, Universität Potsdam, Germany; Co-Author:Jenny Lenkeit, Universität Potsdam, Germany; Co-Author:Stefanie Bosse, Universität Potsdam, Germany; Co-Author:Nadine Spörer, University of Potsdam, Germany

According to theoretical models, students spelling competence can be described using a competence level model: On first level, students are able to write whole words from their memory. Next, they start to write words by allocating a phone to an assumed grapheme. Later, students acquire knowledge about orthographic rules and to correctly write a word which cannot be derived from its articulation. Although it is assumed that students move from more basal to higher levels, difference between students occur. Teaching characteristics such as cognitive activation and classroom management can be decisive for students' learning outcomes (e.g. Fauth et al 2014). In the domain of spelling, however, studies are rare investigating the influence of teaching characteristics on students' outcomes. The question arises to what extent teaching quality can explain differences in students' spelling competence development.A sample of N = 30 classes with N = 705 German primary school students (Mage = 7.73, SDage = 0.46) responded to a questionnaire

collected at three times (beginning of grade 2, end of grade 2, end of grade 3). Standardized spelling tests were used to assess the spelling competence of students (.68 < Cronbachs α

Assessing aids for the elaboration of argumentative synthesis in the University: Guide or Rubric?

Presenting Author:Isabel Cuevas, Autonoma University of Madrid, Spain; Co-Author:Elena Martín, Universidad Autonoma de Madrid, Spain; Co- Author:Miriam Granado-Peinado, Universidad Francisco de Vitoria, Spain; Co-Author:Lidia Casado Ledesma, Universidad Autónoma de Madrid, Spain; Co- Author:Maria Luna, Universidad a Distancia de Madrid (UDIMA), Spain; Co-Author:Ruth Villalon, University of Cantabria, Spain; Co-Author:Juan Antonio Nuñez, Universidad Autonoma de Madrid, Spain; Co-Author:Isabel Martínez-Álvarez, Universidad Autonoma de Madrid, Spain; Co-Author:Alicia de la Peña, Univeridad Nebrija, Spain; Co-Author:Mar Mateos, Universidad Autónoma de Madrid, Spain

Although most of the interventions to foster the integration of multiple pieces of information has focused on teaching “how” to integrate (Barzilai et al., 2018) providing different kinds of instruction on the processes implied, instruction focusing on the criteria to evaluate integration are scarce and mainly centered on integrating complementary, but not contradictory, sources.In this work we designed and contrasted the effectiveness of two aids to improve the quality of the syntheses written by undergraduates from texts that defended opposing views on a topic: a Guide to the process of preparing a synthesis vs a Rubric with the evaluation criteria of written products. The number of arguments and the degree of integration were examined. Also, the students' perception was assessed regarding the usefulness of the aids to plan, to write and to review their synthesis.Seen that we found that offering a guide accompanied by explicit instruction is more effective than providing it without explicit instruction Mateos et al. (2018), the two aids were offered here under two conditions: Explicit Instruction vs.

Traditional Instruction. Thus, we carried out an experimental study with 122 Psychology students, distributed randomly into four intervention programs. In the first and fourth session they performed a synthesis task without support. In the second session, after receiving the instruction (explicit vs. traditional), each student made a new synthesis using the specific aid provided (practice 1, with Guide/Rubric). In the third session the participants carried out another synthesis under analogous conditions (practice 2, with aids). Our results pointed out that, regardless the instruction, both aids (Guide and Rubric) improved the degree of integration of the students’ syntheses. However, the guide contributed better to improve the selection of arguments. Students who received Explicit Instruction found both aids to be equally useful for planning and writing their syntheses. In contrast, after Traditional Instruction the Guide was perceived as more useful for planning and writing syntheses. The Guide was more useful for reviewing their texts. We will discuss the implications of these findings for synthesis writing training and conclude with recommendations and suggestions for future studies.

Session 3

Paper presentations: Academic writing

Explaining aspects of language learning in working definitions in academic writing

Presenting Author:Astrid Neumann, Institute for German Language an Literature Education, Germany; Co-Author:Maria Prata, Leuphana University Lüneburg, Germany

The present exploratory study aims to examine the writing skills of teacher training students in explaining key terms by referring to source texts and by using them appropriately. Writing is a conceptual learning tool (Klein & Boscolo, 2016). Explaining working definitions involves exploring different sources and it requires the integration of explanations from several sources in the new text (Cuevas et al., 2016). The written explanation of concepts leads students to think more deeply about the subject they have to write about (Klein & Rose, 2010). However students have difficulties by explaining working definitions and by embedding them in an essay (van der Loo, Krahmer & van Amelsvoor, 2018). First, we argue that the students ability to explain definitions with reference to sources did not incrase automatic throughout the study. Moreover, it seems that the competence of beginners as well advanced students to explain pivotal concepts and to integrate them into a new text does not differ qualitatively. Therefore, teacher training students (n = 80) are asked to explain some definitions in a writing assessment context at study begin (T1) and some semesters later (T2). In both assessments (a), students are not allowed to consult any learning material. In addition, other students (n = 40) had to define some terms with reference to relevant source texts on a certain academic field, and to including them in a report (b) about a practice component their accomplished. Using a qualitative text analysis we examined if explanations at T2 were more elaborated, coherent and extensive than explanations at T1. Furthermore, we verified if explanations include in (b) were so incoherent and as poorly elaborated as those written in an examination paper (a). First results shows 30% of the students developed any explanations at T2; circa 40 texts at T2 were qualitatively higher rated by experts but the explanations inside had little reference to the sources. Other texts revealed a plethora of different characteristics that require an in- depth analysis.We expected to better identify the difficulties students have by explaining working definitions in order to develop effective learning and writing strategies for examination papers.

Student writing in higher education: Validating a questionnaire for a Swedish context

Presenting Author:Sofia Hort, Mälardalen university, Sweden; Co-Author:Eric Borgström, Örebro University, Sweden

This presentation is focused on a pilot study which aims at validating a questionnaire for the study of student writing in higher education, initiating a project which intend to map out what characterizes student writing ant on the longer term to contribute to the development of teaching practice.The project relies on the operationalization of a writing construct compiling cognitive (Flower & Hayes, 1981) text- (Swales, 2004) and literacies-oriented (Lea & Street, 1998) views on writing. From these standpoints the questionnaire items and scales were developed (Boateng et al, 2018), indexing: a) student ethos b) strategies in discourse generation and c) strategies in text production. In addition to the survey, data were gathered on students' overall educational achievement, at both individual and programme level. The questionnaire were introduced to students during the autumn of 2020 at 7 different educational programs. 298 students were asked to complete the questionnaire during one of their digital classes. After finishing the questionnaire students were asked to comment on their experience of completing it.Results show that the data gathering method resulted in satisfactory response rates (84% N= 251) and that the questionnaire was considered legitimate for the students. Tentative result indicates underlying aspects of writing (such as identity and mindset) and how such aspects predict academic achievement as well as subjective satisfaction (analyses made using IBM SPSS). The findings prove the efficacy of the questionnaire, and, more importantly, call for a further, more fine-grained exploration of these issues.

'I, We, Us': Students' Metalinguistic Understanding of Pronouns in the Reader-Writer Relationship

Authors Debra Myhill

This study set out to investigate how undergraduate students build a reader-writer relationship when writing argument in English as a second language, and in Arabic as the first language. This paper aims specifically to present students' understanding of the purpose and function of pronouns as a relationship-building process. The paper draws on two complementary theoretical frames: firstly, the concept of metalinguistic understanding - the capacity of writers to reflect on and regulate the language choices in their own writing; and secondly, the concept of metadiscourse - the language choices writers use to signal their stance towards the ideas they are expressing, to signal the construction of the evolving text, and to engage their readers.The study adopted a methodology which incorporated the creation of a corpus of argument texts written in Arabic and in English, with interviews with a sub-sample of the student writers. The sample comprised 195 university students in Qatar, who each wrote two argument texts, one in Arabic and one in English. The corpus was analysed to determine their use of metadiscourse in establishing a reader-writer relationship. The students' metalinguistic understanding of how to build a reader-writer relationship was investigated through 'writing conversation' interviews with 41 students, each interviewed twice, once about their English argument text and the other about their Arabic written argument. The findings indicated that students commented with much higher frequency on their use of pronouns in argument writing, but with limited metalinguistic understanding of their metadiscoursal function in building a reader-writer relationship. Whilst some students did recognise that reader pronouns (we; you; us etc) were important in engaging the reader and including them in an implicit dialogue, many felt these pronouns should be avoided to increase objectivity and formality. Similarly, students saw the use of the first person 'I' self-mention as inappropriate because it was too subjective and informal. Students repeatedly ascribed these perspectives to writing instruction they had received. We suggest that instruction which prioritises the function of particular choices, and how they build the reader-writer relationship may be more productive than an over-emphasis on form.

Paper presentations: Learning and social interaction

The Nature and Types of Metalinguistic Awareness in Developing Writers

Presenting Author:Moira Newton, University of Auckland, New Zealand

Children's metalinguistic awareness (MLA) is their ability to view language as an abstraction and reflect upon it. This study investigates the relationship between children's MLA and their writing achievement.

Metalinguistic awareness is at the nexus of several disciplines: metalinguistics, linguistics, developmental psychology and cognitive writing theory. The study synthesises concepts from all these disciplines to show that many complex notions of children's MLA are finally encapsulated in the notion that the children gain increasing inner control of a network of strategies that they employ to work on text as they write.

This study is a two phase mixed methods study. The participants in the first phase were 85 year three to six children in a multicultural Auckland primary school. They each completed a New Zealand e-asTTle writing test and a Controlled Oral Word Association (metalinguistic) Test. There was a significant relationship (r=.37, p

Metatalk about Writing: A Systematic Review

Presenting Author:Ruth Newman, University of Exeter, United Kingdom

Research aims and theoretical frameworkThis paper presents conclusions from a systematic review of literature published between 2000 and 2021 on metatalk about writing. Learners' engagement in

classroom dialogue which fosters thinking about language may be a crucial aspect of writing instruction. Although there is a large body of research which emphasises the relationship between talking and learning, less is known about the relationship between talk and first language writing. Some recent research suggests that a particular type of talk about writing - 'metatalk' - may be a key pedagogical tool in writing instruction because it frames young writers' capacity to think metalinguistically about writing. However, there is currently no robust theorisation of metatalk in the context of first language writing, nor any substantive consideration of a corresponding pedagogical model. Accordingly, this review interrogates the research base, driven by the following questions:· How is metatalk defined and conceptualised? · What evidence is there that metatalk enables the development of metalinguistic understanding for writing? · What pedagogical strategies does the evidence suggest support the development of metatalk which support metalinguistic understanding, and writing? · What is known about teachers' effective management of metatalk about writing?Methodological designKey search terms located 367 texts; 277 remained after duplicates were removed and 18 further articles were identified through citations and manual searches. After initial screening, 138 were read in full and subjected to further scrutiny; a further 108 articles were excluded, with reasons, resulting in 30 included studies, synthesised using a data extraction and synthesis table.FindingsThe included articles reveal how: metalinguistic understanding is verbalised in and through talk and collaborative tasks; the 'writing conversation' method expands metalinguistic reflections; teaching talk is a means of developing dialogues which have an impact on writing; the role of the teacher is crucial in managing students' talk. The included literature is, however, limited in the extent to which it establishes relationships between talk/metatalk, metalinguistic understanding, and writing, going further to reveal how talk can support verbalised metalinguistic understandings than to reveal how this talk impacts the quality of writing, beyond grammatical accuracy.

Paper presentations: Motivation

Changes in Students' Self-Regulation: A Multi-Motivational and Cognitive Perspective

Presenting Author:Yves Furer, Pädagogische Hochschule Zürich, Switzerland; Co-Author:Maik Philipp, University of Teacher Education Zurich, Switzerland

Research topic/aim: Writing consists of cold and warm components like knowledge and motivation. Self-regulated writing requires mastery of both with strategy knowledge as one important component form the cold side. On the other side, self-efficacy, affect and writing beliefs (MacArthur et al., 2016) are all important "warm-sided" precursors of self-regulated writing. Little is known about how adult college writers' self-regulation can be enhanced. Therefore, the goal of the current study is to determine how these components are affected by a short writing course (8 sessions) which was led by trained tutors. Methods: In order to answer this question, we tested 76 teacher students twice who attended a voluntary writing course. The main aim of this course was to improve their writing skills for their bachelor thesis. We were interested in students' changes of metacognitive and motivational attributes. Due to logistic reasons, we had no control group.Instruments: We developed a new test instrument capturing students' metacognitive strategy knowledge (MSK). For the measurement of all other constructs, we used existing instruments (self-efficacy, affect, writing content and convention beliefs: MacArthur et al. 2016; mastery-goal orientation: Limpo & Alves, 2017). All instruments reached at least a satisfying level of internal consistency (α = .67–.90).Results: By means of t-tests we detected significant gains in self-efficacy (d = .69), MSK (d = .27) and content beliefs (d = .33) between the start and end of the course. None of the other variables changed significantly d(= .02–.12).Relevance to domain of writing: Even short

and intense interventions seem to affect writers' self-regulation. Our results emphasize the need to capture more dependent variables than product measures only, since cognitive and motivational variables deserve more attention.

Children's motivation to read and write in their leisure time

Presenting Author:Lisa Birnbaum, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany; Co-Author:Elisabeth M. Schüller, Leibniz-Institut für Bildungsverläufe Bamberg, Germany; Co-Author:Stephan Kroener, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany

What makes elementary students engage in leisure reading and writing as early as in elementary school? As leisure reading and writing are inherently valuable cultural activities and provide ends to themselves, we conducted a literature review to identify the state of research. Among 69 identified articles, most were related to reading (n = 65) and only n = 4 were related to writing. Intrinsic motivation featured among the most important non-cognitive variable. Thus, in our own studies we scrutinized why some boys and particularly girls are more intrinsically motivated to read and write in their leisure time than others: In a series of preliminary studies we developed and tested scales on leisure reading and writing, intrinsic value, and further determining writing-related beliefs. Afterwards, the resulting scales were applied to a sample of N = 1053 third-graders on different days, resulting in samples ofn = 963 for writing and n = 980 for reading. We expected the activity-related beliefs to determine the intrinsic motivation, which in turn should explain a large proportion of variance in children's activities.

Moreover, the intrinsic value should mediate the effects of gender and mother's education on activity. In a multi-group structural equation model, the hypotheses on reading and writing were confirmed: except that for writing, gender differences in intrinsic motivation were not completely accounted for by gender differences in the preceding writing-related beliefs and that there was no effect of mother's education on writing. For reading, gender had no effect on reading activities, but mother's education did. We discuss the similar pattern of relevant beliefs for leisure reading and writing motivation as well as avenues for further research.

Examining motivation, Self-Regulation & Self-efficacy towards writing in adolescents

Presenting Author:Βασιλική Παπαχρήστου, National & Kapodestrian University of Athens, Greece; Vassiliki Chr. Papachristou & Asimina M. Ralli National and Kapodistrian University of Athens

It is well established that writing perceptions, motivation, self- regulation and writing self-efficacy influence typically developing students' academic performance as well as their written text production. Recent findings reveal clear evidence that typical students' low performance on writing tasks is related with low motivation, and self-efficacy as well as negative self-beliefs. However, to our knowledge there is not much research on the above parameters in non-typical adolescents such as students with SLD (Dyslexia) who have negative experiences with writing due to their disorder.The present study aims to investigate the writing perceptions, motivation, self-regulation and writing self-efficacy in Greek-speaking adolescents with and without SLD (Dyslexia). The total sample consisted of 120 participants 13.5 and 16.5 years old (60 for each age group). Subjects were assigned to two separate groups typically developing (TD) students and students with SLD (Dyslexia) (30 for each age subgroup).The students with SLD (Dyslexia) were recruited from the KEDASY (Centers of Interdisciplinary Evaluation and Consulting Support) of the Greek Ministry of Education, while the TD participants were recruited from mainstream schools in the district of Attica. The participants were assigned to the two groups via a screening process for the confirmation of diagnosis of SLD (Dyslexia) and of typical development. Afterwards, all participants were invited to

complete two online questionnaires:(a) the Writing Perceptions, Motivations, and Self-Regulation Inventory (WPMRI) (Zumbrunn et.al.,2019) and (b) the Self Beliefs, Writing Beliefs and Attitude Survey (SWAS) (Wrigth et. al.,2019). Developmental differences are expected in the aforementioned measures. Also, the clinical group is anticipated to show poorer performances, in writing perceptions, motivation, self-regulation and writing self-efficacy in comparison to the TD group. Different patterns of correlations between the above parameters for each group of participants are also expected. Findings will be discussed with regard to the multidimensionality of motivation and Writing Self Efficacy (three-factor model) and in relation to future research.

Paper presentations: L2 & FL

Exploring EFL students' writing achievements, self-efficacy and feedback perception during COVID-19

Presenting Author:Lea Siekmann, Westfälische Wilhelms-Universität Münster, Germany; Co-Author:Judy M. Parr, University of Auckland, New Zealand; Co- Author:Vera Busse, Westfälische Wilhelms-Universität Münster, Germany

The extent to which home learning during the COVID-19 pandemic has impacted students' achievement is being progressively addressed, but data on writing development are scarce. Feedback can improve learners' writing achievements (Parr & Timperley, 2010) and self-efficacy (Camacho, Alves & Boscolo, 2021) and also enables student support during school closures (see Voss & Wittwer, 2020). In Germany, however, students (Demski et al., 2021) and parents (Wildemann & Hosenfeld, 2020) report a lack of feedback during home learning, which might also affect students' writing competence. Our project aims at fostering students' writing competence by training teachers to provide effective feedback. In our paper, we examine adolescent students' 1) writing achievements, 2) self-efficacy in writing and writing anxiety and 3) perception of writing and feedback practices in EFL classes at the beginning of the school term (T1) and after eight months of partial and full home learning (T2). Year 9 students (N=58) wrote argumentative and narrative texts that were analysed in terms of structure and coherence. Students also answered questionnaires about affective and motivational aspects of writing as well as reporting practices related to writing and feedback.Preliminary results show that students' abilities to write well-structured and coherent texts were relatively low at T1 and did not increase at T2. However, students' self-efficacy in writing increased significantly from T1 to T2 ($t(56)=-2.507$, $p=.015$, $d=.98$) while their writing anxiety decreased ($t(55)=2.095$, $p=.041$, $d= 1.34$). Students seldom engaged in writing activities before and during home learning, and also rarely received feedback from their teachers (approx. once a month). However, students felt at T2 that teachers' feedback better informed them how to improve their performance ($t(57)=-3.359$, $p=.001$, $d= .79$). Our findings are relevant to the domain of writing as they indicate a need for writing support, specifically feedback. Results further indicate that training teachers in giving formative feedback to texts was beneficial for students during school closures. However, feedback provision without ongoing support to implement it may not be sufficient to improve writing achievements and to compensate for the low frequency of writing activities and the untoward circumstances posed by school closures.

The impact of feedback on L1, L2 and FL learners' self-efficacy beliefs: A systematic review

Presenting Author:Sina Scherer, Westfälische Wilhelms-Universität Münster, Germany; Co-Author:Steve Graham, Arizona State University, United States; Co-Author:Vera Busse, Westfälische Wilhelms-Universität Münster, Germany

Writing competence is crucial for academic success and is a basic job requirement (Graham & Perin, 2007). Different forms of feedback can play an important role in improving writing quality (Graham, Hebert & Harris, 2015) and writing motivation (Ruegg, 2014). Yet, it is unclear to date which feedback methods work best for L1 (first language), FL (foreign language), and L2 (second language) learners, especially students with migration backgrounds who often underperform in literacy (Adesope, 2011; Garnett, 2008). Although research suggests that L1 and L2/ FL learners have different feedback needs (Biber et al., 2011), existing meta-analyses mainly explore the effectiveness of feedback on writing for L1 learners (e.g. Graham & Perin, 2007; Huisman et al., 2018), or only focus on the effectiveness of corrective feedback for second language acquisition (e.g. Li, 2010; Miller, 2003) or group L2 and FL learners together (e.g. Biber et al., 2011). Similarly, a systematic review focusing on the relationship between writing motivation and writing performance only looks at L1 learners (Camacho et al., 2021), although L2/ FL learners may have lower levels of self-efficacy (Tsao, 2021). To fill these gaps, our project's overarching aim is to investigate how teachers can best promote writing and affective and motivational outcomes for L1, L2, and FL learners from secondary school to university level through feedback. We present first results from our systematic review of (quasi-) experimental studies focusing on the effect of feedback on L1, L2, and FL learners' self-efficacy. Our synthesis' results are mixed: Some studies on L1 learners show a positive effect of oral feedback but not of written feedback and feedback request forms on self-efficacy (e.g. Agricola et al., 2020), while others demonstrate that written feedback can enhance self-efficacy beliefs if phrased positively (Hadden et al., 2019). Numerous studies of the FL literature suggest that peer and teacher feedback (e.g. Baleghizadeh & Mortazavi, 2013; Ruegg, 2014) can increase FL learners' self-efficacy beliefs. Studies focusing only on the impact of feedback on L2 learners' self-efficacy belief (focusing on immigrants) are scarce, calling for further research in this area. Pedagogical implications of review results will be discussed.

EFL learners' awareness of their writing process

Presenting Author:Gaëtanelle Gilquin, University of Louvain, Belgium

This paper seeks to contribute to the research effort aimed at exploiting keylogging for pedagogical purposes (e.g., Lindgren et al. 2008, Ranalli et al. 2018, Vandermeulen et al. 2020). Its objective is to assess L2 learners' awareness of their own writing process, with a particular focus on their writing fluency.

An experiment was carried out among learners of English as a foreign language who wrote an essay while their writing process was recorded by Inputlog (Leijten & Van Waes, 2013). After the writing task, the learners filled in a questionnaire in which they had to evaluate certain aspects of their writing process (pausing time, number of revisions, proportion of text kept in the final product, etc.) and select the process graph representing their own writing process. Each learner then received their Inputlog report and compared their actual writing process with what they had imagined it to be. This led to group discussions in which the learners shared their reactions about the accuracy of their self-assessment.

The results of this experiment will help determine to what extent learners are conscious of their own writing process and whether they tend to under- or overestimate their writing fluency. This will constitute the starting point of awareness-raising activities aimed at making learners better aware of their writing process.

Paper presentations: Teacher education

Relation between teachers' writing skills and the focus of their feedback

Presenting Author:Boukje Bruins, Hogeschool KPZ, Netherlands; Co-Author:Renske Bouwer, Utrecht University, Netherlands

Theory and aimGiving feedback on a text is an effective didactical writing principle. Feedback given by a teacher is essential, as young children can't see the faults in their own texts. Feedback on higher order aspects increases the time that writers spend on revising the text and it leads to better text revisions. This leads to improvement of writing skills. Teachers' feedback is not always effective, as teachers tend to give feedback on lower order aspects of the text (Bouwer & Koster, 2016). Why don't teachers give feedback on higher order aspects? Could it be related to their own writing skills? This study focuses on the relation between preservice teachers' writing skills and the kind of feedback they provide on texts by elementary students. MethodThe level of writing skills of 44 preservice teachers was determined by grading one of their essays. Three groups were defined: poor, average and skilled writers. All preservice teachers provided feedback on in total 131 texts written by upper elementary students (age 9 to 12). The lower and higher order aspects of feedback were scored. The results were analyzed by SPSS. ResultsThe results show that skilled writers provide more higher order feedback and less lower order feedback than the average and poor writers. Skilled writers provide significantly more texts feedback on style than poor and average writers. Average writers provide significantly more feedback on interpunction and layout than poor and skilled writers.

ConclusionThis study implies that there is a relation between teachers' writing skills and the focus of the feedback they give. A better writer seems to give more effective feedback. These results should have implications for the curriculum of Teacher Training Institutes. It can be useful to focus on developing the writing skills of these preservice teachers to enhance their ability to provide effective feedback on texts.

students with a non-German first language or inclusion needs.

Teacher and child-level outcomes of the iWRITE professional development intervention

Presenting Author:Hope Gerde, Texas A&M University, United States; Co-Author:Gary Bingham, Georgia State University, United States; Co-Author:Ryan Bowles, Michigan State University, United States; Co-Author:Margaret Quinn, University of Tennessee-Knoxville, United States; Co-Author:Xiao Zhang, Georgia State University, United States

Instruction in early writing can promote a range of literacy skills and lays the foundation for later writing success; however, quality instruction in early writing is rare in US preschools (Bingham et al., 2017). Thus, our team developed the Improving Writing Resources and Instruction in Teaching Environments (iWRITE), an online professional development (PD) focused on enhancing language and literacy outcomes for young children through quality writing environments and supports. The intervention included access to eight online learning modules focused on early writing and an expert coach who provided individualized feedback on teacher-posted videos of their own practice. Methods: Fifty-four diverse Head Start teachers and 497 4-5-year-old children in their classrooms participated in a RCT evaluating the iWRITE PD with pre-test and post-test assessments spanning seven months after intervention commencement. Results: Results using linear latent growth curve analysis indicated that treatment teachers increased more rapidly on the Early Language and Literacy Classroom Observation (ELLCO) writing subscale over the course of the study (3.0 times faster, p

Teachers' beliefs and their role in the teaching of written argumentation

Presenting Author:Marìa Lidia Torres Contreras, Universidad Andrés Bello, Chile; Co-Author:Marcia Martinez, Universidad Andrés Bello, Chile; Co-Author:Silza Ahumada, Universidad Andres Bello, Chile

Aprender y enseñar escritura argumentativa en las aulas de la escuela secundaria presenta desafíos para estudiantes y profesores. Para los docentes estos desafíos dependerán, de la preparación que hayan recibido para enseñar escritura, sus creencias sobre la escritura, su experiencia docente relacionada con la asignatura, la preparación y apoyo que hayan recibido en el servicio, y la comprensión y gestión del plan de estudios (Graham , 2019).En Chile, en el contexto del reciente ajuste curricular, es fundamental escuchar las voces de los docentes que implementan los Programas de Estudio para explorar sus creencias docentes sobre los fundamentos teóricos y las estrategias pedagógicas establecidas en dichos programas. La evidencia internacional indica que las políticas educativas y los lineamientos curriculares establecidos en los programas educativos generan tensiones entre los docentes y sus creencias, impactando sus prácticas pedagógicas. En el caso chileno, el estudio de Flores (2020) investigó algunas de las creencias de los docentes relacionadas con la enseñanza de la escritura sin ahondar en las creencias de los docentes relacionadas con la enseñanza de la escritura argumentativa.Por ello, la presente investigación con enfoque cualitativo realizará un estudio de caso múltiple para indagar en las creencias de los docentes sobre los fundamentos teórico-conceptuales y las estrategias pedagógicas relacionadas con la enseñanza de la escritura argumentativa propuesta por los planes de estudio de tercer y cuarto grado en Chile.

Los datos se recogerán mediante entrevistas semiestructuradas y se analizarán mediante un análisis de contenido cualitativo. Se espera que las creencias de los docentes manifiesten diversos grados de precisión, conocimiento, comprensión y / o tensiones con respecto a los lineamientos propuestos para la enseñanza de la escritura argumentativa.

Symposium

Source-based writing processes in L2

Chairperson: Nina Vandermeulen, Umeå University, Sweden

Organiser: Catherine Meulemans, University of Antwerp, Belgium

Discussant: Victoria Johansson, Lund University, Sweden

Writing from sources is an essential but rather complex skill for secondary and university students. To do so, students must be able to select the most relevant information from sources and bring them together in a well-structured and independent text. So far, source-based writing has mainly been studied in L1 and with a focus on the final texts (i.e. writing product), while studies on L2/L3 and with a focus on writing processes are rather scarce. Writing in L2/L3 creates additional complexity due to more limited vocabulary and grammar/spelling proficiency in a foreign language. Hence, research on writing synthesis texts in L2/L3 may give us more insight into the extent to which familiarity with a language affects both the quality of the written text and the writing process. Moreover, linking product to process measures might provide us with additional insight into the writing approaches that lead to good versus poor texts.In this symposium we gathered three projects with a common focus on source-based writing in L2. All three include a process perspective on the basis of keystroke logging and, with that, extend their scope beyond analysis of the writing product. The first presentation looks at whether secondary school students' writing of argumentative texts differs in Dutch (L1) and English (L2) with regards to writing fluency, and syntactic and lexical complexity. The influence of differences in Dutch and English proficiency on

writing performance will also be discussed. The second presentation examines synthesis writing of bachelor students in English (L2). The study describes general writing process aspects in L2 and provides insights into students' self-efficacy, writing strategies and beliefs. Moreover, it aims to identify effective source use patterns in L2 synthesis writing by linking specific aspects of source use to text quality. The third presentation looks at source-based writing in master students in Dutch (L1), English (L2) and French or Spanish (L3). The study discusses the components that best describe source use during writing.

Moreover, it looks at the relationship between approaches of source use and text quality, and at whether this pattern differs between languages and tasks.

L1 Dutch and L2 English source-based writing in the final years of secondary school

Presenting Author:Penny Heisterkamp, Faculty of Arts, University of Groningen, Netherlands; Co-Author:Anja Schüppert, University of Groningen, Netherlands; Co-Author:Marije Michel, University of Groningen, Netherlands

Higher-education programmes with English as medium of instruction (EMI) have become very popular across Europe. Few empirical studies have investigated objectively how EMI affects students' academic performance (e.g., Macaro et al., 2018), and even less is known about how prepared secondary school students are for EMI. The goal of this study was to investigate whether students in their final high-school years write differently in Dutch and English in terms of fluency and complexity, and how differences in Dutch and English proficiency affected writing performance. Twenty L1 Dutch-speaking secondary school students wrote argumentative texts in Dutch and English with the help of infographics on the topic of their argumentative essay (e.g., an alcohol ban). By means of keystroke logging, we measured writing fluency (writing speed; the number, duration and location of pauses; the number, size and location of revisions). Writing products (texts) were analysed in terms of syntactic (sentence length; dependent clause use; noun phrase modification) and lexical complexity (diversity and sophistication of e.g., verbs), and qualitative analyses examine students' reliance on words from the Dutch and English sources. Mixed-effects regression analyses showed no direct effect of language on fluency, but indicated that higher proficiency was linked to a higher writing speed and shorter within- and between-word pauses in both languages. In terms of the writing product, analyses established that English texts featured less lexically diverse and sophisticated language and that students with a higher English proficiency used more sophisticated language in English. Correlational analyses suggested that, generally speaking, higher fluency did not negatively affect lexical complexity in either language. These outcomes indicate that the quality of L1 Dutch students' writing is affected negatively by their lower English proficiency, and suggests that at least initially, students in EMI programmes might struggle with academic writing.

Writing processes in L2 synthesis writing: Insights from keystroke logging and self-report measures

Presenting Author:Nina Vandermeulen, Umeå University, Sweden; Presenting Author:Catherine Meulemans, University of Antwerp, Belgium; Co- Author:Lise Paesen, University of Antwerp, Belgium

Background. Integrating information from several sources into a new and independent text is an important skill in higher education. Synthesis writing is generally perceived as a cognitively demanding task as it combines reading and writing skills. Given that the lexical and grammatical knowledge of L2 learners is less developed than in their L1, this adds even more to the complexity of synthesis writing. Aim. This study aims to (1) map how L2 writers deal with the reading and writing processes during synthesis writing, (2) explore students' self-efficacy, writing strategies and beliefs when writing a source-based text in L2, and (3) identify effective patterns of source use by relating

the writing process to the text quality.Method. A total of 100 business and marketing students from a Flemish university of applied sciences each wrote two informative source-based texts in English (L2). Their writing processes were logged with the keystroke logging software Inputlog. Texts were rated by three raters using comparative judgement. Students filled in validated questionnaires on self-efficacy, writing beliefs, and strategies (based on Teng et al., 2018 and Vandermeulen et al., 2020).Analyses/Results. First, results will be presented on how students approach source- based writing in L2 by describing several writing process aspects (production fluency, pausing, revision, and source use) based on the keystroke logging data. Second, questionnaire data will provide insights into students' self-efficacy, writing beliefs, and strategies. Third, we will relate several source use aspects (time spent in sources, switches between sources, and switches between synthesis and sources) to the quality of the text. Multiple regression analysis will be used to identify effective patterns of source use in L2 synthesis writing.

Pardon My French, Spanish, Dutch, and English, Too: Source-based Writing in L1, L2, and L3

Presenting Author:Luan Chau, University of Antwerp, Belgium; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands; Co-Author:Sarah Bernolet, University of Antwerp, Belgium; Co-Author:Lieve Vangehuchten, University of Antwerp, Belgium

Source-based writing is a prevalent tool of communication in science and workplace. The importance of multilingualism is increasingly emphasized since multilingual writers with various native languages tend to communicate in the same language, which is usually English. However, research on multilingualism in source-based writing remains constrained and underdeveloped. This research project examines the process of consulting source materials and composing source-based written texts of master's students in Multilingual Professional Communication in L1 (Dutch), L2 (English), and L3 (French/Spanish). 280 Master's students wrote a text in their L1 (Dutch), L2 (English), and L3 (French/Spanish) at the beginning and at the end of the academic year. They wrote these texts by consulting three different sources: a report, a web text, and a newspaper article. Their cognitive writing processes were registered using the Inputlog keylogging program. The Inputlog program provided space for us to determine how much time the writers spent consulting the sources, when they did so, which sources they read most frequently, and how frequently they switched between the various sources. Their texts were assessed holistically using pairwise comparisons (D- pac). Confirmative factor analysis indicated three components that could describe source use in L1, L2, and L3 writing: (a) initial reading time, (b) source interaction, and (c) variance of source use throughout the writing process. General linear model showed that there was no significant variation in performance at the beginning and at the end of the academic term. Structural equation modelling indicated that source use approach is related to text quality, and this pattern seems to be similar across languages and tasks at two moments of measurement. This study is of theoretical, methodological, and pedagogical significance for second language and third language writing research.

Symposium

Conducting high-quality writing interventions (part 2): Evaluation

Chairperson: Fien De Smedt, Ghent University, Belgium

Organiser: Renske Bouwer, Utrecht University, Netherlands

Discussant: Gert Rijlaarsdam, University of Amsterdam, Netherlands

Currently, a new volume in the Studies in Writing Series entitled 'Conceptualizing, Designing, Implementing, and Evaluating Writing Interventions' is being prepared. This volume aims to move the field of writing research further by discussingmethodological issues researchers may face when designing, implementing and evaluating writing interventions in various educational contexts. This research method book will help future writing researchers to consider crucial methodological issues and approaches and consequently support them in setting up a methodologically sound research plan for conducting high-quality writing intervention research.In this symposium on conducting high-quality writing interventions (part 2), we highlight three upcoming chapters of the volume that focus on the evaluation of writing interventions. Evaluating the impact or effectiveness of an intervention is crucial for disseminating research results of

evidence-based writing practices. More particularly, the first presentation focusses on assessing writing performance. To make claims about the effectiveness of writing interventions, it is necessary to measure whether students have made any progression in writing due to the intervention. Specific guidelines for researchers on how to make evidence-based choices regarding the selection of writing tasks, raters and rating procedures when assessing writing in a writing intervention study will be discussed. The second presentation focusses on traditional and contemporary qualitative and mixed method approaches to assess writing interventions. More particularly, issues and challenges regarding the different methods for data collection and analysis will be discussed and validity, reliability, research rigor, and research ethics will be thoroughly discussed. During the final presentation, the Response to Intervention model (RTI) will be presented and discussed as a possible framework to identify and support struggling writers who are not benefitting from the instructional writing intervention as expected. The RTI core principles will be presented and discussed (e.g., early identification of at-risk students, monitoring students' progress).Please note that the abstracts of the individual papers do not follow the requested structure of an empirical research study (cf., aim, theoretical framework, methodology, conclusions, relevance to the domain) as the presentations focus on methodological challenges when conducting writing intervention research.

Guidelines for the validation of writing assessment in intervention studies

Presenting Author:Renske Bouwer, Utrecht University, Netherlands; Co-Author:Elke Van Steendam, KU LEUVEN, Belgium; Co-Author:Marije Lesterhuis, University of Antwerp/ Spaarne Gasthuis, Netherlands

In order to make claims about the effectiveness of writing interventions, it is necessary to measure whether students have made any progression in writing due to the intervention. Usually this is done by letting students write one or more texts in response to a particular writing prompt, both before and after the intervention. The quality of these written texts is then quantified, often by experienced or trained raters who use a particular rating procedure. The obtained text quality scores are used to generalize about students' writing proficiency, to predict future writing performance, and finally, to determine the effectiveness of the writing intervention. To what extent, however, are the inferences based on text quality scores warranted? For instance, do human raters provide reliable, valid and generalizable information about text quality? How many tasks and raters are required? How can decisions based on text quality ratings be extrapolated to the writing intervention, or to writing education in general, and how can they be used to claim that the writing intervention has an effect? These demanding issues are imperative for valid claims in an intervention study, and go beyond the question which rating procedure best measures text quality. Therefore, in this symposium contribution, we will present a general validation framework of writing assessments in the context of writing intervention studies. Figure 1. General validation framework of writing assessment in intervention studiesFigure 1 shows the validation framework in which we reveal the five most critical

inferences and underlying assumptions leading from observed writing performances to the decision that an intervention effectively improves students' writing. We will bring in a broad perspective of validity to the assessment of writing, by adopting Kane's argument-based approach to validity (Kane, 2006; 2011) and by reviewing empirical and theoretical evidence from previous writing assessment research that either supports or challenges the inferences that we make on the basis of text quality ratings. Based on this, we will present specific guidelines for intervention researchers on how to make evidence-based choices regarding the selection of writing tasks, raters and rating procedures when assessing writing in a writing intervention study.

Qualitative and mixed methods in assessing writing interventions

Presenting Author:Anna Hall, Clemson University, United States; Co-Author:Beth Beschorner, Minnesota State University Mankato, United States; Co- Author:Kelly Mayer White, College of Charleston, United States

The main aim of this presentation is to explore traditional and contemporary qualitative and mixed method approaches to assess writing interventions. Paradigms are described that underpin qualitative and mixed methods approaches in writing research including constructivist, pragmatic, and transformative approaches. Transformative approaches are discussed as particularly useful when intervention studies aim to change teaching approaches using participatory research designs. Theoretical perspectives applicable to writing research, such as socio-cultural, socio-cognitive and literacy theory are also described. The presentation features a methodological section focused on data collection and approaches to data analysis. Data collection in natural conditions and authentic contexts is the focus of this section. In addition, respect, reciprocity, and relationships which can support the design and implementation of participatory writing research in naturalistic conditions is discussed. The presentation includes an in-depth discussion of issues regarding the strengths and weaknesses of different methods for data collection and analysis with an emphasis on qualitative and mixed methods designs. For example, qualitative and mixed method results can inform changes to the intervention during implementation and foster collaboration among colleagues but can also be time intensive and sometimes cost prohibitive. Examples of data sets are provided to illustrate challenges and stages in the analysis and interpretation of mixed method data. In relation to the methodological section, validity, reliability, research rigor, and research ethics including participant confidentiality and informed consent will be thoroughly discussed. Finally, a set of recommendations will be provided to be considered when using qualitative or mixed methods to assess writing interventions.

Writing assessment and intervention within the Response to Intervention model Presenting
Author:María Arrimada, University of León, Spain

Research reports that currently, a considerable percentage of school-aged students show low writing achievement. The Response to Intervention model (RTI) arises as a possible framework to support these students through early identification and targeted intervention, in order to prevent the development of learning disabilities. This study describes the RTI core principles as well as various methodological issues that both researchers and practitioners should deal with when designing and implementing RTI-based writing interventions. The first RTI principle refers to early identification of at-risk students through initial universal screening. Concerns about false positives and negatives and the need for evaluating writing competence as a whole, are discussed in the study. Second, students' progress should be constantly monitored throughout the intervention. This brings about issues related to validity and reliability of progress-monitoring measures, interpretation of data in terms of writing performance and appropriate selection of writing tasks. Unresolved issues such as the

generalization of progress-monitoring measures to different educational settings are also discussed in the study. Third, the multi-tiered nature of RTI-based programs poses challenges concerning the need to increase education staff and the feasibility of implementing several tiers in parallel. Parental training and subsequent involvement in writing instruction is discussed as a possible solution for these challenges. Fourth, writing instruction within RTI frameworks should be evidence- based. In response to practitioners' claims about lack of training to implement evidence-based teaching practices, the need for professional development programs on the effective teaching of writing is emphasised in the study. Guidelines to detect whether the students are actually responding to that evidence- based instruction are also provided. Throughout the study, all these methodological issues are exemplified with previous research conducted in the field of writing instruction and assessment. Since the research on the implementation of RTI-based programs in the field of writing instruction is still very scarce, some directions for future research are suggested.

Session 4

Paper presentations: Handwriting

Linguistic processing during written production: a comparison of handwriting and typing

Presenting Author:Tania Cerni, University of Trento, Italy; Co-Author:Remo Job, University of Trento, Italy

The growing body of psycholinguistic research on written production suggests that central-linguistic and peripheral-motor processes are not independent. More in detail, linguistic influences are found during the execution of handwriting and, more recently, of typing. However, handwriting and typing are usually investigated separately and, while the evidence for linguistic influences during handwriting production is quite robust, for typing the picture is less univocal, with mixed results. With the aim to examine if different motor executions allow for similar or different flows of linguistic processing, in the present study we directly compared handwriting and typing in two dictation tasks. Thirty-six Italian-speaking participants typed and handwrote a set of stimuli (112 in each task) in which we manipulated lexicality (word vs pseudowords), length (short vs long), and the complexity of sound-to-spelling mapping (simple vs complex). For each stimulus, we measured latency (RTs), assumed to index the scope of initial planning, the mean length of interletter intervals (ILIs), assumed to index local planning of the linguistic units, and whole response duration (WRD), assumed to index the cumulative effects during the execution of both letters and pauses. Results suggested a cascaded, continuous processing flow of lexicality, length, and orthographic complexity for handwriting. During typing, linguistic processing is stronger at the beginning of the stimulus execution (before starting to type and during first keypresses), suggesting that linguistic information is processed earlier than in handwriting. Our findings show modality-specific strategies in dealing with linguistic information suggesting that sensory-motor peculiarities of handwriting and typing should be considered to have a broad and complete view of written production.

Effects of remedial instruction on pen-movement fluency in first grade narrative composition

Presenting Author:María Arrimada, University of León, Spain; Co-Author:Mark Torrance, Nottingham Trent University, United Kingdom; Co-Author:Raquel Fidalgo, University of León, Spain, Spain

The analysis of the writing process provides insight on the cognitive activities that took place in the writer's mind during the composing process. In the context of writing instruction, process analysis provides insight into the dynamics of writing under the conditions of a specific instructional approach. This is particularly important in the case of students who are slow to learn. Detailed

analysis of their handwriting processes – their patterns of pausing during writing – reveals whether they struggle with transcription or whether higher-level factors are affecting their learning rate. We report a study that explores how the writing behaviour of students at risk of writing difficulties changes after receiving additional remedial ("Tier 2") support. 161 Spanish first-grade students received several months of formal classroom instruction in both transcription and planning. On the basis of regular probe assessment tasks, 36 students were identified as falling behind their peers. Over the next two months, these students received a remedial writing intervention supported by parents. Their handwriting processes was compared to the remainder of the sample, who only received general classroom instruction. All students wrote a narrative before and immediately after remedial support using smartpens, which record students' written output in real time. The resulting data were then marked up using the MarkWrite annotation program to identify word and sentence boundaries. Data analysis is currently underway and will be complete in time for presentation at the conference. Data is being analysed using Bayesian finite mixture models (Roeser et al., 2021). A process effect of remedial transcription instruction would be evidenced by increased within-word and pre-word production fluency.

Investigating Working Memory, Handwriting Fluency and Written Text Production Across Development

Presenting Author:Androniki Papadimitriou, National and Kapodistrian University of Athens, Greece; Co-Author:Asimina Ralli, University of Athens, Greece

Written language is crucial through school years. Recent research demonstrates the need for studying written text production, in different populations taking into account both cognitive and linguistic parameters (e.g., Hancock, 2009; Connelly, Dockrell, Barnett, 2012; Scott & Windsor, 2000), keeping in mind that multiple skills act in a cascaded function during writing process (Hayes, 2012; Olive, 2014). The present study aims to investigate further this underexplored area by examining working memory and handwriting fluency, in relation to written text production of Greek speaking pre-adolescents and adolescents with and without Language and Learning Disorders. The total sample consisted of 180 participants 11-12 and 14-15 years old (90 for each age group). Subjects were assigned to three subgroups (typically developing students, students with Developmental Language Disorder (DLD), and students with Specific Learning Disorder with impairment in reading (SLD) (Dyslexia) (30 for each age subgroup).The students with DLD, and students with SLD (Dyslexia) were recruited from the Child and Adolescent Psychiatry Department of the National and Kapodistrian University of Athens, while the typically developing participants were recruited from mainstream schools in the district of Attica. The participants were assigned to the three separate groups via a screening process for the confirmation of diagnosis of DLD, SLD (Dyslexia), and of typical development. Afterwards all were assessed on measures of working memory handwriting fluency, and written text production. We expect to find developmental and inter group differences in the aforementioned measures, with the two clinical groups to show poorer performances, than their typically developing peers, depending on the domain and the severity of their individual difficulties. Different patterns of correlations are expected to be found between working memory, handwriting fluency and written text production criteria for each group. Findings will be discussed with regard to the "Not So Simple Model of Writing" (Berninger & Winn, 2006) and in relation to future research.

Paper presentations: Early writing

Syntactic competence in early writing

Presenting Author:Mari Nygård, NTNU, Norway; Presenting Author:Anne Kathrine Hundal, Nord University, Norway

Syntactic competence in early writingKey words: early writing, syntactic competence, syntactic complexity, grammar as choiceThis study aims to investigate and describe syntactic competence among early writers. We ask two research questions:(i) Which syntactic features appear in a selection of young students' texts?

(ii) What can these features reveal about the students' syntactic competence?The empirical basis of the study is a representative sample of texts from the project Functional writing in the first school years (Skar, Aasen, & Jølle, 2020). The analyzed material amounts to a total of 570 texts written by students in the 1st, 2nd and 3rd years, divided into three mastery levels. The texts answer two different writing tasks. Taking an exploratory and descriptive approach, we have analyzed all texts focusing specifically on the use of these syntactic features: main clauses, embedded clauses, ellipsis, complex syntactic phrases, infinitive clauses, formal/expletive subjects, coordination of sentences and topicalization of non-subjects. We mainly make use of analytical tools from traditional grammar (Faarlund et al., 1997), but also concepts from functional grammar (e.g. Halliday & Mathiessen, 2014) are taken into account .The analysis shows that the syntactic repertoire of beginner students is very rich. We show that supposedly complex syntactic constructions appear early and increase in step with the text length. In light of the empirical data manifested in the texts, we discuss and aim to nuance the concept of syntactic competence, arguing that it can be understood as composed of four sub-competencies: 1) syntactic repertoire (see e.g. Applebee, 2000; Schütze, 1996)2) syntactic complexity (see e.g. McNamara et al., 2010) 3) syntactic variation (see e.g. Hasselgård, 2004) 4) syntactic choices (see e.g. Myhill et al., 2012). In our presentation, we will illustrate these subcompetencies through examples from the student text material, and we will discuss how they contribute to the overall writing competence of the students.

Response to Intervention with Beginning Writers in Virtual Classrooms

Presenting Author:Perry Klein, The University of Western Ontario, Canada; Co-Author:Madelyn Casola, The University of Western Ontario, Canada; Co- Author:Jill Dombroski, The University of Western Ontario, Canada; Co-Author:Christine Giese, The University of Western Ontario, Canada; Co-Author:Kristen Sha, Western University, Canada; Co-Author:Serena Thompson, The University of Western Ontario, Canada

Research Aim: During the pandemic, the online environment was a challenging one in which to provide high quality instruction (Hebert, Goodrich & Namkung, 2020). The aim of our research was to explore the strengths, limitations and effects of providing Response to Intervention (RTI) to beginning writers in virtual classrooms. Theoretical Framework: Writing development is dependent on discourse knowledge, self-regulation, and transcription skills (Berninger & Chanquoy 2012; Kim, 2020). RTI can address these components through early assessment, early intervention, and flexible grouping for instruction (Arrimada, Torrance & Fidalgo, early online). Methodological design: In a pretest-post-test design, two virtual classes of Grade 1 students (N = 24) participated in Response to Intervention in writing using the Microsoft Teams platform. At pretest, most students were below grade level in handwriting, spelling and written expression.

Teachers participated in professional development in Self-Regulated Strategy Development (SRSD; Harris & Graham, 1999), then provided Tier 1 SRSD instruction in personal narrative writing to 16 students. For 8 students, a Research Associate provided Tier 2 SRSD instruction, combined with ad hoc remediation of handwriting and spelling. Then, because three students were frequently absent

or distracted, the Research Associate provided them with Tier 3 individual instruction. Findings: Tier 1 students made large, statistically significant gains in the holistic quality and length of personal narrative texts; most students learned to write brief stories independently. Similarly, most Tier 2 students made significant gains. However, Tier 3 students did not. Interviews with the teachers identified strengths and limitations of the technology in relation to writing strategy instruction with young children. Partial correlations indicate that handwriting and spelling skills significantly predicted gains in written expression. For some students, it appeared that hardware and software difficulties and environmental distractions combined with lower initial literacy skills and attention, to affect learning. Relevance to the domain of writing: Online RTI offers a promising way to provide inclusive education to beginning writers who require remote instruction. Future research should investigate the effect of adding parental assistance and systematic transcription instruction to online Tier 3 RTI.

Beginning writing by hand or by keyboard – a developmental study of first graders´ narratives

Presenting Author:Vibeke Rønneberg, University of Stavanger, Norway; Co-Author:Eivor Finset Spilling, Volda University College, Norway; Co- Author:Wenke Mork Rogne, Volda University College, Norway; Co-Author:Jens Roeser, Nottingham Trent University, United Kingdom; Co-Author:Mark Torrance, Nottingham Trent University, United Kingdom

Traditionally, children are first taught to create text by handwriting. There is now a move, in some schools, towards student first learning to write by typing, typically on a digital tablet, and without learning to handwrite. There is little research on the different effects of these modalities – handwriting and typing – on early writing outcomes and the findings of the existing studies are inconsistent (Wollscheid et al., 2016). We therefore investigated narrative text production in two groups of first graders, one group learning to write by typing on a digital tablet and one group that learn to write with pencil and paper. In a longitudinal natural experiment across 10 Norwegian classrooms we compared 89 students learning to write by hand, to 90 students learning to write using a tablet computer. All students wrote narratives elicited by picture prompts at roughly 7 week intervals (5 in total) starting from the November of their first grade. The students´ texts were analysed for length, spacing accuracy, sentence-terminator use, spelling accuracy, vocabulary sophistication, syntax use and narrative structure.These data were then modelled using Bayesian multivariate mixed effects models to establish whether or not students learning in different modalities differed in rate of development. Models included as covariates measures of classroom practice (teacher self-reports). Preliminary analyses suggest some differences in learning rates for low level text features, but not for substantive features of the text (vocabulary, narrative structure). Data analysis will be complete in time for presentation at the conference.

Paper presentations: Writing difficulties

Dyfunction of the writing network in children with dyslexia.

Presenting Author:Claire Gosse, Université catholique de Louvain (UCL), Belgium; Co-Author:Laurence Dricot, Université catholique de Louvain (UCL), Belgium; Co-Author:Marie Van Reybroeck, Université catholique de Louvain (UCL), Belgium

Dyfunction of the writing network in children with dyslexia A combined behavioural and neuroimaging experiment Aim. Dyslexia is characterised by a severe and persistent deficit in both reading and spelling. Moreover, other difficulties are frequently associated with dyslexia, including handwriting difficulties (Alamargot et al., 2020; Gosse & Van Reybroeck, 2020). Authors have recently identified the writing brain network, i.e., regions recruited for spelling and handwriting, in

both adults (Planton et al., 2013) and children (Palmis et al., 2021). However, no study has ever investigated the functional organisation of the writing network

in children with dyslexia (DYS) compared to typically developing children (TD). This study aims to better understand writing difficulties in DYS children by combining behavioural and resting-state functional data (RS-fMRI) focused on both spelling and handwriting. Method. Participants were DYS (n = 16) and TD children (n = 16) from French-speaking primary schools (Mage = 9,3 years). They were evaluated on both spelling and handwriting measures, using lists of nonwords, regular words, and irregular words. Participants went through an MRI scanning session, including a resting-state fMRI sequence. The RS-fMRI analyses were based on a region of interest (ROI) approach, focusing on the brain regions that form the writing network (Planton et al., 2013; Palmis et al., 2021). Results. Group comparison analyses (independent samples Student t tests) were run to investigate group differences in writing abilities and functional connectivity between DYS and TD children. Our behavioural results demonstrated that DYS performed significantly lower than TD in spelling (all types of words).

Moreover, DYS had poorer handwriting legibility than TD, but the two groups performed equally in handwriting speed. The RS-fMRI analyses brought evidence of group differences in the strength of functional connectivity of writing regions. In particular, augmented connectivity was highlighted in the DYS group between a spelling ROI (i.e., superior temporal gyrus) and ROIs recruited for handwriting (i.e., middle frontal gyrus and thalamus). Conclusion. For the first time, this study identifies abnormalities in the organisation of the writing network in dyslexia in relation to both spelling and handwriting difficulties. Additionally, this study contributes to improving our understanding of the early functional markers of dyslexia, by identifying differences at rest in children with dyslexia.

Copying words from the board or desk? Performance of children with and without dyslexia

Presenting Author:Elise Blampain, ISPY, Belgium; Co-Author:Marie Van Reybroeck, Université catholique de Louvain (UCL), Belgium

Purpose. Every day at school, children are asked to copy words from different supports more or less distant, such as copying from the board or a paper on the desk. At the same time, while copying skills are used daily at school, there is little evidence about whether children with dyslexia have a specific deficit in copying, in addition to their spelling deficit. Moreover, some children with dyslexia are known to present handwriting and visuomotor difficulties. Therefore, the present research aims to fully understand the copying skills of children with and without dyslexia by comparing two different copying conditions: a far point (from the board) copying task and a near point (from a paper on the desk) copying task.Method. Twenty-five French-speaking children with dyslexia (Mage=8;9 years) were compared to 25 chronological age-matched children (CA children, Mage=8;8 years) and 25 spelling age-matched children (SA children,Mage=7;6 years). Participants were asked to perform control tasks (vocabulary, short term verbal memory, non-verbal IQ, etc.) and two 16-word copying tasks: a board and a desk copying task. Words varied in terms of regularity: 8 regular words and 8 irregular words were administered in each task. For each word, spelling accuracy, handwriting quality, handwriting duration, number of pauses, and number of gaze lifts were considered. Results. GLMM were used in order to consider both the variability induced by children and that induced by the items. Analyses showed that all children were slower in the board copying task than in the desk copying task. In addition, analyses showed that children with dyslexia were slower and produced more gaze lifts than CA children in both copying tasks. Conclusion.

These findings suggest that children with dyslexia do have impaired copying skills, regardless of the copying condition. Overall, it provides new insights and encourages future research to deeply study copying processes to help children with copying difficulties at school.

Can speech recognition be used to improve the writing of children with spelling difficulties?

Presenting Author:Åsa Wengelin, University of Gothenburg, Sweden; Co-Author:Sanna Kraft, University of Gothenburg, Sweden

Even though writing is a key competence in almost all school subjects, an important tool for work and a requisite for full participation in most democratic societies, our knowledge about writing difficulties is surprisingly limited. Existing research indicate that the main writing problem of children with reading and writing difficulties is spelling, but it is also consistently reported that these children have difficulties with composition and receive lower text quality scorings than their peers (e.g. Berninger et al., 2008; Connelly et al., 2006; Wengelin et al, 2014). This suggests either that spelling is not their only problem or that their spelling processes interfere with other processes. In this study we introduced speech recognition to children with and without spelling difficulties in order to investigate whether enabling them to produce texts without having to focus on spelling would facilitate and improve their writing. This has been done before but (a) to our knowledge only in English, and (b) speech recognition technology has improved immensely since.Fifty-eight Swedish children aged 10-13 participated in the study. They wrote two texts each on a computer, one using the keyboard, and one using the computer's built-in speech recognition system —after having received a short introduction to the tool. Topic and input modality were counter-balanced. The texts were analysed for spelling, length, word length, lexical diversity, syntactic complexity, and text quality. Except for number of spelling errors in the texts, no differences were found between the input modalities for any of the groups. In general, the group without difficulties produced texts of higher quality, regardless of modality. However, the individual variation was greater in the group with difficulties, and a larger proportion of children in this group gained from the use of speech recognition. These results indicate that speech recognition could possibly be useful for at least some children with reading and writing difficulties, but more in-depth investigations of potential success factors is needed. We are currently investigating the relation between successful use of speech recognition and the children's linguistic and literacy skills, as well as a follow-up intervention study including more thorough instruction.

Paper presentations: Intervention

The effect of debate pedagogy on L2 argumentative essay writing

Presenting Author:Abid el Majidi, Utecht University, Netherlands; Co-Author:Rick de Graaff, IVLOS, Universiteit Utrect, Netherlands; Co-Author:Daniel Janssen, University Utrecht, Netherlands

Many students, especially at secondary schools, struggle with producing good argumentative essays (Wingate, 2012). Surprisingly, research has not paid much attention to the teaching and learning of this important genre (Wingate, 2012), one of the most common text types that students have to master. One innovative tool that may help students foster their L2 argumentative essay writing ability is in-class debate. Debate is commonly associated with oral communications and argumentation skills. However, debate may offer advantages as an effective vehicle for L2 writing instruction. In this presentation, we will present the findings of our study about the potential of L2 debates for developing L2 argumentative writing skills. The study investigates this potential by examining the effect of a debate intervention on the quality of argumentative essays of Dutch secondary school students. The intervention consisted of a number of speaking and writing

activities, including case writing and note taking. The study involved 135 students from eight classes at three secondary schools in the Netherlands. To measure the effect of the intervention, we analyzed argumentative essays composed by intervention and control group students at three occasions (pretest, posttest, and delayed posttest). The students' essays were analyzed using a range of measures for fluency, syntactic and lexical complexity, accuracy, and cohesion, as well as for communicative adequacy. Multilevel analyses revealed significant growth for the intervention group compared to the control group on a substantial number of measures, including text length, syntactic complexity, accuracy, cohesion, and communicative adequacy. We will discuss the findings in relation to key pedagogical features of the debate environment.

Dialogic writing: the effectiveness of an integrated and meaningful language approach

Presenting Author:Renske Bouwer, Utrecht University, Netherlands; Co-Author:Chiel van der Veen, VU University Amsterdam, Netherlands

In primary education, writing, reading and speaking are often covered in separate lessons, making it difficult for students to see the connection and use language as a means of communication. In addition, previous research has shown that students hardly revise their text once a first draft is finished. In this research project, we developed and tested a Dialogic Writing intervention, an integrated approach in which students in grades 5 and 6 engage in peer dialogue about their own written texts. The intervention consists of eight lessons with four steps: (1) classroom talk and reading of information texts to gather ideas,

(2) writing of a first version of the text, (3) reading each other's texts and engage in peer dialogue to give specific feedback on structure, argumentation and content, and (4) revising the text. These steps were followed four times to write four types of persuasive texts: a personal experience, an argumentative text, a persuasive letter and a response to a letter. The revised letters were sent to students of another school, who communicated back with a response letter. The effectiveness of our intervention is experimentally tested with a pretest-posttest controlgroup design. Half of the classes (5 classes; 143 students) were randomly assigned to an experimental condition in which students received additional materials to structure the peer dialogues, and teachers followed an extensive professional development program on dialogic peer talk about writing. The other half of the classes (6 classes; 123 students) received the same lessons without additional support. Preliminary results show that without any support for dialogic peer talk, conversations are short and primarily focused on spelling and layout issues. The peer conversations in the experimental condition seem to be longer, more dialogic, and more focused on the meaning of the texts. In a further step, we will use conversation and text analysis to investigate how dialogic peer talk develops during the intervention period, and how this is related to changes in students' revision behavior. Further, we will analyze whether the dialogic writing intervention improves students' writing skills by comparing the quality of students' writing at pre- and post-test.

Effects of a writing fluency training and its implementation in everyday school life

Presenting Author:Sabine Stephany, University of Cologne, Germany; Presenting Author:Anne Griepentrog, Mercator Institute for Literacy and Language Education, University of Cologne, Germany; Co-Author:Michael Becker-Mrotzek, University of Cologne, Germany

The ability to compose text is critical to students' academic success. An important prerequisite for developing adequate writing competences is the mastery of lower-level skills, in particular writing fluency. Writing fluency means the automatized ability to produce legible letters, correct words, and grammatically correct sentences (transcription fluency) as well as locally coherent text (text

generation fluency) at a reasonable pace with sustained attention (McCutchen 2011, Stephany et al. 2020). Current international research shows that writing fluency correlates with text composition (Alves & Limpo 2015, Stephany et al.

2020). However, it is not yet fully understood how to effectively promote writing fluency. In contrast to reading fluency, there are hardly any empirically tested concepts to foster writing fluency. In a previous study a training to support writing fluency was developed. It included tasks on automated recall (transcription fluency) and controlled processes (text generation fluency) and was tested in a pre-post design in the 6th grade with positive results on writing fluency (F(1, 101)=36.4; p

Symposium

Specific motor skills are key for developing legible and fluent handwriting in 4–7-year-old children

Chairperson: Michelle N. Maurer, University of Bern, Switzerland

Discussant: Sebastian Suggate, University of Regensburg, Germany

The purpose of the proposed symposium is to bring together expertise and experience from researchers from Germany, Italy, and Switzerland to share current conceptual issues, methodologies, and findings within the field of handwriting development in children aged 4–7 years.The first paper is a longitudinal investigation of the predictive value of individual differences in fine motor skills in kindergarten for handwriting fluency and legibility in first grade. In addition, this study investigates associations between fine motor skills in kindergarten and later visual-motor integration and executive functions, which all are crucial school readiness factors related to early academic achievement. The second paper draws on a large-scale study of first-graders and zooms into the specific role of executive functions in early handwriting. Precisely, processes during handwriting, such as fluency (i.e., automaticity) which are crucial for learning and academic success, were measured with digitizing tablets. The study's findings will improve our theoretical understanding of handwriting development and allow deriving hypotheses on how teachers and practitioners can support children's development of fluent handwriting. The third contribution tackles stimulation of kindergarten children's graphomotor and visual-motor integration skills with the motor program MoFis. This study aimed to test the efficiency of MoFis in kindergarten children using a quasi-experimental design. The study's results show that MoFis significantly improved children's visual-motor, oculo-manual coordination, and fine motor skills, suggesting that pre-writing skills can successfully be developed and enhanced with this motor program. The fourth paper examines the role of motor activity in handwriting (compared to typing) for reading development by means of an experimental approach. Kindergarten children's fine motor skills are systematically manipulated in various learning sessions of letters and pseudowords. Results on children's ability to read the letters and pseudowords at pre-, post, and two-week follow-up will highlight the role of fine motor skills in handwriting for reading development. The presented research projects are timely, exciting, and the data were collected in three different countries. The findings will shed light on the key motor and cognitive factors for developing legible and fluent handwriting. Theoretical and practical implications of the studies' findings will be discussed.

The predictive value of fine motor skills for handwriting fluency and legibility in first grade

Presenting Author:Michelle N. Maurer, University of Bern, Switzerland; Co-Author:Claudia Roebers, University of Bern, Switzerland

Background: Children with fluent (i.e., more automated) handwriting have more cognitive resources to devote to other aspects such as text composing and comprehension. Visual-motor integration and

fine motor skills are required to learn to write fluently. In addition, specific cognitive functions, such as executive functions (EF), are assumed to be involved when learning a new task, such as handwriting in children in transition to school. While prior research predominantly focuses on the handwriting product (i.e., legibility), studies on the processes during handwriting (e.g., fluency) are relatively scarce. Aim: The present study aimed to longitudinally investigate the predictive role of children's fine motor skills in kindergarten for later handwriting fluency and legibility in first grade. In addition, children's fine motor, visual-motor integration skills, and EF were investigated in first grade, allowing insights into both longitudinal and cross-sectional associations among crucial predictors of handwriting legibility and fluency.

Method: One hundred and twenty-five children (MAge = 7 years, five months at t2) participated in the study (46% girls). Children's fine motor skills were assessed in kindergarten (t1) and at the end of the first grade (t2). Furthermore, we measured children's EF and visual-motor integration skills. We evaluated children's early handwriting skills using digitizing tablets allowing us to record processes of handwriting. We hypothesized longitudinal associations between children's fine motor skills and later handwriting skills in first grade and cross-sectional associations among EF, fine motor, and visual-motor integration skills. Results and implications: Results revealed cross-sectional associations among fine motor skills, EF, and visual-motor integration. Among the different EF, especially inhibition compared to working memory, was associated with fine motor and visual-motor integration skills, providing a more nuanced perspective on the motor–cognition link reported in the literature. Further results on handwriting fluency and legibility will be presented at the conference. Results will advance our understanding of the critical factors related to handwriting development and allow deriving hypotheses about enriching children's learning environments and adapting instructional activities to meet their individual needs.

The relationship between executive functions and handwriting in beginning handwriters

Presenting Author:Lidia Truxius, Institut Entwicklungspsychologie, Switzerland; Co-Author:Michelle N. Maurer, University of Bern, Switzerland; Co- Author:Judith Sägesser, University of Teacher Education Bern, Switzerland; Co-Author:Claudia Roebers, University of Bern, Switzerland

Theoretical framework: Executive functions (EF) are an important predictor for writing (Altemeier et al., 2008). While research on this effect usually focuses on composing and text quality (Salas & Silvente, 2020; Valcan et al., 2020), the fine motor task of handwriting is rarely investigated. According to the Not so simple View of Writing (Berninger & Winn, 2006), EF are crucial for the fine motor aspects of not yet automatized handwriting. However, automatized handwriting is necessary to release cognitive capacity and to be able to work on more complex tasks (e.g. text generation).

Aim: Since there is little research on the effect of EF on handwriting as a fine motor task, we will investigate the relationship between EF and handwriting in 1st graders at the beginning of their handwriting acquisition. Automaticity in handwriting is crucial for further writing achievement (Hurschler Lichtsteiner et al., 2018). Therefore we will focus on the relationship between EF and handwriting automaticity. We expect that EF are crucial for handwriting. Children with better EF are likely to develop better automaticity since they can better focus on fine motor aspects of writing.

Methods: To investigate the relationship between EF and handwriting, we assessed EF (inhibition, shifting, and working memory) and handwriting process in more than 1000 1st graders in Switzerland. Additionally, we measured visuomotor integration which is an essential predictor of fine motor skills. We measured EF with two tasks. We measured temporal and spatial features of handwriting with a digitizer tablet. For statistical analysis, we run a linear regression analysis with

handwriting automaticity as the dependent variable and EF and visuomotor integration as independent variables, controlling for children's gender and social-economic background.

Results: The data collection will be finished end of December. At the SIG Writing conference, we will present the most current results. By investigating children at the beginning of handwriting acquisition we can better understand handwriting development and its predictors. This understanding helps teachers support children in their development of handwriting automaticity, which is crucial for learning and academic success (Dinehart & Manfra, 2013).

The MoFis program for developing graphomotor skills in kindergarten children.

Presenting Author:Livia Taverna, Free University of Bolzano, Italy; Co-Author:Nicola Rudelli, University of Applied Sciences and Arts of Southern Switzerland, Switzerland; Co-Author:Lietta Santinelli, Center for Occupational Therapy, Switzerland; Co-Author:Michele Mainardi, University of Applied Sciences and Arts of Southern Switzerland, Switzerland; Co-Author:Marta Tremolada, University of Padua, Italy

Research topic: Studies on writing acquisition indicate that graphomotor skills and visuomotor integration are fundamental for learning to write, being reported in the literature as necessary requirements in the transition from kindergarten to primary school. Children with poor manual dexterity or with visual-perceptual difficulties are considered at risk of exhibiting problems related to graphic quality of written production that can compromise the development of fluid and legible writing and have long-term effects on the child's learning and self-esteem.

Methodological design: The motor program MoFis was designed to stimulate graphomotor skills and visual integration abilities in children that are learning to write. Activities were administered for 8 months, on a weekly basis, organized according to a progressive order of difficulty. The program efficacy was tested using a quasi-experimental design with 117 kindergarten children (M = 54.7%; F = 45.3%, age range in months: 43-81) assessed with the Beery Buktenica Developmental Test (VMI) and the manual dexterity scales of the Movement Assessment Battery for Children-2 (MABC-2) before and after the intervention, matching results with a control group of aged equivalent peers.

Conclusions/findings. The MoFis increased significantly the visuomotor performance, the oculo-manual coordination (VMI: p = .002, d = -.62; VMI_MC: p = .009, d = -.51), and manual dexterity (DM1: p

The effects of fine motor skills, writing, and typing on early decoding development

Presenting Author:Sebastian Suggate, University of Regensburg, Germany; Co-Author:Viktoria Karle, University of Regensburg, Germany; Co-Author:Tanja Kipfelsberger, University of Regensburg, Germany; Co-Author:Heidrun Stoeger, University of Regensburg, Germany

A growing body of correlational work indicates that fine motor skills relate to reading and writing development. Additionally, studies indicate that the complexity of motor representations plays a role in reading, such that writing activity is more advantageous for reading development than typing is. However, no experimental research has, to date, tested these ideas in a single study. Accordingly, five to six year-old kindergarten children (ntargeted = 100) are being recruited and randomly assigned to four experimental conditions in a 2 X 2 between-subjects experimental design. To manipulate motor skills, pencils with either a counter- weight attached to their ends, either heavy being out of steel (motor difficult) or light being constructed from polystyrene (motor easy), were employed. In a second experimental condition, children used the pencils to either type or write letters and words, by pressing keys or copying letters with the 'special' pencils while sounding these

out. Experimental stimuli were seven letters, and corresponding pseudoword constellations thereof, that were introduced to the children in a series of four 7-minute learning sessions. At pretest, posttest, and a two-week follow-up, children's ability to read the letters and pseudowords was and is being tested. It is hypothesized that the motor difficult and typing conditions will result in lower reading performance, because of the importance of meaningful, but not overly taxing, motor activity in acquiring reading and writing skill. Furthermore, we will test the predictive role of fine motor skills, phonological awareness, working memory, grapho-motor skills, executive functions, and general vocabulary on decoding acquisition. Findings will have implications for the role of writing and motor skill in reading development.

Symposium

synthesis writing, their effect on text quality and their generalizability across genre, task and person.

Communicating research successfully: Enhancing writing competence throughout the academic career

Chairperson: Anna Sala-Bubaré, Ramon Llull University, Spain

Discussant: Kirk Sullivan, Umeå University, Sweden

Learning to communicate research effectively in a variety of scholarly genres is a challenge for all researchers across the career spectrum. While the pace of studies of writing development of doctoral students has intensified in the last decades, there is still insufficient evidence on how more experienced writers develop their expertise. This symposium offers a rare opportunity to explore a broad, integrated perspective on the journeys of academics in learning and developing their expertise in writing a range of scholarly genres. The first paper examines the collaborative writing processes of three teams of Spanish social scientists. More specifically, it explores the relationships between co-authorship practices and researchers' stances, writing conceptions and, ultimately, on how they made sense of their experiences when writing research collaboratively. The second paper reports on the experiences of five PhD researchers in an eight- month writing program in the UK. It focuses on how their understanding of scientific communication and their perceptions of its challenges evolved during the program, with particular attention to the emotions that emerged in regard to writing. The third paper explores how three successfully funded Canadian scientists develop expertise in writing grant proposals. It focuses on how they evolve their understanding of the proposal genre, and on how they project this knowledge in their proposals. Collectively, these papers provide evidence and reflection on the continuing learning journeys of academic researchers as they develop expertise in addressing the ever-evolving challenges of scholarly writing. The implications for researcher learning and development will be explored in each paper.

Writing research articles together: Co-authorship practices of Social Sciences researchers

Presenting Author:Anna Sala-Bubaré, Ramon Llull University, Spain; Co-Author:Montserrat Castelló, Ramon Llull University, Spain; Co-Author:Mariona Corcelles, Universitat Ramon Llull, Spain

Research writing practices and outputs in the last 30 years have changed dramatically, especially in Social Sciences. These changes include, among others, a shift from individual to collaborative writing and publishing. However, little is known about how researchers perceive co-authorship practices and develop their co-authorship competence in real-research life conditions and environments. In this study, we examined co-authorship practices, researchers' stances and writing conceptions and, ultimately, how researchers writing collaboratively make sense of their experiences. Participants were three teams of 3 to 5 Spanish Social Scientists (most of them, experienced researchers). All

participants held different university positions in a social work department (within a Social Sciences Faculty), belonged to the same research team, and had some experience working and writing together. In the context of a writing-for-publication consultation, each team wrote an empirical article. At the beginning of the process, participants responded to an individual survey about their writing conceptions, experiences, and expectations of their writing collaboration. During the six-month consultation period, we collected drafts and audio-recorded the face-to-face team writing discussion and consultation sessions. The three teams were different in how they organized and understood co-authorship. The analysis indicated that co-authorship practices intertwined with different stances regarding ownership and agency. Moreover, the position that researchers have in the community, and some writing experiences, such as participating in diverse co-authorship practices, feeling competent in writing articles, and having writing training opportunities, mediated their conceptions and practices in collaborative writing. During the presentation, we will offer examples of this mediation and will discuss implications of the results in light of writing researcher development through the lifespan.

Developing as a writer: PhD researchers' shifting perspectives within a writing program

Presenting Author:Lynn McAlpine, University of Oxford / McGill University, Canada; Co-Author:Corinne Boz, University of Cambridge, UK, United Kingdom

This paper draws on the experience of designing, piloting and researching an eight-month writing program for social scientists and humanists (in the UK) that focused on developing as writers. Academic literacy comprises both thinking critically and taking action that contributes to the chosen field and involves learning to make sense of disciplinary 'talk' and to communicate effectively. So, it can take early career researchers a number of years to develop academic literacy. This developmental perspective suggests that learning involves increasing sophistication and flexibility through metacognitive regulation and knowledge of oneself. Thus, in this program, we viewed writing as a personal tentative, iterative, exploratory practice, undertaken by scholars with both existing and developing expertise – one that would benefit from interaction with peers.

After describing the program and rationale, we report the experiences of five of the 10 participants who completed the program. They were chosen as the focus of the analysis because they had attended consistently and provided data collected both prior to the commencement of the program, during and post-program. We examined the ways in which they drew on the program's constituent parts to develop their scholarly communication practices and the extent to which their perceptions of the challenges they faced changed as a result of participating in the course, particularly as regards achieving personal goals and managing the emotionality of writing.

Analysis of the data suggests that, regardless of writing experience, participants' emotional stance towards writing was a significant factor in their goal setting and subsequent goal evaluation. And, making visible this emotionality freed participants to explore their emotions explicitly. They also strongly identified with the community aspects of the program that provided a visible, defined space for discussion of scholarly communication, and thus a sense that developing as a writer was challenging, yet a common and ongoing process.

Mitigating funding uncertainty: grant proposal writing by three experienced Canadian scientists

Presenting Author:Larissa Yousoubova, McGill University, Canada; Co-Author:Lynn McAlpine, University of Oxford / McGill University, Canada

The purpose of this paper is to consider how expert grant writers learn to mitigate the likelihood of rejection of their proposals.One of the key challenges of proposal construction is in that the writer must respect the genre conventions yet make the proposal stand out in competition. This requires the writer to project credibility while being creative. However, creativity in academic writing is understood to be the domain of genre experts. How would early- and mid-career researchers address such a constraint? This paper examines how three sustainably funded Canadian principal investigators (PIs) develop genre knowledge to enable their proposal writing to adhere to the genre expectations yet stand out.Framed within the concepts of the rhetorical genre studies and the narrative longitudinal perspective, the analysis draws on interviews with the PIs and their proposal drafts. The PIs were asked to reflect, in fairly unstructured ways, on how they have and continue to develop their proposal genre knowledge and how they project it in their writing.The findings suggest that the PIs' approaches reflect their individual learning journeys of navigating and negotiating the grant genre system in pursuit of their research goals. Their writing is informed by their ongoing participation in the system in a variety of stakeholder roles. As they seek to learn from these experiences, the PIs evolve an understanding of what in their epistemic domains is perceived as genre-appropriate. This enables them to build towards both credibility and creativity in their writing. That is, in their proposal conceptualization they strive to address peer-reviewer concerns; with time, they also become increasingly empowered to explore the affordance of improvisation in the genre. PI purposeful participation in the system and their research goals emerged as the two most impactful factors in a) how each of the PIs informs the development of their genre knowledge, and b) how they balance convention and creativity in their grant proposals.

Symposium

Synthesis writing tasks - (how) do learner and task variables affect outcomes?

Chairperson: Magdalena Flores-Ferrés, Chile

Organiser: Liselore van Ockenburg, University of Amsterdam, Netherlands

Discussant: Raquel Fidalgo, University of León, Spain, Spain

Thanks to modern media, information sources are numerous and easily available. One of the greatest challenges educators currently face is teaching students how to analyze and process source information to build an overall understanding and to communicate this understanding. This symposium brings together four studies that may support the definition of instructional principles for teaching syntheses: texts that are representative and at the same time well-integrated reflections of information on the same issue, but from multiple sources.There are many variables that must be considered:

1. Task variables like the (i) relation between the sources (complement, overlap, contrast, irrelevant), (ii) the genre (objective informing, argumentative positioning), (iii) the task set (reading and writing to show overall comprehension or reading and writing to deliver a coherent text).2. Learner variables like (i) topic interest, (i) topic knowledge, (iii) reading and writing routines, and (iv) the student's own stance in the issue.

In this symposium, we aim to explore basic synthesizing processes and instructional principles, whilst considering learner and task characteristics. Therefore, we bring together studies that explore the effect of task (e.g. task goal, genre), learner characteristics (topic interest and topic knowledge, writing process routine) and instruction on various outcome measures such as the final written product, knowledge gain, text comprehension or writing processes. Van Ockenburg et al. studied the

effect of writing routines on the effect of direct instruction on text quality. Van Steendam et al. instructed students with process models and tested

the effect on text quality and writing processes. Rijlaarsdam et al. tested the contribution of argumentation position, topic knowledge and topic interest on text quality and knowledge gain, Phillipp compared the effect of relationship between sources and different genres - expository text, summary, and argumentation - on expressive and/or receptive outcome measures of source-based tasks. Thanks to the different perspectives, together these studies provide a multifaceted picture of the different factors that influence both writing processes and outcome measures when performing synthesis tasks.

Testing Strategy-Based Synthesis Writing Interventions with Content Planning Choices

Presenting Author:Liselore van Ockenburg, University of Amsterdam, Netherlands; Co-Author:Daphne van Weijen, University of Amsterdam, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Background. Because students' writing routines have been shown to affect the effectiveness of writing instruction, we designed a learn-to-synthesize unit that aimed to be equally effective for all writers, regardless of their routines.Aim. Test an evidence-based learning unit for students in secondary education and, in a second, independent study, its redesign. Observational learning (Rijlaarsdam & Couzijn, 2000) played an important role. In film clips, two strong performing peers model how they perform a synthesis task. One modeled a writing approach based on a preplanning strategy, while the other modeled a writing approach based on a Drafting (planning-by-writing) strategy (Kieft et al., 2007). Students could choose which approach they wanted to apply.Sample. Study 1 included three teachers and 152 9th grade students (14 to 15-year-olds) from five classes in one school. Study 2 included six teachers and 233 students from 10 classes in three schools.Method. We tested the effect in a quasi-experimental design with switching replications. Each student performed a synthesis task at three measurement occasions. Questionnaires measured students' writing process preferences.Results. In Study 1, we found a significant effect of the unit on text quality in both panels. However, analyses showed that this effect was moderated by writing routine. To generalize the effect across writing routines, we provided students in Study 2 with an extra session on metacognitive knowledge about (synthesis) writing processes, enabling them to make better-informed strategy choices. Analyses again showed a significant effect of the experimental condition in panel 1, which was replicated in panel 2. Moreover, the effect was no longer moderated by writing routine. Conclusion. The outcomes of both studies indicated that the intervention was effective, but only the redesigned intervention was equally effective for students with different routines. ReferencesKieft, M., Rijlaarsdam, G., Galbraith, D., & van den Bergh, H. (2007). The effects of adapting a writing course to students' writing strategies. British Journal of Educational Psychology, 77(3), 565-578.Rijlaarsdam, G., & Couzijn, M. (2000). Writing and learning to write: A double challenge. In New learning (pp. 157-189). Springer, Dordrecht.

Synthesis text writing: Effects of argumentative position, topic knowledge and interest

Presenting Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands; Co-Author:Nina Vandermeulen, Umeå University, Sweden; Co-Author:Elke Van Steendam, KU Leuven, Belgium

IntroductionThis study aimed to assess the effect of argumentative position, topic knowledge and topic interest on two outcome variables: text quality and knowledge gain. ParticipantsA nationally representative sample of pre-university students (grades 10, 11, 12, n=658) wrote four synthesis texts. TasksEach task contained different types of sources: informative texts, with/without a table or

graph, newspaper articles and research reports. For each topic, we made an informational assignment ("What is the state of affairs?") and an argumentative assignment ("Defend the following position [and then a position on the specific issue followed] and substantiate this position with arguments from the sources"). Students wrote two informational and two argumentative texts. The presentation will focus on the two argumentative tasks per individual. Texts were holistically rated by three raters. Knowledge gain was indicted by perceived knowledge gain.Research question1. To which extent affects the argumentative position of the author towards the position that had to be defended the text quality (TQ) and the knowledge gain (KG). 2. To which extent affected topic knowledge and topic interest TQ and KG, directly and/or via perceived task difficulty and effort put into the task. The presentation is embedded in the existing research on topic knowledge effects (Kellogg, 1987), topic interest (Olinghouse et al., 2015; Benton et al., 1995), perceived difficulty (Strømsø, Bråten, & Britt, 2010; and effort (Bråten, Anmarkrud, Brandmo, & Strømsø, 2014). AnalysisMultigroup structural equation modeling. ResultsText QualityArgumentative position did not affect Text quality. Topic knowledge and Task difficulty both had a negative direct effect on text quality. Topic interest and Task difficulty both had an indirect effect on Text quality via Effort. Both affected Effort positively, while Effort affected Text Quality positively. Topic knowledge had no effect on Effort.Knowledge gainPerceived knowledge gain was not related to text quality. We observed direct effect of Topic knowledge (negative) and Topic interest (positive). Topic interest and Task difficulty had an indirect positive effect on Knowledge gain via reported task effort.

Shall I argue or summarize? Effects of text genres when writing from sources

Presenting Author:Maik Philipp, University of Teacher Education Zurich, Switzerland

Writing from sources (WFS) is a challenging work that comprises the selection, organization, and elaboration of information. Though its demands WFS is considered as useful for a deeper understanding of situations and contents that are covered by and spread over several documents. While there is evidence on the positive effects of transforming reading materials by writing about single texts, regarding WFS consensus is lacking, especially when different text genres

come into play.Against this background this talk aims at clarifying the relative effects of different text genres that are requested in WFS on the dependent variables that capture different levels of processing text information.For this sake, a quantitative review of experimental studies was conducted. The primary studies were selected by criteria. They had to contain peer-reviewed experiments covering WFS and varying the text genre (e. g. one experimental group had to write summaries and the other one an argumentation, the set of documents being the same). Tests had to capture group differences among groups writing either genre. Effects hat to be tested with an appropriate test (e. g. ANOVA) as pair comparisons, and dependent variables were either expressive and/or receptive tests. Those dependent variables were coded in three categories using a scheme by Primor and Katzir (2018): selection of information, generating intertextual relationships and inference making. All effects were counted by vote counting (Bushman & Wang, 2009) in order to count statistically significant differences.

Within 18 experiments more than 1.500 participants (mostly university students) were tested, and there were three dominant genres in those experiments (a) argumentation, 152 pair comparisons; b) narrations, 87 pair comparisons; c) summaries, 74 pair comparisons). Descriptive analyses were run for these three genres and show that writing an argument was superior in expressive tests, while constructing summaries led to better understanding in receptive tests.

Narrations were inferior in pair comparisons. These product-based results urge the need for more theoretical underpinnings and call for more process-related research in WFS.

The effect of process feedback and process feedback instruction on students' synthesis writing

Presenting Author:Elke Van Steendam, KU Leuven, Belgium; Co-Author:Nina Vandermeulen, Umeå University, Sweden; Co-Author:Marije Lesterhuis, Spaarne Gasthuis, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Background. Writing synthesis texts is cognitively complex as students have to combine reading and writing activities. To master this, it is crucial that students receive feedback on their writing process and/or that they are instructed in effective writing approaches. Aim. To test the effects of feedback and additional instruction that focuses on the synthesis writing process. Method. 174 fifth-grade students from three schools were randomly assigned to two conditions: a feedback and a feedback-instruction condition. Students wrote an informative synthesis task on three different occasions. Writing processes were logged with keystroke logging software. Between measurement occasions M1-M2 and M2-M3, students received feedback on their process of the previous session. The feedback was designed in line with principles for effective feedback: (1) to help students bridge the gap between their current and targeted performance, (2) to incite self-regulated learning (Panadero et al., 2019) and (3) to activate them (Nicol & MacFarlane-Dick, 2014). The feedback flow consisted of different phases:1. Students reflected on their writing process after which they were presented with different effective approaches to writing a synthesis text. 2. Students compared their own process with these so-called benchmark processes. They received a personal feedback report on their logged writing process detailing their use of time, production/fluency, revision and source use. 3. Students decided on effective steps in future writing processes.In the feedback-instruction condition students additionally received instruction: they were encouraged to observe video models of the different effective benchmark processes in line with the tenets of observational learning. Results. Results show a positive effect of process feedback: students in both conditions significantly improve the quality of their syntheses from a first to a final writing session ànd compared to a national baseline (n=600) the effect is one year of schooling. No statistically significant difference was observed between the feedback and the feedback-instruction condition. Regarding the process data, preliminary analyses show that students in both conditions self-regulate their process approach. Implications. The present study has implications for future research and educational practice as it is shows the potential of process-oriented feedback based on keystroke logging.

Session 6

Paper presentations: Writing process (KSL)

Systematic Exploration of Syntactic Structures of Bursts in Greek Student Writing

Presenting Author:Ioannis Dimakos, University of Patras, Greece; Co-Author:Cerstin Mahlow, School of Applied Linguistics at Zurich University of Applied Sciences, Switzerland

This study is the first attempt to systematically explore the role of linguistic structures in text production in a fairly large amount of writing sessions. We report on findings of our ongoing investigation of bursts (both for production and revision) when writing short argumentative essays in Greek.We had 130 undergraduate students attending a public University in Greece write about social issue related to student live/topics. They were given 30 minutes to compose and type a short argumentative essay in their native language on a particular issue. This setting is similar to studies in other languages. Students also completed questionnaires on their typing/writing habits and skills,

and on their language competencies. Writing process data were recorded using Inputlog.We reported on general typing and writing skills in 2018 where we could show that the distribution of words and sentences produced vs. words and sentences in the final product varies and shows different revision habits. With this study we aim at systematically exploring these revision habits with a focus on linguistic structures.Using the methodology and the parsing and analysis tool developed by Mahlow, Ulasik, Tuggener (publication under review), we analyzed all 130 writing sessions. The method is based on the concepts of "transforming sequences" and "sentence history". The transforming sequence is the difference between text versions on the surface and includes the editing operations involved. Sentence histories allow for exploring the genesis of the individual sentences in a text. The open-source tool used processes keystroke logging data (XML data in idfx format) and applies natural language processing (NLP) tools. The extracted data structure is automatically enriched with relevant morphosyntactic annotations, like Part of Speech. Note that no manual intervention is required.

Our analyses show that (a) students write and revise (both deletion and insertion) along linguistic structures (e.g., they add or remove adjectives in noun phrases, they replace complex noun phrases by pronouns and vice versa), (b) we can identify typical linguistic structures that undergo deletion, insertion, or are moved to other places. In the future we will extend our studies to longer writing sessions (including multi-session writing) and other topics.

Revision and writing in first and foreign language – interrelated or separate skills?

Presenting Author:Marie-Christin Reichert, University of Cologne, Germany

Writing in a foreign language is often treated as a skill being separate from writing in the first language. However, since writing is highly dependent on cognitive skills and processes it seems likely, that it consists at least partially of an interlingual skill basis, which is applied across languages (Berthele & Lambelet, 2018). Responsible for these divergent assumptions about writing in a foreign language are differing research designs. First, studies mainly compare foreign language writers to native speakers, making it impossible to draw conclusions about interlingual writing skills. Second, even if the same writers are compared across languages, analysis mainly focuses on statistical differences, comparing writing at the group level. To prove the interrelatedness of writing skills, however, correlations on the level of the individual would be needed.Hence, the present study compares online revisions of the same writers across languages, focusing on statistical differences and correlations. Online revisions can illustrate how writers interact with their evolving text and indicate cognitive writing processes.

The participants were 50 university students, being observed while writing in their first and foreign language. Keystroke logging was used to document writing processes and generate a revision protocol. The online revision processes were then analyzed and compared regarding 1) the proportion of online revisions in the overall writing process and 2) the revision behavior in the dimensions linguistic level, location, action, effect (Stevenson et al., 2006). The results show small differences in the proportion of revision and in the revision behavior between both languages. At the same time both aspects of online revision are correlated across languages with medium to high effect sizes. This indicates that writing processes depend on an interlingual skill basis, even though they are executed slightly differently in first and foreign language.

The relation between clause properties and pausing during writing: The lifelong perspective

Presenting Author:Victoria Johansson, Lund University, Sweden

This study explores correlations between pausing during writing and certain text properties related to the clause, here: a) number of clauses, b) lexical variation;

c) types of clauses (declarative, interrogative, imperative and clause fragments). The overarching research question is whether it is possible to identify and describe age-related differences in the correlations between pausing during writing and clause properties. Pausing during writing are connected with the writer's increased cognitive effort (McCutchen 2000) which in turn is due to processes of e.g. planning and evaluation (Hayes & Flower 1980). Longer pauses have been associated with clause boundaries (cf. Spelman-Miller 2006), and in a developmental perspective pausing are connected with the complexity of the linguistic unit, where especially younger writers pause in clause boundaries (Ailhaud et al. 2016). Participants were Swedish speakers, writing in L1, from age groups:

4th-graders, 7th-graders, 11th-graders and adults. The 94 expository texts are experimentally collected, using key-logging. The data was manually coded and analyzed regarding text properties and pause (pause proportion of total writing time, and pauses in clause boundaries). The first overall results showed correlations between number of clauses and lexical variation, and these properties were correlated with less pause time. This indicates that writers pause less when they write long texts, but, surprisingly, also when they use a more varied lexicon. The developmental perspective is more complex: 4th-graders with many subjects in initial clause-position had shorter pause proportion in general, which may show that typical clause structures require less planning. 7th-graders had a correlation between lexical variation and a high pause proportion connected to revision in clause boundaries, which may indicate that lexical variation is effortful for this group. 11th-graders mainly had a strong correlation between many clauses and little pause time, indicating that pausing was closely connected with a more fluent text production. The adults had correlations between clause fragments and a) short pause proportion and b) high lexical variation, which may illustrate an automatized use of rhetorical elements. The presentation will discuss the results and possible explanations in more detail.

Paper presentations: Academic writing

Peer-review in early academic writing: impact and students' beliefs

Presenting Author:Mari Mar Boillos, University of the Basque Country, Spain

Peer review is a teaching tool that has gained ground for teaching academic writing in and outside the classroom. Studies show that the feedback of the pair helps to improve the text itself (Topping, 2005). Likewise, reading others' texts and evaluating them helps to improve one's own writing skills (Huisman et al., 2018). This study consists of action-based research that seeks to analyze the relationship between students' perceptions of how peer review helps improve their writing and the impact that peer review actually has on their texts. Thus, the aim is twofold: (i) to know which are the linguistic-discursive levels where peer review has the greatest impact, and (ii) to identify the perceptions that the students themselves have of the benefits this practice reports among equals.This mixed-method study involved 41 freshmen that attended a compulsory subject on "communicative competence" in the largest public university of the Basque Country (Spain). They created two versions of the introduction of a scientific paper in their mother tongue: one before and one after the peer review. They also answered a validated questionnaire about their beliefs on the efficacy of this technique. The results of the questionnaire reveal that participants identify peer review as an act of trust with a positive impact on the texts. They note that the revisions received focus on spelling and grammar and consider that revising other texts gives them confidence when

writing their own texts. The analysis of the texts reveals that, after the revision, the text improves in the use of sources and grammar. In short, this study shows that, overall, peer-review had a significant effect on students' academic writing. Moreover, these results allow us to reflect on how to optimize the use of this teaching technique in the classroom.

Transnational students' experience of participation in higher education through academic writing
Presenting Author:Kathrin Kaufhold, Stockholm University, Sweden

The paper discusses possibilities and obstacles for transnational students to participate in higher education through their academic writing. The focus is on academic writing practices because these are central to students' learning and assessment. At master's level students usually come with a plethora of prior linguistic and educational experiences. But to what extent can they draw on this knowledge across languages and educational contexts in order to participate in knowledge production? To examine participation, the paper applies the sociolinguistic concept of voice, which comprises the capacity to produce knowledge and to be heard (Blommaert, 2005). The instrumental case study focuses on three multilingual students with forced or voluntary migration backgrounds. It investigates the students' perceptions of how they can make use of their linguistic and educational repertoires. The data derive from interviews around texts and audio-recorded writing diaries. The findings show that students occasionally make use of their wider linguistic repertoire for meaning making, e.g. for note taking. However, when it comes to assignments, they strongly orient to institutional monolingualism. The students' accounts reveal multiple and contrasting ideological views on language use and knowledge production that are associated with academic writing. These views condition how the students can access and appropriate knowledge, and how they recontextualize knowledge across languages, educational contexts and disciplines. Students rarely challenge accepted ways of discussing theoretical concepts or supporting arguments in their writing even if they consider other knowledge sources to be valuable. Overall, the paper connects transnational students' academic writing to questions of participation and access more broadly.

Identifying the structure of writing beliefs

Presenting Author:David Galbraith, University of Southampton, United Kingdom; Co-Author:Veerle Baaijen, Center for Language and Cognition Groningen, Netherlands; Co-Author:Sophie Hall, University of Southampton, United Kingdom

Writers' definitions of the writing task play a central role in determining the writing processes they employ, which in turn affects the quality of their writing and the extent to which writing enables them to develop their understanding. White and Bruning (2005) developed a scale designed to measure two independent components of writing beliefs: (i) transactional beliefs, which reflect the extent to which writers believe that writing involves the development of understanding as the text is produced and (ii) transmissional beliefs, which reflect the extent to which writers believe that writing involves the transmission of information from authoritative sources to the reader. Subsequent research has questioned the number of factors which best fit the data and has suggested further factors to be measured (Baaijen et al. (2014); Sanders-Reio et al. 2014). In this paper, we evaluate a 43-item adaptation of the scale that we have developed to measure 5 aspects of writing beliefs: (i) transactional beliefs (ii) transmissional beliefs; (iii) revision process beliefs; (iv) planning process beliefs; and (v) audience orientation.The paper will present analyses on data collected from two separate samples using an online survey. The survey included questions about the educational background of students, the 43-item writing beliefs questionnaire, and asked participants to provide an estimate of their grades for academic coursework. The first sample consisted of 382 university students at either a UK or a Dutch university. The second sample

consisted of 562 university students from the UK, varying in whether they self-reported a diagnosis of dyslexia. The data from these two samples will be analysed using exploratory structural equation modelling (ESEM). Preliminary findings indicate that a 5-factor solution corresponding to the 5 subscales provides satisfactory fit across the samples, and that students with dyslexia have weaker transactional beliefs, stronger transmissional beliefs and a stronger planning beliefs than students without dyslexia. The final presentation will compare this solution with alternative 3-factor and bifactor solutions, and assess the equivalence of factor structures across groups.

Paper presentations: Pedagogy and instruction

Teaching writing with digital resources: building young children's participation

Presenting Author:Clare Dowdall, University of Exeter, United Kingdom

Teaching writing with digital resources: building young children's participationSupporting young children to become enthusiastic writers is a complex undertaking for educators who work in accountability-framed contexts, informed by evolving technological, cultural, and social forces. This paper reports key findings from a small-scale qualitative study that explored how educators describe the pedagogies and processes they used to support young children to become writers in contemporary textual landscapes.Research aimsThis research project has three aims:1. To explore how teachers support very young children's writing with digital resources, as they embark upon schooled forms of composition;2. To consider what is afforded for teachers and learners by the use of digital resources as scaffolds in children's writing process;3. To identify the forces at play in technology and accountability-infused educational landscapes, as teachers encourage young children's text making with digital resources.Theoretical frameworkThis study is framed holistically by intersecting theoretical perspectives from Bourdieu's considerations of power, positioning and social reproduction within 'the field' of education, with perspectives drawn from interdisciplinary accounts of writing as a social, cognitive and linguistic process. This theoretical intersection brings the accountability contexts of English education into focus with the opportunities for communication made possible by children's and teachers' access to evolving digital resources. Methodological designThis report draws from a small-scale study, funded by the United Kingdom Literacy Association, that used focus group conversations with five groups of teachers from three primary schools in the South West of England. Interview transcripts from the conversations were analysed using inductive thematic analysis to explore the research questions and construct findings. FindingsAnalysis of the conversations identified that an expanded view of young children’s writing process, where digital resources, and practices using them, can be regarded as supportive and even central, is constrained by local accountability measures; and that this impacts upon possibilities for developing responsive practice and pedagogy.Relevance to domain of writing and other forms of text production This finding suggests that more expansive pedagogies for young children’s writing, that take account of the potential of digital resources, should be developed and promoted.

Genre-Based strategy Instruction: A Model of Professional Development in Grades K to 2

Presenting Author:Zoi Traga Philippakos, University of Tennessee-Knoxville, Greece; Co-Author:Charles MacArthur, University of Delaware, United States

Aim: The purpose of this research was to design and evaluate a model of professional development (PD) on genre-based strategy instruction in writing. Theoretical Framework. Unfortunately, research on PD in writing instruction is relatively limited (McCarthey & Geoghegan, 2016). Authors (2020) examined the effects of a yearlong-PD model on genre-based strategy instruction with positive effects on writing quality across genres. Based on these positive effects of this PD model, the

authors designed a model that addressed evidence-based practices, coaching, progress monitoring with teacher and student goal setting, and with principal active involvement (Authors, 2021) in K to 2 settings. Methodological design. This research draws on design research methods with quantitative examination of writing performance and qualitative measures teacher understanding (Reinking & Bradley, 2008) in a time-series design. The study took place across two rural public schools (one Title I) located in the south west of the United States (n = 421 students). Students wrote three papers for each genre four times: (start of year), (after instruction on opinion), (after procedural), and Time 4 (after story). Quality was measured using a 5-point holistic rubric for each of the genres. Papers were scored by graduate research assistants (Opinion ICC = .96; Procedural ICC= .93; Story ICC= 90) while teachers were observed and interviewed. Findings. Statistically significant effects across time were found for quality (all $p < .005$). Teachers commented positively on the PD and themes referred to the initial workshop and on the workshops at the end of each genre. Teachers also commented on the opportunity to receive immediate coaching. Relevance. This work expands on research on PD on writing.

Developing writing competence with peers: Interaction between first grade students

Presenting Author:Marit Olave Riis-Johansen, Department of Teacher Education, Norwegian University of Science and Technology (NTNU), Norway; Co- Author:Iris Hansson Myran, The Norwegian Centre for Writing Education and Research, Norway

Developing writing competence with peers: Interaction between first grade students in different writing situationsThis ethnographic study draws attention to what happens when young children (age 6-7 years) are allowed to interact and talk with each other while they are writing individual texts. The primary goal is to provide an empirical basis for considering different ways to organize first grade writing activities. The data consists of video-recordings, field notes and students' texts from 27 writing lessons in four different first grade classrooms in Norway. The study is part of the R&D project Functional Writing in Primary School, where teachers are given meaningful writing activities to conduct in their classes (Skar, Aasen and Jølle 2020).The analysis and discussion follow theories of writing that hold that writing is an activity that unfolds within writing communities, where each writer's knowledge and skill has the potential of becoming a shared resource for the participants (Graham 2018). Through qualitative analysis of situations where such interaction takes place, we focus on how students interact during different writing activities, the roles they take on and assign each other, and the writing competence they display in these interactions. The students most often talk about form related issues, such as which grapheme is the right one, but they also engage each other in the content of their texts. The analysis further show that the students' interactions can be grouped in four categories: copying, error correction, sub-teaching and peer collaboration. These different types of interaction enable or limit students' exploration of writing in varying ways, thus, it is useful for teachers to be aware of what sort of interaction that is going on. By describing and discussing patterns in how such interactions unfold, this study contributes to a critical discussion of the potential and the pit falls of a writing instruction that encourages interaction between first grade students.References Graham, S. (2018). A Revised Writer(s)-Within-Community Model of Writing,

Paper presentations: Text analysis

Audience Awareness in Elementary School Students' Texts: Variations within and between Grades 1–3

Presenting Author:Gustaf Bernhard Uno Skar, Norwegian University of Science and Technology, Norway; Presenting Author:Arne Aasen, Soer-Troendelag University College, Trondheim, Norway, Norway; Co-Author:Anne Holten Kvistad, Norwegian University of Science and Technology (NTNU), Norway; Co- Author:Marita Byberg Johansen, NTNU - Norwegian University of Science and Technology, Norway

The Language Arts curriculum in Norway indicates that students after second grade should be able to write descriptions and narratives adapted to purpose, audience, and medium. If teachers are to evaluate such writing we need to know what characteristics of student texts one might expect to encounter at this grade. In this paper, we present findings of investigations of one of the aspects—audience awareness—in terms of characteristics in elementary school students' texts. Previous writing-process research on developmental paths has documented distinct stages in writing development, from knowledge telling via knowledge transforming to knowledge crafting (Bereiter & Scardamalia, 1987). It has been proposed that the information that a writer retrieves via the knowledge-telling strategy will not be "transformed in order to be adapted to the reader" (Carvalho, 2002). Therefore, the use of this strategy may explain findings from other studies, which indicate that some writers pay little attention to audiences (Graham, 1997). However, there research findings indicating that young writer can display audience awareness (e.g., Wollman-Bonilla, 2001)--intentionally or not.In this study, we investigated audience awareness characteristics in elementary school students' texts. To achieve this goal, we used a cross-sectional study design and sampled texts from 90 students in grades 1–3 (N = 270). These texts formed a corpus that was qualitatively analyzed by the research team. We used descriptive statistics to identify audience awareness patterns. Based on previous research, we expected to find considerable variation within and between grades. Therefore, we posed the following two research questions: (1) What characterizes audience awareness within grades 1–3? and (2) How does audience awareness develop between grades 1–3? We found that students used various rhetorical moves oriented toward the audience, such as greetings and closings, meta-text, explanations, and justifications. The results indicated that the students exhibited several characteristics related to audience awareness in all three grades. However, the variation within the grades was significant, while the variation between the grades was less pronounced.

The English Language Learner Insight, Proficiency and Skills Evaluation Corpus (ELLIPSE)

Presenting Author:Scott Crossley, Georgia State University, United States; Co-Author:Yu Tian, Georgia State University, United States; Co-Author:Perpetual Baffour, The Learning Agency, United States; Co-Author:Meg Benner, The Learning Agency, United States; Co-Author:Ulrich Boser, The Learning Agency, United States; Co-Author:Aigner Picou, The Learning Agency, United States

This presentation introduces the open-source English Language Learning Insight, Proficiency and Skills Evaluation Corpus (ELLIPSE) corpus. The corpus comprises ~7,000 essays written by English Language Learners (ELL) such that each ELL wrote a single essay. All essays were written during state-wide standardized annual testing in the United States. Essays were written on 29 different independent prompts that required no background knowledge on the part of the writer. Average essay length was ~450 words. Individual difference information is made available for each essay to include economic status, gender, grade level (8-12), and race/ethnicity. Each essay was scored by two, normed human raters for English proficiency including an overall score of English proficiency and analytic scores for cohesion, syntax, vocabulary, phraseology, grammar, and conventions. Raters had backgrounds in language analytics and language teaching and were trained prior to scoring. Inter-rater reliability checks were conducted to ensure the reliability of scores at both the item, scale, and rater levels.The ELLIPSE corpus is freely accessible and will be the subject of a Kaggle data

analytics competition in the spring of 2021 in which teams registered on kaggle.com can participate in an open competition to develop natural language processing techniques and machine learning algorithms to predict the holistic and analytic scores of English proficiency. A modest prize purse will be given to the winning teams. This presentation will provide an overview of the ELLIPSE corpus, reliability metrics for the human scores, internal tests of reliability for the corpus including associations between known language features (e.g., frequency), and the human scores (e.g., vocabulary), the results from the Kaggle competition, and information on how to access the corpus. The presentation will also discuss how the ELLIPSE corpus can be used to assess bias in machine learning algorithms through validation tests based on economic status, gender, and race/ethnicity.

"In other words": Development of text structure & discourse stance in analytical writing

Presenting Author:Elisa Rosado, University of Barcelona, Spain; Presenting Author:Melina Aparici, Universitat Autonoma de Barcelona, Spain; Co- Author:Iban Mañas, Universitat de Barcelona, Spain; Co-Author:Irene Yúfera, Universitat de Barcelona, Spain

The development of analytical writing in academic contexts requires a progressive mastery of specialized linguistic forms and functions. Students of all educational levels show problems usually related to: 1) the organization of information, and 2) the use of particular formal resources. Among these resources, we focus on intra-sentential connectors and inter-sentential discourse markers: they contribute to text cohesion, and guide the interpretation of the logical- semantic relationships established between discourse units. These connectivity markers are considered predictors of academic writing development as well as indicators of text quality.We analyze the analytical texts produced by 128 Catalan secondary school and university students, with the aim of identifying their difficulties in establishing intra- and inter-sentential connectivity and define potential developmental trajectories. To do this we examine: 1) the repertoire of connectivity markers (coordinating and subordinating conjunctions; parenthetical discourse markers; and lexical discourse markers); and 2) the discursive function they perform (propositional, related to the intra-sentence connectivity; structural, markers of discourse progress; and modal, indicating speakers' discourse stance and/or their relationship with their interlocutors).When considering the repertoire of formal resources used, results show that differences between the two age groups are to be found in the production of conjunctions, more frequent in the texts by secondary school students, and parenthetical markers preferred by university students. Regarding discourse functions, differences are only observed in the production of modal markers, a favorite site for the expression of the author's positioning/stance. The structural efficacy and coherence of a text are related to: 1) a proficient use of intra- and inter-sentential connectivity markers, 2) their function within the rhetorical structure of the texts, and 3) the expression of a stance by the writer. Although the use of structural markers at the inter-sentential level is scarce for both age groups, university students are more willing and capable of expressing their stance by means of the use of modal markers. The results are discussed both in terms of their didactic potential for fostering students' writing skills, and their implications for text quality assessment.

Paper presentations: Creative writing

The role of writing in digital storytelling projects

Presenting Author:Anita Normann, Norwegian University of Science and Technology (NTNU), Norway

Digital storytelling (DST) is both a genre and a pedagogical approach, emphasising both voice and democratization of media productions (Lambert, 2002/2006/2013). The current study sees digital stories as short films combining a narrated story based on personal writing, still images and music

soundtrack. The final product of a DST-project is a brief, personal story where visual, auditory and emotional communication play together (Nordkvelle, 2017), combining multimodal composition and creativity (Macleroy, 2016).

As part of an on-campus English education course, student teachers participated in a workshop on DST in language learning. They were additionally tasked with a reflection log to capture their reflections on the process, the product and the potential of DST. The study's aim was to investigate future English teachers' reflections on aspects relating to writing in DST projects. The following overall research question guided the study: What are student teachers' reflections related to writing in digital storytelling projects in the ESL/EFL classroom?

The study's theoretical perspectives can be tied to multiliteracies and metalinguistic awareness, more specifically; the role of writing in multimodal text creation.

The material consists of written logs from three cohorts of student teachers and three actions. The participants developed first-hand experience with all aspects of DST; script-writing, narration, adding of images and background sound, as well as the technical aspects related to the editing process. Preliminary findings suggest increased awareness from the student teachers on

- creative engagement with literacy
- the potential in DST of building engagement with literature through multimodal text creation
- the potential in DST of scaffolding reluctant writers and challenging confident writers

The Lost Words: Multimodal and Embodied Text Creation

Presenting Author:Marthe Pande-Rolfsen, Norwegian Univ. of Science and Technology, Norway

This paper presents the educational design of a workshop, inspired by The Lost Words (Macfarlane & Morris, 2017), which focused on exploring multimodal and embodied ways of composing texts. There were two iterations of the workshop: iteration one included 15 pre-service EFL teachers, and iteration two included 12 in-service EFL teachers. All participants are students in two different teacher education programmes. The workshop design takes a multimodal approach to writing and composition (Shin, Cimasko & Yi, 2021), and draws on a broader concept of text – where "text" comprises of several different multimodal representations (Selander, 2017). Starting the workshop outdoors, the participants were guided through an activity which entailed active and embodied observation of situated artefacts. They were then asked to find and collect their own artefacts in the surrounding area (both in- and outdoors). In this collection phase, participants could use their phones/tablets to take images and record sounds (as well as bring with them physical artefacts they found). These artefacts were used by the participants in their own (digital) multimodal compositions (Belcher, 2017). Through design, this project wishes to make a positive impact on practice, and the intention of this kind of research is to make a real change "on the ground", which in this case is the English (as a Foreign Language) classroom. This paper will therefore present the educational design (Selander, 2017; McKenney & Reeves, 2012) of the workshop and provide an analysis and discussion of its overall intention and execution, using the participants' reflection logs to substantiate the discussion and provide insight to the relevance of such a workshop for student teachers.

Posters (on-site)

Designing a set of comparable, multilevel second language writing prompts

Presenting Author:Margot Fonteyne, LT3, Ghent University, Belgium, Belgium; Co-Author:Lieve Macken, LT3, Ghent University, Belgium, Belgium; Co- Author:Maribel Montero Perez, MULTIPLES, Ghent University, Belgium, Belgium; Co-Author:Joke Daems, LT3, Ghent University, Belgium, Belgium

When conducting a multiple condition L2 writing experiment, it is of paramount importance to control for prompt effects. There are different ways to do this, but first and foremost it is of the essence that the prompts are as comparable as possible. This is easier said than done, as research has shown that a multitude of prompt characteristics affects both the writing product and process (Chapman, 2016).Moreover, if L2 proficiency is included as an independent variable in the analysis, the prompts should be 'multilevel': attainable to the lower proficiency learners, while simultaneously posing a big enough challenge to the higher proficiency learners. This prompt design issue is rarely addressed in writing studies covering multiple proficiency levels, even though designing multilevel prompts is also a complex task.In this presentation, we report on the design process of four comparable, multilevel writing prompts. Each prompt comprises two pictures depicting constrasting topics (e.g., nature vs. city). Respondents are asked to describe the pictures, indicate which one they prefer (e.g., as a travel destination) and explain why. By only varying the topic, we expect the prompts to elicit comparable products and processes. By supplementing a descriptive prompt with an argumentative component (which is regarded as the hardest response mode), we expect the prompts to be appropriate for the CEFR A2 to B2 level.We trialled these prompts by having 10 L1 Dutch learners of L2 Swedish of varying proficiency each respond to all four prompts. To investigate the prompts' comparability and suitability for multilevel learners, the participants' writing processes (resource use measures adapted from Laporte & Gilquin (2018)), products (CAF features), and prompt perceptions (collected through interviews) are compared. The results of this comparison will be used to inform any further changes to the prompts, if necessary.

Functional Analysis of the Unfolding of Meaning During Writing

Presenting Author:Mojtaba Sayyad Mahernia, Lund University, Sweden

The current case study aimed at analyzing the process of meaning-making in real-time (logogenesis), by investigating the generation of functional units of meaning at the level of T-unit (a dominant clause in addition to its dependent clauses) during writing. To this end, keystroke-logging (KSL) was utilized in tandem with Systemic Functional Linguistics (SFL), which served as the linguistic framework. An adult English language learner was asked to write four essays regarding the topic of education, two of them after devising an outline for the essay for fifteen minutes and the other two after engaging in synthetic planning (involving brainstorming and writing one sentence as a general answer to the task prompt). The argument for using these two pre-task conditions was that, according to the dual-process account of writing (Galbraith & Baaijen, 2018), it would serve as a sort of control for the type of knowledge-processing during writing. Using Inputlog, the keystrokes of the participant were recorded and analyzed, which involved functional investigation of the units of meaning according to SFL. All of the T-units in the end-product were identified, and subsequently, the bursts of writing that had led to the generation of each of the T-units were functionally analyzed. That means all bursts were coded with the T-units to which they contributed, and all meaningful units generated therein were identified.

The results from the study indicated that the type of knowledge-processing during writing, as determined by the pre-task activities, considerably affected the patterns of generation of meaningful units. Namely, generation of units pertaining to topical themes within the main mood structure were concentrated on initial bursts after outline planning, whereas in the synthetic planning condition these units were more likely to be generated in later bursts. It could be concluded that keystroke

patterns vary dependently on functional unit that is being generated, and utilizing a linguistic framework would have significant implications for keystroke analysis in KSL research paradigm.

ANALYSIS OF TECHNOLOGICAL TOOLS FOR WRITING INSTRUCTION: A REVIEW STUDY

Presenting Author:María Victoria González Laguna, University of León, Spain; Co-Author:Raquel Fidalgo, University of León, Spain, Spain; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Nowadays, the immersion of new technologies in society has led to the reformulation of writing instruction practices, resulting in the creation of multiple technological tools focused on improve students' writing skills. Based in this, the general aim of this study is to analyse technological tools whose effectiveness to improve students' written composition has been proved empirically. This analysis is based on the reporting system for intervention in writing designed by Rijlaarsdam et al. (2017) considers to two dimensions: the content dimension (which are their specific learning objectives) and the instructional dimension (which are the design principles, the different learning activities and the instructional sequence designed, including the instructional conditions). A document search was carried out through Web of Science and Scopus databases without time limit, using key word related with writing instruction and new technologies, resulting in a total of 898 documents. However, after removing duplicate documents and applying the established inclusion (full text, focused on students of any educational level, empirical article with control group, written in English or Spanish and using a digital tool to improve students' writing) and exclusion criteria (written in different language than English or Spanish and not provide pretest/posttest data), 24 empirical articles were obtained as a final sample for the review. Currently, deep analyses of each empirical study is being implemented according to the reporting system dimensions explained previously. Findings will be explained in the conference. At the educational level, this review will provide useful information for teachers to learn about and incorporate different kind of digital tools aimed at improving writing skills in their classes.

Aphasia and computerbased writing intervention

Presenting Author:Ingrid Henriksson, Institute of Neuroscience and Pshysiology, Division of Speech and Language Pathology, The Sahlgrenska Academy, University of Gothenburg, Sweden; Co-Author:Charlotte Johansson-Malmeling, Institute of Neuroscience and Physiology, Sahlgrenska Akademy, Gothenburg University, Sweden; Co-Author:Maliln Antonsson, Institute of Neuroscience and Physiology, Speech and Language Pathology Unit, Sahlgrenska Academy, University of Gothenburg, Sweden; Co-Author:Åsa Wengelin, Institute of Swedish, University of Gothenburg, Sweden

Every year, approximately 8,000 people in Sweden acquire aphasia, usually after a stroke. Writing is particularly sensitive to brain damage (Rapp and Kane, 2002) and impaired written language is usually one of the integral symptoms in aphasia. Despite this, very little research has focused on improving writing for persons in this group. Therefore, the aim of current study was to analyse the effect of using a spell checker during text production.Our research questions were: 1. How can a spell checker affect spelling accuracy, syntactical complexity, rated syntax, writing speed and proportion of unedited text? 2. How did participants experience the intervention? Methods: Six participants with mild to moderate aphasia participated in the study. The study had a Single Case

Experimental Research Design (SCED) with multiple baseline. Each participant came for 60 min training twice a week for eight weeks and learned to use a spell checker developed for dyslexic writers. Keystroke logging was used to collect and analyse all written data. To evaluate the

intervention, five dependent variables were continuously measured during baseline, intervention and at follow-up. A dictation test (without spell checker) was carried out pre- and post intervention and each participant was interviewed about their experiences from the intervention. Results:Four writers produced texts will less spelling errors when the spell checker was active during writing, two participants improved their use of syntax and two their writing speed. Finally, three participants edited more efficiently.

The pre- and post-intervention tests also showed a significant improvement on spelling ability. All participants reported positive experiences from the intervention. Discussion: The results showed that the participants in the study could learn to use the spell checker and that the proportions of spelling errors were reduced. Further, the results also showed that the use of a spell checker may mean that the cognitive load during writing decreases, which may explain an increased writing speed and changed editing processes. Key words: aphasia, text writing, intervention, spelling support

Comparing Planning Processes in Smartphone Text Messaging to Traditional Writing

Presenting Author:Kajsa Gullberg, Lund University, Sweden

In today's increasingly digital society, smartphone texting is a common means for written communication. In 2018, over 90% of Swedes report that they engage in smartphone text messaging (i.e. texting) on a daily basis (Davidsson, Palm, & Melin Mandre, 2018). The aim of this study is to examine and compare planning processes based on the Hayes (1996) writing model in texting with traditional writing through an experimental study. In the study, 13 dyads engaged in smartphone texting with a friend which was screen recorded and they also wrote a more traditional, individual text using keystroke logging. The planning processes were examined through pause analysis and the results showed that the planning units in texting was significantly shorter than in writing. Further, the pause analyses also showed that pauses during texting were often located at syntactic boundaries – just as in writing. However, in writing, there was a significantly larger proportion of pauses following an incomplete phrase as compared to texting. Further, pauses following revisions were common in both texting and writing, however, the proportion of pauses following a revision were significantly larger in writing as compared to texting. To conclude, there were similarities between the planning processes but more effort was spent on revision when writing. Further, since most pauses were located at syntactic boundaries, this indicates that both in texting and traditional writing, syntactic units are important for the planning processes.

Writing the future: mass ubiquitous literacies influence the development of writing

Presenting Author:Hampus Holm, Umeå University, Sweden; Co-Author:Kirk Sullivan, Umeå University, Sweden

What is considered good academic writing and what is necessary to achieve this level of writing competence changes over time. The style and content in early volumes of The Lancet from the 1800s are dramatically different to that of today. A similar trend can be observed in the British Medical Journal when comparing articles from the early 1900s to those at the end of the 1900s. Less dramatic changes can be tracked in each new version of the APA manual. These changes both reflect changes that have occurred since the publication of the last manual and changes the APA have decided they would like to happen. The APA manual thus responds to and drives change. The age of mass writing has moved on into the age of mass ubiquitous literacies, particularly among school and university students. In line with the ongoing discussion about a deficit or disadvantage among English as Another Language (EAL) academic writers, we posit a disadvantage among students growing up in the age of mass ubiquitous literacies in relation to academic writing and publication

success. We ground the argument we present in research that examines students' perceptions of what they consider successful aspects of their own pieces of writing, what they perceive their teachers consider successful, and our own evaluation of these pieces of writing. These perceptions and evaluations are linked to the students' use of mass multimedia literacies. Based on our finding we suggest that academic writing needs to respond to the shift from mass writing to mass multimedia literacies, consider how scaffolding the teaching and learning of academic writing can be aligned with this change, and consider who are the gatekeepers of academic writing style and language correctness.

Enhancing secondary school students' argumentative writing skills

Presenting Author:Yana Landrieu, Ghent University, Belgium; Co-Author:Fien De Smedt, Ghent University, Belgium; Co-Author:Hilde Van Keer, Ghent University, Belgium; Co-Author:Bram De Wever, Ghent University, Belgium

Aim and background: Students' argumentative writing skills are often underdeveloped and therefore they struggle to write qualitatively strong argumentative texts (Song & Ferretti, 2013). Previous research of Granado-Peinado and colleagues (2019) has shown the effectiveness of the combination of cognitive strategic and conversational support in view of optimising argumentative writing. However, further research is needed.

Research question(s) / area of investigation: The main aim of this study is to enhance eleventh-grade students' argumentative writing skills through "Argumentativo", an intervention blending cognitive strategic and conversational support.Specific research questions are:

a) What is the effect of cognitive strategic support on students' argumentative writing performance?b) What is the combined effect of cognitive strategic support and conversational support on students' argumentative writing skills?c) Is the collaboration between students perceived as better when combining both strategies, compared to using only cognitive strategic support?Design: Argumentativo is based on a set of empirically and theoretically driven design principles and is implemented by teachers in authentic classes. The study has a pretest-posttest design comparing three conditions. In the first condition, we offer cognitive strategic support via explicit instruction on how to plan, write, and revise argumentative texts. In the second condition, we offer cognitive strategic and conversational support via scripting student collaboration. Finally, in the matched practice condition, students exercise their writing but without cognitive strategic and conversational support.Data of n = 399 eleventh and twelfth graders have been collected. Students completed a reading comprehension test (Hacquebord et al., 2005), the Teamwork Satisfaction Scale (Ku, Tseng, & Akarasriworn, 2013) and a writing test (based on two source texts), assessed by means of comparative judgement using Comproved.(Preliminary/expected) data / findings: Given the call for more clarity and transparency in the design of interventions (Bouwer & De Smedt, 2018), the design principles of Argumentativo will be elaborated on. The presentation will furthermore report on the multilevel analyses regarding differences in students' argumentative writing performance, and collaboration, thereby taking into account the hierarchical nesting of students within classes. Finally, the implications for theory and practice will be discussed.

Targeted Intervention impact on Low Language Proficiency First Graders

Presenting Author:Victor MILLOGO, CeRCA UMR7295 Université de poitiers, France

Purpose: This study examines the impact of a targeted narrative production intervention on the language development of first graders with low language proficiency. Previous studies (Bishop &

Clarkson, 2003; Cain, 2003; Griffin, Hemphill, Camp, & Palmer, 2004) have highlighted the importance of narrative development for language development, establishing strong links between general language skills and the prerequisites for the introduction to writing (Cragg & Nation, 2006). Other studies (Graham, Harris, & Mason, 2005; Graham, Harris, & Troia, 1998; Harris & Graham, 1999) have demonstrated the effectiveness of educational interventions by showing that they have beneficial effects on students. Our study fits into this approach. We therefore tested the effects of early intervention among first graders. Our assumption was that an intervention based on regular and supervised exposure (7 weeks and 2 sessions of 30mn per week) to narrative situations would improve the language skills of students with low language proficiency. Method: 67 first graders from five schools participated in the research. In each school, the class was divided into two subgroups: an experimental group (EG) and a control group (CG). The two groups were matched on the basis of scores obtained on an initial assessment test (E.L.O. test - Khomsi, 2001). The GE group benefited from free conversation sessions around albums containing only pictures, in the presence of a specialized teacher (2 sessions per week over 7 weeks, i.e. 14 sessions of 30-minutes). Meanwhile the GT group continued with the usual classroom activities. Then the two groups of students produced a narrative based on an 8 picture comic strip. These productions were collected, coded, then analyzed and compared at the structural and discursive levels. Results: Our main results indicated that all students improved their language performance between the initial and the final assessments. However, progress was greater for the EG than for the CG. All students improved their narrative schema knowledge, but the EG made significantly more progress than the CG. Our results suggest that an intervention targeting narrative production improves the language skills of students with language difficulties.

Do children with dyslexia show an inhibition deficit during reading?

Presenting Author:Margot De Rom, Université catholique de Louvain (UCL), Belgium; Co-Author:Marie Van Reybroeck, Université catholique de Louvain (UCL), Belgium

Purpose. Children with dyslexia show severe literacy difficulties. During reading, they often make guessing errors characterized by replacing a word with an orthographic neighbor, possibly linked to inhibition issues. Indeed, several authors have demonstrated an inhibition disorder in children with dyslexia. However, they used different approaches and measured inhibition through different modalities, which led to unclear results. While Brosnan et al. (2002) and Booth et al. (2010) found difficulties only in non-verbal tasks, Wang et al. (2012) noted difficulties specifically in verbal tasks. Therefore, the present study aims to determine whether children with dyslexia show a general inhibition disorder (domain-general deficit) or a specific inhibition disorder related to reading tasks (domain- specific deficit). Method. Children with dyslexia in Grades 4 and 5 (n = 25) were matched to typically-developing children on both chronological age (n = 25) and reading level (n = 25). All children performed inhibition tasks in three modalities: reading (words and sentences), spoken (words and sentences), and motor, all relying on prepotent response inhibition. The two reading tasks involved inhibition processes by using pairs of orthographic neighbors for which the frequency was manipulated. Phonological neighbors were used in the oral word production task. Measures of accuracy (and types of errors), latency, and response time were collected. Results. Data is currently being analyzed using GLMMs. These analyses allow us to account for both the variability induced by children and that induced by the items. Participants will be entered as random factors. Inhibition condition (two levels: inhibition and neutral) and frequency (two levels: low and high frequency) will be entered as fixed factors. If children with dyslexia demonstrate poorer reading inhibition skills than children from the two control groups, we will be able to confirm the hypothesis of a domain-specific deficit. Moreover, error analysis will also allow us to determine if children with dyslexia make more

guessing errors on orthographic neighbors than typically-developing children. However, if children with dyslexia demonstrate poorer inhibition skills in the three modalities, e.g., reading, spoken, and motor inhibition, it would support the hypothesis of a domain-general deficit. The results will be presented at the conference.

Writing Self-Efficacy, Reading/ Writing Habits, and Text Quality of Students w Reading Difficulties

Presenting Author:Pär Sehlström, Department of Language Studies, Umeå University, Sweden

Students' writing self-efficacy (self-perception of writing competence) and their literacy practices impact on their writing and school performance (Hattie, 2012; Pajares et al., 2007). However, little is known with regard to L1 and L2 literacy practices and writing self-efficacy of Swedish upper secondary students with reading difficulties. The aim of this study is to (1) explore the writing self-efficacy and reading and writing habits of upper secondary students, some of whom have reading difficulties; (2) examine writing self-efficacy and reading and writing habits in relation to the written text quality of the aforementioned students. The participants were 70 students with typical reading and 30 students with reading difficulties identified in a screening of reading comprehension and word reading (decoding) in year 2 in upper secondary school. All students attended the only upper secondary school of a municipality located in a rural area in the northern part of Sweden. The data consisted of (1) students' responses from a specially designed web survey about their writing self-efficacy and reading and writing habits; (2) students' written text quality results from an argumentative task (analytic scoring). Descriptive statistics and t-test were employed for the exploration of students' writing self- efficacy and reading and writing habits. Pearson's product moment correlation (r) and regression were used to analyse the relation between writing self-efficacy, reading and writing habits, and text quality. Results are presented and discussed from methodological and theoretical perspectives. In addition, possible pedagogical implications are discussed. References Hattie, J. (2012). Synligt lärande för lärare. Natur & Kultur. Pajares, F., Valiante, G., & Cheong, Y. F. (2007). Writing self-efficacy and its relation to gender, writing motivation, and writing competence: a developmental perspective. In G. Rijlaarsdam (Series Ed.) and P. Boscolo, & S. Hidi (Volume Eds.), Studies in Writing, Volume 19, Writing and Motivation, pp. 141-159. Elsevier.

The power of peer feedback: students' revision with comparative judgement and analytic criteria

Presenting Author:Janneke Stuulen, University Utrecht, Netherlands; Co-Author:Renske Bouwer, Utrecht University, Netherlands; Co-Author:Huub van den Bergh, Utrecht University, Netherlands

The power of peer feedback: students' revision with comparative judgement and analytic criteriaJanneke Stuulen, Renske Bouwer en Huub van den Bergh, Universiteit UtrechtPeer feedback can be used to improve students' writing skills. Although on average there is a positive effect of peer feedback, results among different studies vary widely (Double et al., 2020). One reason could be that it depends on how peer feedback is given. Therefore, we examine whether the method of providing peer feedback has an effect on the quality of the feedback, both in terms of the type of feedback that is given and how it is incorporated in the revised text. In our study, 45 students (average age 16) from two classes critically evaluate their peers' texts using different feedback methods. The classes were randomly assigned to one of the two conditions: analytic criteria (AC) or comparative judgement (CJ). Comparative judgement has recently found its way into education. However, it is yet unknown what its effectiveness is as a peer feedback tool in secondary education. Both groups revised their first draft assignment with the received feedback from their peers. The type of feedback was coded as tips and tops and higher order and lower order concerns. Anova repeated

measures were used to analyze the effect of peer feedback on text quality. Results showed that the quality of final drafts was significantly higher after peer revision, but no significant differences on text quality were found between the two conditions. Generally, students gave each other more lower order feedback in both conditions. Differences between the conditions were found in the focus of the feedback. Results also indicated that students mainly revised lower order feedback. Overall, the findings of the present study support the use and adoption of peer review of writing. If students focus their feedback on higher order feedback, it is more likely that their peers will change the content or structure of their text and thus improve the text quality.

Effect of a short assessment training for peers: synthesis texts

Presenting Author:Liselore van Ockenburg, University of Amsterdam, Netherlands; Co-Author:Daphne van Weijen, University of Amsterdam, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Background. In a regular educational situation, teachers (as experts) normally carry out the summative assessment of writing assignments themselves. Often, this is considered quite a heavy workload. To lighten the workload, peers may also be assigned a role in summative assessments.

Aim. To explore this possibility, we investigated to what extent peer judgments are related to teacher judgments and to what extent that coherence can be strengthened if we teach peers to assess each other's texts in a way that produces judgments that correspond to teacher judgments.Method. 75 students from different 9th and 10th grade pre-university classes of one school, were randomly assigned to three conditions in a pretest-posttest control group design based on the Solomon four group design. With this design, we measured the effect of an assessment training on topic A on the agreement between the peer and teacher panels on judgments about texts on topic A. A third condition followed the training without participating in the pretest on M1. This way we could determine whether the pretest yielded a learning effect. With an extension of the design, i.e., the addition of a transfer test on M3, we measured whether the agreement on topic A (post-test) is maintained when assessing texts on an untrained topic (topic B). Results. Results showed that without prior training, peer holistic assessment of text quality was on average 7.5 points higher than that of teachers (on a 100-point scale). This difference is significant. After training, peer judgment was still significantly higher than teacher judgment, but the difference between the peer and teacher judgment had become smaller. However, untrained peers, judged TQ significantly higher than trained peers and the difference with the teacher judgments was even larger on M2 than on M1. The difference in assessment between teachers and untrained peers remained significant when this group assessed texts with a different subject, while no difference could be demonstrated between the two trained peer groups and the teacher assessment on M3. Implications. Peers can learn to assess texts similarly to teachers, so their skills could be used more often in regular writing education.

The MoFis experience.Teacher' perceptions on a Kit to develop graphomotor skills in kindergarten

Presenting Author:Livia Taverna, Free University of Bolzano, Italy; Co-Author:Nicola Rudelli, SUPSI-Dipartimento Formazione e Apprendimento, Switzerland; Co-Author:Lietta Santinelli, CEP-Centro Ergoterapia Pediatrica, Switzerland; Co-Author:Michele Mainardi, SUPSI-Dipartimento Formazione e Apprendimento, Switzerland; Co-Author:Marta Tremolada, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Italy

Research topic A kit for the promotion of graphomotor skills was built to be used in an educational and group situation during a whole school year (MoFis). Main objectives of the presented data were:

(1) to collect information from teachers participating to the study regarding the suitability of the stimulation tool for the school context and the annual planning of fine motor activities in ordinary school contexts; (2) to evaluate teachers' appreciation of the explanatory and pedagogical material released with the kit. Methodological designEight teachers were interviewed on the following issues: a) the MoFis as a stimulation kit (feasability, playful quality, availability and costs of the material); (b) the supports released with the tool (written text, visual representations, explanatory video) and oral suggestions provided to the teachers; (c) cooperation and mutual help (among teachers and with the occupational therapists team); (d) children's autonomous vs spontaneous use in the classroom; (e) learning and changes experienced by teachers; (f) sharing and collaboration with parents. Interviews were transcribed and analyzed with the MAXQDA software for a computer-assisted qualitative categorization and analyses.Conclusions/findings. Teacher narratives were grouped in four nodes: (1) MoFis feasability to kindergarten; (2) educational effects on teachers; (3) collaborations; (4) critical issues emerged. Results show that teachers agree in considering positively the kit, judged as useful, effective and appropriate to the kindergarten context. Materials necessary to build the activities are low costs and easy to find. Relevance to domain of writing and other forms of text production. The MoFis is considered a good program to stimulate skills required for learning to write.

CHILDREN AND ADOLESCENTS WITH LEARNING DISABILITIES: WRITING SCREENING ADOPTING CSWIN GRAPHIC TABLET

Presenting Author:Livia Taverna, Free University of Bolzano, Italy; Co-Author:Marta Tremolada, University of Padua - Italy, Italy; Co-Author:Letizia Barp, University of Padua, Italy; Co-Author:Martina Blazina, Evolutionary Age service in Feltre, Italy; Co-Author:Lia Lazzaro, Evolutionary Age service in Feltre, Italy

IntroductionA reading, writing or calculation difficulty can also affect other aspects of the child/adolescent's life, such as his academic and psychological well- being, since it tends to persist throughout life of the individual (Kemp, Parrila, Kirby, 2009).The present study focused attention on some elements of writing skills in children and adolescents with Learning Disabilities (LD). MethodThe participants included 16 children and adolescents with a diagnosis of LD in progress or in re-evaluation (dyslexia, dyscalculia, dysorthography and/or dysgraphia) at the Evolutionary Age service in the area of Feltre, in the north of Italy. The mean age was 12 years old (SD=1.5; range:8-15), majority were males (N=11).After the approval of Ethical Committee of University of Psychology of Padova and after the informant consent signature by the mothers, all of the participants were assessed by BHK test (Hamstra et al., 1987; Italian adaptation by Di Brina & Rossini, 2010) adopting the graphic tablet with the CSWin software. ResultsMarked writing difficulties (81.25%) were identified in children and adolescents at the BHK test, showing a dysgraphic performance, especially in the following tasks: "fluctuating trend of the writing line"; “sharp angles and elongated links”; "broken links between letters"; "irregular size of the letters"; "letters atypical "; "ambiguous forms of letters"; “unstable track, uncertain and shaky writing”. Also the qualitative approach identified delays in several parameters, especially in the number speed reversals (62.5%), which it measures the degree of automatism during the writing process.Difference in BHK SD total score was found along gender adopting the Mann-Whitney test (U=75; p=0.03) with the performance of males significantly lower (Mean ranks=6.82) than those of females (Mean ranks=12.20).Positive Spearman correlations were found between the current age of the child and the BHK scales “inconsistent measure between letters with and without extension " (rho = 0.60; p-value < 0.05) and "ambiguous forms of letters" (rho = 0.53; p-value < 0.01). ConclusionsMostly children and adolescents showed important dysgraphia, especially the older males.The qualitative approach of the CSWIN graphic

tablet could give important information of the number speed reversals and writing interventions could be developed.

TUESDAY 21 JUNE

Session 6

Paper presentations: Writing, reading, speaking

The functions of reading in L2 text production

Presenting Author:Jens Roeser, Nottingham Trent University, United Kingdom; Co-Author:Mark Torrance, Nottingham Trent University, United Kingdom; Co- Author:Evgeny Chukharev-Hudilainen, Iowa State University, United States

Writing in a non-dominant language (L2) adds demands to the processes involved in text composition; retrieving words, its spelling, and the correct syntactic arrangement is typically harder in L2. This might be because upstream processes are impacted by difficulty at the linguistic and orthographic level. In other words, when struggling with word / spelling retrieval, the writer might forget what it was they wanted to say next, which reduces the fluency with which composition can unfold. Analysing data from reading during writing in L2 therefore informs understanding of cognitive mechanisms underlying writing, in both L1 and L2. We recorded the keystrokes and eye movements of university students (N=39) writing two essays, one in L1 (English) and one in L2 (Spanish). Essay topic and language order were counterbalanced. Our analysis focussed on eye activity that occured away from the word currently being written and that was not associated with modification of the text produced so far (i.e. in revision or error correction) but are likely to be related with evaluation of existing text in order to prepare what to say next. Data were analysed in Bayesian mixed effects models. We found that, overall, L2 writers were more likely to look back into the existing text. This effect was due to greater tendency in L2 to look back when mid sentence. At the start of sentences reading duration was similar in L1 and L2 writers while fewer fixations in L2 writers reflected longer attention to the already-produced text. Lookbacks in L2 writers were frequent but short, and occurred before and mid sentence, even before completing the current word. This finding suggests that L2 writers made use of existing text to overcome word-level difficulty, while L1 writers used the existing text to plan on a clause / sentence level to generate new contents or evaluate coherence.To conclude, eye- movement behaviour in L2 writers reflects a greater tendency for local planning than in L1 writers. This can be explained by a tendency to compensate for disruptions of the information cascade involved in text produced by message re-cuing using existing text.

RAN objects intervention improves reading accuracy but not spelling

Presenting Author:Margot Fromont, UCLouvain, Belgium; Co-Author:Marie Van Reybroeck, Université catholique de Louvain (UCL), Belgium

Purpose. Rapid automatized naming (RAN) and phonological awareness (PA) have been shown to predict literacy skills in many languages. While the contribution of PA on reading and spelling is relatively straightforward, the nature of the relationship between RAN and reading or spelling is less well understood (Araújo et al., 2015). The present study aims to demonstrate the specific impact of a PA intervention and a RAN objects intervention on reading and spelling in Grade 3.

Method. Over a period of eight weeks, 66 Grade 3 French-speaking children (Mage = 8;9) were randomly assigned into three groups: RAN objects intervention (n = 23); PA intervention (n = 22); Control intervention (n = 21). The sessions consisted of two 30-minute lessons twice a week. They gradually increased in difficulty. Children were assessed on different measures (regular, irregular, and pseudoword reading and spelling, RAN, PA, vocabulary, processing speed) before and after the intervention.

Results. Repeated measures ANOVA showed the effectiveness of both interventions: children trained in RAN objects made significant improvements in RAN objects and alphanumeric RAN compared to children from the PA and Control groups. Children trained in PA showed a significant progression in PA compared to children from the RAN and Control groups. In addition, children trained in RAN objects also improved significantly in irregular word reading accuracy compared to children trained in PA and Control interventions. No significant increase was shown for regular, irregular, or pseudoword spelling.

Discussion. This study revealed a specific transfer effect of the RAN objects intervention on reading but not on spelling. These findings provide a new piece of evidence for a causal relation between RAN and irregular word reading accuracy. In doing so, they highlight the relation between improved rapid access to phonological representations and orthographic representations.

An oral language training to improve writing in late elementary and high-school students

Presenting Author:Barbara Arfé, University of Padova, Italy; Co-Author:Lucia Ronconi, University of Padova, Italy, Italy; Co-Author:Gaia Spicciarelli, University of Padova, Italy, Italy; Co-Author:Federica Festa, IIS C.I. Giulio, Torino, Italy, Italy

Text generation involves oral language. Writers use their oral vocabulary and grammatical knowledge to generate words and sentences for their texts (Abbott & Berninger, 1993; Babayigit & Stainthorp, 2010). Yet, oral language skills are rarely a target of writing interventions (Goldfeld et al., 2017).The lack of intervention studies targeting text generation skills through oral language training appears particularly surprising when one considers that difficulties in learning to write and read are often caused by defcits in underlying oral language skills (e.g., Dockrell et al., 2007; Hulme & Snowling, 2014). In line with other recent research (Goldfeld et al., 2017), the present study was aimed at filling the extant evidence gap in the effectiveness of classroom-level oral language interventions on students' writing. The intervention targetted oral sentence generation skills to improve the written production of fifth and 10th graders who struggled with writing. One hundred and fifteen students—68 fifth graders (four classrooms) and 47 tenth graders (four classrooms) — participated in a stepped-wedge cluster- randomized controlled trial. Two fifth-grade classrooms and two 10th-grade classrooms received nine 90-min sessions of oral language (sentence generation) intervention immediately after the pretest (experimental groups); the two other fifth- and 10th-grade classrooms received business-as-usual writing instruction and a delayed oral language intervention after the posttest (waiting list group). The intervention consisted of team-based games to improve oral sentence generation and sentence reformulation skills. We assessed written sentence generation (accuracy and fluency), written sentence reformulation, written text quality (macrostructure and language), and text writing fluency before (pretest) and after (posttest) the intervention and 5 weeks after the intervention (follow-up). The results revealed the general effectiveness of the oral language training for students' writing, especially for the younger participants (fifth graders), with significant improvements in all dependent sentence-level writing measures, except for sentence fluency (close transfer), and improvements in the macrostructural quality of texts (far transfer). Far transfer (in text composition) but not close transfer effects (in

sentence writing) were observed in the older group of writers. The theoretical relevance and instructional implications of these preliminary findings will be discussed. Keywords: struggling writers, oral language, writing intervention.

Paper presentations: Evaluation and assessment

Characteristics of oral feedback interactions when young children compose

Presenting Author:Pernille Fiskerstrand, Volda University College, Norway; Co-Author:Siv Gamlem, Volda University College, Norway

Characteristics of oral feedback interactions when young children compose Key words: Feedback interactions, young children's' composing, writing training, assessment for learning As students write, feedback is one of the most powerful tools for understanding and learning (Black et al., 2004; Hattie & Timerley, 2007). Thus, we know that writing skills are important for all further development (Graham, 2019), young children rarely compose texts for communicative purposes in school (Gerde et al., 2012; Håland et al., 2018). In this article we investigate: What characterizes oral feedback interactions between teacher and young students when composing? The current study is part of the NFR supported DigiHand-project[1], and the data is collected from twenty video recorded classrooms. Transcripts from the recordings are qualitatively analyzed in light of Hattie & Timperley's (2007) framework. Feedback interactions are interpreted at task-, process-, self-regulation- and self-level, in addition to timing and the students' uptake. Preliminary findings are that teachers comment on the students' work by using all four feedback levels. A significant pattern while composing on iPads, is the teachers' support to use speech synthesis to train self-regulation of spelling. The study provides knowledge to the field of writing instruction for young children, and how feedback interactions can be conducted to enhance an active learner role in the writing process.

One Assessment, Many Instructional Decisions

Presenting Author:Adrea Truckenmiller, Michigan State University, United States; Co-Author:Gary Troia, Michigan State University, United States

Most teachers report that they spend a substantial amount of time assessing writing and yet they feel ill-prepared to use their classroom assessment data to inform their instruction (Cutler & Graham, 2008). With a specific focus on informational writing, we designed the Writing Architect as a classroom-based assessment to help teachers understand: (a) which writing metrics best predict student writing achievement; (b) in which component skills of writing students need support to meet end-of-year expectations; and (c) expected amounts of progress grades 4 and 5 students make in response to typical instruction. We present the results of three studies that investigate multiple pieces of validity evidence needed for each purpose. Following Messick's (1998) framework, validity evidence was collected in a counterbalanced form design in grades 5 through 8 with multiple informational, narrative, and persuasive prompts. Student responses were scored for two prediction metrics (writing quality, and compositional writing fluency [a curriculum-based measurement metric used for progress monitoring]) and four diagnostic metrics (typing fluency, planning quality, spelling, syntax/grammar errors). The diagnostic metrics were selected based on research showing their importance to development in the middle grades (Limpo, Alves, & Connelly, 2017). Our structural equation models demonstrated that compositional writing fluency facilitated writing quality to predict 70% to 95% of the variance in a latent variable of writing achievement in grades 5 through 8 (Truckenmiller, McKindles, Petscher, Eckert, & Tock, 2020). The diagnostic metrics explained 50% of the variance in writing quality and demonstrated appropriate construct validity with standardized assessments (Truckenmiller, Cho, & Troia, in review). Hierarchical growth models demonstrated that

very little linear or quadratic growth was detected in compositional writing fluency across an academic school year, especially in the informational and persuasive genres (Valentine, Truckenmiller, Troia, & Aldridge, 2021). We discuss a variety of factors influencing measurement of growth.

Identifying texts in the Warning Zone: Assessment for change in writing instruction

Presenting Author:Gustaf Bernhard Uno Skar, Norwegian University of Science and Technology, Norway; Co-Author:Anne Holten Kvistad, Norwegian University of Science and Technology (NTNU), Norway; Co-Author:Marita Byberg Johansen, NTNU - Norwegian University of Science and Technology, Norway; Co-Author:Arne Aasen, Soer-Troendelag University College, Trondheim, Norway, Norway; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

This paper addresses the groundings for the development of the screening tool Norwegian Early Writers Signal (NEWS). The purpose of the study was to develop a tool for teachers in grade 1–3 for identifying student texts in “the Warning Zone”, i.e. texts that signaled insufficient overall text quality associated and students in need of extra instructional support. Text norms were elicited from a panel of 14 experts (nine teachers, five researchers) in a standard setting seminar and an online questionnaire. The study also aimed to identify profiles of student’s text in the Warning Zone. The standard setting procedure was a benchmarking-like approach in which panelists chose texts that according to their judgement materialized the Warning Zone. Cut scores were then applied to a national representative data set of 4,950 students’ writing to find the estimated proportion of students needing extra support. The study resulted in 'cut scores' that differed in between Grades, with a larger gap between Grade 1 and 2 than Grade 2 and 3. When applied to the data set, the cut scores show that in the three Grades, respectively 2.4, 22.1 and 21.1% of the texts would fall in the Warning Zone. Students’ texts in the Warning Zone were marked and included in the screening tool to concretize the norms, showing that texts in this zone can take several shapes. In the paper presentation, we will outline the procedures to develop NEWS, the validity of NEWS, and discuss what steps can be taken to further validate and implement the NEWS tool.

Paper presentations: Pedagogy

Relations among Teachers’ Efficacy Beliefs, Knowledge, Preparation, Abilities, and Practices

Presenting Author:Gary Troia, Michigan State University, United States

Malleable factors believed to affect classroom writing instructional practices such as teachers’ preparation for writing instruction, their perceived competence to teach writing, and their knowledge about writing-related concepts and instructional practices have been investigated in a small number of studies (and indeed found to be related to instruction), though typically not all simultaneously, and no study has evaluated the impact of teachers’ own writing ability on their instruction or how ability is related to these other factors. This study presents data from a small scale study of 41 fourth- and fifth-grade teachers that examines the relationships between all four of these factors and their associations with instructional practices, specifically frequency of teaching writing in general, specific components of writing, and particular genres of writing, and with observed writing lesson quality. Because relations between teachers’ knowledge (evaluated using a researcher-designed instrument) and writing ability (evaluated using the Spelling and Written Expression subtests from the WIAT-II) with the other variables are not well understood, there were no a priori expectations involving these; however, significant relations between preparation to teach writing (a composite of pre-service and in-service activities) and efficacy beliefs (using the scale developed by Graham et al., 2001) with the instructional variables were expected based on the

available research. Ability and knowledge were found to be significantly correlated (r = .40), as were efficacy beliefs and preparation (r =.36). Professional preparation and perceived competence for teaching writing were related to writing lesson quality (r = .41 and .32, respectively) and how often each week teachers spent on writing generally (r = .32 and .35, respectively), though not to how frequently they spent teaching specific aspects of writing or writing genres. Conversely, teacher knowledge and ability had little relationship to writing instructional practices. These findings highlight the importance of quality professional learning opportunities for teachers of writing, as these opportunities likely positively impact their efficacy beliefs and, ultimately, their writing instruction.

Teachers attitudes and their usage of digital writing tools at German vocational schools

Presenting Author:Charlotte Wendt, Leuphana Universität Lüneburg, Germany; Co-Author:Astrid Neumann, Leuphana Universität Lüneburg, Germany

The presentation wants to explore teachers' attitudes and experiences with digital writing tools in linguistically heterogeneous German classrooms. A questionnaire study is used to show whether teachers at vocational schools are ready for digitised writing instruction that addresses the needs of students with different languages of origin.

The acquisition of written language skills at school plays a central role, especially in the second language, as participation in written language practices may be limited by insufficient language competence or there may be fewer written language incentives from parents (Heppt et al., 2015). In vocational schools, the increasing need for language support in German is developing. Writing itself, practising the process (Hayes, 2012) and feedback on writing products (Black & Wiliam, 2009) is often either outsourced to independent work phases at home and/or not (sufficiently) addressed in class (Phillip, 2017). Digital educational media for individual support could help to address the writing needs more concretely and support teachers in creating differentiated instruction (Jesson et al., 2019; Crossley et. al, 2017). However, many teachers in Germany view the use of computers in the classroom critically and even as a risk to writing skills (Lorenz, 2018).

For our research, we interviewed N=87 teachers from vocational schools in Northern Germany in a quantitative questionnaire.

With the help of validated scales from the TPACK model (Koehler & Mishra, 2009), among others, the following questions are answered: Do teachers at vocational schools teach writing and what does this writing instruction look like? How do they deal with the linguistic heterogeneity of their students? What attitudes and experiences do teachers have concerning working with digital writing tools? Is there a connection between differentiated teaching and the use of digital writing tools?

Initial evaluations with SPSS show at least two focal points: in opposition to Lorenz's (2018) findings teachers are generally interested to work with digital writing tools in the German classroom, but teachers need support choosing the right digital tool for writing instruction and are overstrained with the possibilities.

Teacher educators' written feedback practices

Presenting Author:Karen Bauer, Norwegian University of Science and Technology (NTNU), Norway; Presenting Author:Randi Farstad, Norwegian University of Science and Technology (NTNU) - ILU, Norway; Presenting Author:Hildegunn Otnes, Norwegian University of Science and Technology (NTNU), Norway; Co-Author:Thea Selle Opdal, Norwegian University of Science and Technology (NTNU), Norway

Teacher educators' written feedback practicesWe will present results from a study conducted in three of our language education courses within the teacher education program where students practice process writing: students submitted a draft of their assignment, received written feedback from their teacher and a peer student, and then revised their texts for exam submission. The data consist of six students' writing processes, two from Norwegian (L1), two from English (L2), and two from German (L3).The study is based on a functional understanding of writing: we assume that the writers mediate meaning through different linguistic resources and language acts. Theorists have launched various taxonomies for those acts (e.g. Bühler 1933; Searle 1969). In our feedback analysis, we focus on three key categories – which we in our context refer to as acts of responding (Otnes & Solheim 2019): statements that 1) give information 2) initiate action from the recipient and 3) express feelings or attitudes. Several studies have discussed the value and perception of feedback in higher education. Our main research question in this presentation is: How do teacher educators express their written feedback on students' first drafts? To answer this question, we examine which acts of responding are most frequent in the three teachers' written responses. We also analyze differences in the feedback (form and content) between strong and weaker drafts. Our hypothesis is that teachers' feedback is influenced by different factors, such as work experience or cultural background. We will discuss our results with reference to previous studies in the field (e.g. Jonsson 2013).

Paper presentations: L2 & FL

Task effects on the relation of language proficiency and linguistic complexity in EFL writing

Presenting Author:Anja Riemenschneider, Institute for Educational Quality Improvement (IQB), Humboldt-Universität zu Berlin, Germany; Co-Author:Pauline Schröter, Insitute for Educational Quality Improvement, Germany; Co-Author:Zarah Weiss, University of Tübingen, Germany; Co-Author:Detmar Meurers, University of Tübingen, Germany

Leaving secondary school, students should have achieved high language proficiency in at least one foreign language. Hence, school leaving examinations should represent a reliable assessment of language proficiency. In second language acquisition, linguistic complexity is considered as one dimension of language proficiency. It has been shown that task characteristics have decisive effects on the complexity of learner language (Michel et al., 2019), and a variation of complexity across proficiency levels has been indicated (Kuiken & Vedder, 2019). Yet, there is a lack of research regarding the suitability of different tasks to represent learners' language proficiency. This question is especially relevant in the context of high stakes examinations, which should enable candidates to display their full potential.

In the present study, we analyzed English as a foreign language (EFL) student writing produced in the Abitur – Germany's high stakes school leaving examinations. The written EFL exams include three tasks that vary in the independence of students' language use that is required (1: low, 2: low, 3: high). Based on over 1000 student texts, we investigated how tasks differ in their valid representation of language proficiency. We expected a stronger relationship between proficiency and complexity for task 3, which requires a more independent language use compared to tasks 1 and 2. Drawing on natural language processing techniques, we implemented a broad conceptualization of linguistic complexity. The relationship between proficiency and complexity was analyzed with linear models for 58 linguistic complexity measures. First results show a higher number of complexity measures significantly correlated with language proficiency in task 3 compared to tasks 1 and 2, implicating that tasks with high independence in language use are specifically suited to differentially represent the students' language proficiency.

Kuiken, F., & Vedder, I. (2019). Syntactic complexity across proficiency and languages: L2 and L1 writing in Dutch, Italian and Spanish.International Journal of Applied Linguistics, 29, 192-210.Michel, M., Murakami, A., Alexopoulou, T., & Meurers, D. (2019). Effects of task type on morphosyntactic complexity across proficiency: evidence from a large learner corpus of A1 to C2 writings. Instructed Second Language Acquisition, 3, 124-152.

Textbooks setting the scene for second language writing

Presenting Author:Pia Cederholm, Uppsala University, Sweden

There is a growing awareness, at least among scholars, about the importance of regarding multilingualism as an asset in educational contexts. But the multilingual perspective, not to mention a mindset of translanguaging, often seems to be absent from the classroom reality where a monoglossic, majority language practice tends to linger.In this paper, I look into how textbooks aimed at upper secondary and adult education in the subject Swedish as a second language contribute in the process of learning to write academic texts. In order to pass the national test at the end of the third course, the student needs to produce an essay with specific academic requirements. The stakes are high: a failure likely leads to the grade F in the course, which in turn means that applying for university is no longer an option. In some cases, a failed national test in Swedish as a second language will entail that the student must leave the country, since a residence permit might be tied to graduation. A well-functioning writing instruction, that takes the multilingual students' competences and needs into account, consequently becomes crucial.Much like classroom practices, policy documents and national tests assignments, textbooks provide a structure through linguistic patterns, shaping discourses that enable and constrain learning development. With the aid of systemic functional linguistics (SFL) and critical discourse analysis (CDA), these discourses may be elucidated. By close-reading the passages on academic writing in five different textbooks, I review the wordings for potential meaning, for example the author's attitude expressed in the choice of a modal verb or adverb, or the interpellation calling the reader to take on a certain identity. In focus here is the role the multilingual writer is assigned through different discourses, varying from one textbook to another. Based on my analysis, I then discuss the implications of the multilingual student being construed either as a disadvantaged or an advantaged writer in Swedish, the majority language.

Determinants of text quality when writing in English as an Additional Language

Presenting Author:Josué Artiles-Rodrįguez, Universidad de Las Palmas de Gran Canaria, Spain; Co-Author:Nina Jost, Oxford Brookes University, United Kingdom; Co-Author:Olivia Afonso, Oxford Brookes University, United Kingdom

English is, by far, the most spoken additional language in the world. Increasingly often, learners of English as an Additional Language (EAL) are required to express themselves fluently not only when they speak, but also in writing. Although psycholinguistic research investigating second-language spoken production in the last decades has been considerable, research on written production has received comparatively less attention. Thus, it is still unclear if variables known to affect text quality in the first language (L1) have the same impact when writing in the additional language. For example, the quality of the text produced might be more affected by word-level aspects in EAL than in the first language due to limitations in vocabulary and spelling. In the present study, we investigated how adult native Spanish speakers differ from English L1 speakers in their performance of a common academic task: a short persuasive writing task. English L1 participants (n = 18) and Spanish participants with EAL (n = 32) aged 17-25 years wrote short essays for which measures of

productivity (number of sentences, number of words, sentence and word length), lexical diversity, syntactic complexity, referential cohesion and overall readability were analysed. Results showed that the EAL group significantly differed from the L1 group in most of the variables analysed. Interestingly, overall text readability and complexity was correlated with word-level characteristics such as word frequency and lexical diversity in the EAL group but not in the L1 group. Comparisons between EAL participants with medium and high levels of English proficiency showed differences mainly between word-level variables, including word frequency, number of words and lexical diversity. Overall, these findings suggest that vocabulary and spelling ability might be more important in determining text quality in non-native than in native English writers. For those writing in English as an L1, higher-order processes such as syntactic complexity and referential cohesion seem to be more relevant for overall quality. The implications of these findings for models of writing and for EAL instruction will be discussed.

Paper presentations: Social and cultural aspects

Intersectionality of marginalization: EAL academics in exile writing for international publication

Presenting Author:Baraa Khuder, Chalmers Unviersity of Technology, Sweden; Co-Author:Bojana Petric, Birkbeck, University of London, United Kingdom

In studies of academic writing in general and English for Research Publication Purposes (ERPP) in particular, different writers' identity vectors (e.g., race, class, gender) have been investigated separately. Nevertheless, there has been less focus on how these vectors intersect with each other to shape writers' experiences of publishing and contribute to their (dis)advantageous position as academics. Using intersectionality, the interconnectedness of social categories to account for individual experience or behaviour, as the theoretical framework, we explore exiled Syrian academics' experiences and perceptions of marginalisation as they endeavour to publish in international journals in their disciplines. We draw on a larger study where we investigated EAL academic literacies development of exiled Syrian academics using ethnography as a method, methodology, and deep theorizing (Lillis, 2008). In this presentation, we draw on longitudinal data from four exiled academics to show the changes in how the academics experience multiple dimensions of marginalization over time. We investigate the exiled academics' perceptions and experiences of marginalisation due to their different identity vectors. More specifically, we explore their changing self-perception as an academic, views and experiences of the host academic context, and how they feel they are perceived. We pay particular attention to the participants' perceptions of specific academic writing practices, such as citation, since such practices may be used to index identity positions, including being marginalized and resisting marginalization. Our findings show that sites of marginalization are related to multiple factors, ranging from systemic constrains to lack of previous exposure to the norms and practices of the new academic community. Additionally, our findings show that the investigated intersections of identity are rather fluid and that they affect academics' opportunities to publish successfully to differing degrees. For example, migration status, i.e., exile, affected the academics and was experienced by them differently depending on their legal status in the host country and their familiarity with the host country from visits and contacts prior to exile. We conclude with pedagogical implications for those providing ERPP and writing support for exiled academics.

Writers, texts and contexts: drawing perspectives together with purpose

Presenting Author:Marie Stevenson, University of Sydney, Australia; Co-Author:Eva Lindgren, Umeå University, Sweden

Broadly, the three main perspectives through which writing has been approached are textual, cognitive, and social. Textual perspectives inform us about the conceptual, rhetorical and linguistic features of the texts that writers produce. Cognitive perspectives focus on the processes writers engage in when producing texts and the strategies they employ to assist them in producing these texts. Social perspectives view writing as an integral part of literacy, and literacy practices are seen as embedded in social contexts.

In recent times, there has been growing recognition of the need to integrate and build bridges between these perspectives in order to promote a unified, coherent and expansive vision of writing. Kern and Schultz (2005) called for a holistic approach to literacy that integrates "complex interactions among language, cognition, society and culture (p.382)". Hyland and Candlin (2015) pointed out that there is sometimes little mutual recognition or engagement between the three perspectives. They argued that "theoretical models of writing, whether social, cognitive, structural or cultural, need to be contextualised within a wider research framework which acknowledges the other elements (p.5)". This presentation provides a framework of writing in terms of writers, contexts and texts, and examines the interconnections between these. The framework accords a central position to purpose and characterizes it as a dynamic interaction between writer, context and text. It also emphasizes the interconnections between readers and writers. The aim of providing this framework is to encourage the drawing closer together of cognitive, social and textual perspectives on writing. The paper does not present empirical findings, but provides practical illustrations of the value for writing research of drawing perspectives together.

(Re)drawing the line: Deficit and empowerment in articles on writing from Central and Eastern Europe

Presenting Author:Claudia Ioana Doroholschi, West University of Timisoara, Romania, Romania;
Presenting Author:Loredana Bercuci, West University of Timisoara, Romania

In recent years, an increasing number of academic writing studies have emerged from countries in Central and Eastern Europe, looking at aspects such as academic writing in local languages or in comparison with English, writing for publication in English, or initiatives regarding writing support (e.g. Dontcheva- Navratilova 2016; Muresan & Pérez-Llantada 2014, Yakhontova 2020). Many of these explicitly or implicitly interrogate the position of academic writing researchers in relation to the international research community.The present study analyses a corpus of 40 articles from several countries in the region which report various types of writing research. We aim to look at how researchers speak about the specificity of writing and writing research in their countries, and how they define themselves in relation to the international research community, as well as, more specifically, Anglo-American research. Using LIWC2015 (Pennebaker et al., 2015), we perform basic sentiment analysis to identify positive/negative emotions realized linguistically in the texts, as well as language related to voice (I-Words), analytical thinking, clout, and authenticity. Next, articles are analysed qualitatively, focusing on how they reflect on writing and writing research in local cultures. Our results suggest both a claim towards the importance of studying local contexts and, on occasion, a rhetoric of negativity and of lack, presenting local research on writing and local writing practices as insufficient and in some cases inferior to those in English-speaking countries. We suggest this may represent an internalized deficit model which can ultimately contribute to reinforcing the very boundaries this research is aiming to bridge.

Paper presentations: Early writing

Discourse Practices in Early School Writing Instruction in a Swedish Context

Presenting Author:Oscar Björk, Uppsala university, Sweden

In this presentation I will report on findings from a project where early school writing practices during the first year of primary school was investigated. The theoretical and methodological framework is primarily based on Fairclough's (2003) three-dimensional model for textual analysis which have allowed for a well- developed and detailed analysis of how early school writing instruction is practiced (both by teachers and students) and what discourses and power structures are at work in the first year-classrooms. During the past decades, research and discussions in the field of L1-education have generated many alternatives to the traditions of teaching and learning to write in primary school years – such as genre pedagogy (Martin & Rose, 2008), disciplinary literacy instruction (e.g.

Shanahan & Shanahan, 2008) and functional writing instruction (e.g. Skar et al, 2020). However, further research is needed concerning the roles of discourse and power structures within the classrooms and their implications on the writing instruction practice in primary school years. The main purpose of the study presented in this paper is therefore to investigate how early school writing instruction is being practiced by teachers in interaction with their students and pose two primary research questions: (1) What understandings about writing and writing instruction do primary school teachers articulate?; and (2) How to they enact writing instruction with their students? In the study, two teachers and their students have been visited and observed in the first and second terms of the first school year (the students were at the time 7 to 8 years old). Data consists of transcribed semi-structured interviews of the teachers, video recordings of writing instructions and policy documents. Preliminary findings suggest that the shape of the writing instruction practice, i.e. what is being said, the social relations enacted and the possible subject positions, is highly dependent on the teachers' willingness or ability to maneuver constraints on the discourse practice (Fairclough, 2003:73ff).

Teaching Writing in the Primary Grades in Australia: A National Survey

Presenting Author:Anabela Malpique, Edith Cowan University, Australia, Australia; Co-Author:Debora Valcan, Murdoch University, Australia; Co- Author:Deborah Pino-Pasternak, University of Canberra, Australia; Co-Author:Susan Ledger, University of Newcastle, Australia

In the last 30 years, research in various countries across the globe have reported concerns in writing instruction associated with teachers' preparation to teach writing and the nature and frequency of writing practices and instruction (Graham, 2019). In Australia, however, national surveys set to gain insights into teachers' practices for writing instruction have not yet been conducted. The present investigation addresses this gap by surveying Australian primary teachers across states and territories (n=310) about their instructional practices for writing and their preparation and self-efficacy to teach writing. The majority of the teachers surveyed indicated they allocated on average less than three hours per week for writing practice in their classrooms, with findings further showing a large variability in the frequency of writing practice ranging from 15 minutes to 7.5 hours per week. Findings suggested an emphasis placed on teaching foundational skills, such as spelling, over the teaching of process skills, such as planning and revising. Results further indicated that less emphasis is placed on teaching handwriting and typing. The majority of participating teachers reported implementing only six of the 21 different instructional practices included in the survey on a weekly basis, with school-home strategies being the least frequently reported strategies to foster students' writing development. Most teachers expressed positive beliefs about their preparation and self-efficacy for teaching writing. Results from multiple regression analysis showed that preparation and self-efficacy for teaching writing significantly and statistically accounted for

variability in using evidence-based practices, teaching foundational skills, and teaching process skills. However, only self-efficacy made a statically significant contribution to predicting strategies to extended writing to the home environment. Implications for teaching and recommendations for research will be discussed.

Student's voices: A systematic review of writing motivation in early elementary education

Presenting Author:Aline Alves-Wold, University of Stavanger, Norway; Co-Author:Erin McTigue, University of Stavanger, Norway; Co-Author:Bente Walgermo, University of Stavanger, Norway; Co-Author:Per Henning Uppstad, Norwegian Reading Center, Norway

Motivation is a crucial factor for students' attainment of writing success, and as such has received greater focus in writing research lately. However, many studies investigating student writing motivation in early elementary education may overlook the students' voices, as many of these studies base their findings on teachers' and/or researchers' observations, rather than on the students' perspectives. The present study, a systematic literature review, foregrounds students' voices. Specifically, we synthesize findings from empirical studies (from 1996 until 2020) in early elementary settings (K-5th grade) that investigate writing motivation through students' self-reports. This review is guided by the overarching question: "What factors emerge from early elementary students' self-reports as influencing their levels of writing motivation?" Of the 7047 studies identified through database searches, 51 met the inclusion criteria and were qualitatively analyzed. First, components of writing motivation (e.g. interest, value, self-efficacy beliefs) derived from theory (Bruning & Horn, 2000; Graham, 2018; Troia et al., 2012) were used to categorize data deductively in a coding matrix. Then additional categories were added to accommodate data that was coded inductively and that did not fit in the preliminary categories. Finally, the coded material was clustered together into groups that shared related concepts, which resulted in the identified 9 main themes in the present review. Implications for teaching practice and future research are discussed.

Paper presentations: Academic writing

Scientific communication beyond academia: writing practices and scientists' experiences

Presenting Author:Raffaella Negretti, Chalmers University of Technology, Sweden; Co-Author:Carina Sjöberg-Hawke, Chalmers University of Technology, Sweden; Co-Author:Maria Persson, Högskolan Väst, Sweden; Co-Author:Maria Cervin-Ellqvist, Chalmers University of Technology, Sweden; Co-Author:Stina Johansson, Chalmers University of Technology, Sweden

Scientists' communication outside academia—science communication—has increased in recent years along with the political will to democratise access to knowledge. Clearly, in this push towards engagement with society academics themselves play a central role, but questions remain of what they actually write beyond scientific publication. What other genres are written by scientists, in different fields? What are their experiences and what can we learn from them? We summarize a 2-year project that examined science communication writing practices at a university of technology. In phase one, we adopted content and network analysis to map the types of texts that are most frequently written, identifying topics, fields, and collaborative networks. Our results indicate a varied and uneven picture: science communication is done mostly by tenured academics in fields where research has a clear impact on society. In phase 2, through ethnographic narrative interviews we investigated established scientists' experiences, motives, and practices: what they write, how they do it and why, and the place and space that science communication takes in their work life and career. The scientists we interviewed told very different "stories", yet common themes emerged.

First, their motives align with the notion of ”scholarship of engagement” (Boyer, 1996): science communication has democratic value as a means to educate and share scientific knowledge (as opposed to neo-liberal marketization). Secondly, they engage in different writing practices based on the nature of their work—producing texts such as reports to industry, non-fiction books, and debate articles. Third, they engage with science communication for intrinsic motives, writing mostly in their spare time, mostly without training or support. In the final phase of the project, we focus on the metacognitive strategies that these experienced scientists adopt when writing for readers outside academia, on the premise of research theorizing metacognition as facilitating transfer of writing skills across genres and tasks—as integrated in models of writing expertise. We conclude with suggestions for further research and the development of training programs that build on genre pedagogy.

Using data visualization for text analysis

Presenting Author:Monica Broido, Tel Aviv University, Israel; Co-Author:Bibiana Jou, Tel Aviv University, Israel

Text and document data visualization is a growing research field in the digital humanities (Kucher and Kerre, 2019) as it allows new forms of analysis that can identify patterns present in the textual reality (Nualart-Vilaplana et al., 2014), which may not be apparent through other means.

At Tel Aviv University, a class of Advanced Spanish (B1) students underwent a pedagogical sequence (similar to that described by Tolchinsky et al., 2021) in which they produced four analytical texts. The three first texts (T1-T3) were all written on the same topic in successive weeks, while the fourth text (T4) was written a month later on a different topic to examine which text characteristics introduced in the sequence were conserved. The texts were coded for different rhetorical moves, with macro-categories (claims, grounds, expository moves) and their subsequent sub-categories. Each set of texts was mapped out in a simple, graphic collaborative canvas tool (Miro). While the resulting visualization enabled us to see the change in rhetorical moves in each individual’s texts, it was especially critical for revealing the changes across different text times (T1-T4) at the group level.

In this presentation, we will show how this visualization uncovers distinct shifts in text organization and rhetorical move sequencing. We propose that this type of visual analysis can help improve the speed and clarity in which we analyze textual data, and can be used to follow groups of students writing across time to provide a more complete understanding of the process of student writing development, and inform writing pedagogy and learning.

Session 7

Paper presentations: Writing process (KSL)

Designing a human-centered dashboard for writing process feedback

Presenting Author:Emily Dux Speltz, Iowa State University, United States; Co-Author:Noëmie Sollier, Iowa State University, United States; Co- Author:Joseph Cheatle, Iowa State University, United States; Co-Author:Rianne Conijn, Eindhoven University of Technology, Netherlands; Co-Author:Evgeny Chukharev-Hudilainen, Iowa State University, United States

In the oft-cited work The Idea of a Writing Center, Stephen North (1984) asserted that the job of a writing center is to “produce better writers, not better writing” (p. 38). To do so, it is important to examine not only students’ written products but also the processes by which they produce these texts. Current writing center practice aims to focus on students’ writing processes, but in reality, it is

difficult to provide process-focused advice when consultants, and to a large extent, the writer, do not have access to the moment-by-moment actions by which the text was produced. This study aimed to determine how to effectively design a human-centered dashboard for providing process-focused feedback to writers by drawing from writing center stakeholders' preferences. To accomplish this goal, a series of focus groups was conducted with undergraduate and graduate writing consultants and the director of a large midwestern university writing center in the United States. Participants were shown a variety of ways to visualize students' writing processes based on data from keystroke logging and eye-tracking.

Data visualizations were drawn from pausing analyses; patterns of revisions, "jumps" in the writing process (i.e., nonlinear writing behavior), and transitions; and eye fixations and lookbacks (i.e., rereading previously written text). The opinions shared in this focus group session pointed to the types of design components and information that would be helpful to writing consultants and the ways in which these design components could be organized to be effectively utilized by consultants during tutoring sessions. The findings of this study are being utilized to inform the creation of an actionable and interpretable learning dashboard that will attempt to fill a gap in current writing center practice.

The writing process of bilingual primary school students with focus on revisions

Presenting Author:Eva Lindström, Högskolan Dalarna, Sweden; Presenting Author:Elisabeth Zetterholm, Linköping University, Dept of Culture and Society, Sweden

Writing a text is cognitively demanding for all writers and even more so for second language writers who spend more time finding the appropriate word or deciding on the form of the language compared to first language writers (Cumming 2001). Younger writers will often focus more on spelling revisions or wording, than on structure and cohesion (Allal 2004). In a previous study, Authors (submitted) explored the revisions made by grade 2 bilingual students during a writing activity in their L2. Results showed that the mean proportion of the students' revisions was relatively low and that meaning changes occurred even on a macrostructural level which is normally associated with more experienced writers. This paper focuses on revisions of grade 3 bilingual students using Faigley and Witte's (1984) Revision Taxonomy, according to which revisions are divided into surface changes, including grammar, spelling and keyboard errors, on the one hand, and meaning changes on the other. The material consists of logging files from 12 multilingual 10-year-old bilingual students writing short narratives. Preliminary results indicate that these students, like the grade 2 students, make several surface changes but exhibit a creative writing process (Ivanič 2004) in which several meaning changes occur, even on a macrostructural level. Details about the writing process (e.g., revisions) were taken from statistics registered in the keystroke-logging program ScriptLog and were analyzed both quantitatively and qualitatively. These results are important for teachers when organizing their teaching in writing in the bilingual classroom.

Pausing and revision around mutations: the case of L1 and L2 speakers of Welsh

Presenting Author:Enlli Thomas, Bangor University, United Kingdom; Co-Author:Kirk Sullivan, Umeå University, Sweden

In common with the other Celtic languages welsh uses a complex system of mutations. In writing this means that the first letter, or letters of a word change systemically based on among other things gender and the preceding preposition. Graphemically, become under soft mutation, become under nasal mutation, and become under aspirate mutation, and is fraught with irregularities. This has been shown to be challenging for both first and second language Welsh writers. What however is

less clear is the how the representation of these mutations as letter(s) affects writing fluency and revision. This paper presents a small pilot- study to identify which mutations are most challenging to L1 speakers of Welsh and L2 speakers of Welsh respectively. Ten L1 and 10 L2 university student speakers of Welsh wrote a one-page narrative to the open prompt “A day in the life of a student”. This prompt allowed the students to either write a piece of creative writing or to report one of their own student days. We felt this would make the task more open and help the students find their voice. They wrote on computer and their writing was keystroke logged using GGXlog. Similarly to other keystroke logging programs, GGXlog allows replay of the writing session, and provides a suite of analysis tools. Combining pause analysis with revision analysis and S-Notation our preliminary analysis how a few native speakers micro- paused before some mutations and were able to easily change to the required mutation of a word after revising a phrase. The L2 writers on the other hand more frequently required a pause, and had greater problems revising mutations within a phrase. However, they made distance revision corrections of mutation; often in combination with a similar mutation at the current edge of writing. Finally in our presentation we interpret our findings in relation to models of writing.

Paper presentations: Writing performance

Handwriting and keyboarding effects on K-6 students writing and reading outcomes: A meta-analysis

Presenting Author:Anabela Malpique, Edith Cowan University, Australia, Australia; Co-Author:Debora Valcan, Murdoch University, Australia; Co- Author:Deborah Pino-Pasternak, University of Canberra, Australia; Co-Author:Susan Ledger, The University of Newcastle, Australia

In today’s increasingly digital world, in many classrooms across the globe students are expected to comprehend and produce handwritten and computer- generated texts as early as in kindergarten. Hence, a growing body of research is now dedicated to comparing the effects of handwriting and keyboarding on the writing outcomes of primary aged children, substantiated by the relationship between transcription skills and writing performance (Feng at al., 2017). In this study, we present a meta-analysis integrating findings of international studies published during the last 20 years comparing the effects of handwriting and keyboarding on the writing and reading performance of primary-aged students. We addressed the following two main research questions: (1) What are the comparable effects of handwriting and keyboarding on the writing performance of K-6 students (i.e., letter writing automaticity, written word production, and writing quality)? (2) What are the comparable effects of handwriting and keyboarding on the reading performance of K-6 students? Additionally, we investigated whether grade level, keyboarding experience, timed measurement of letter writing, types of tasks measuring letter writing fluency, and study design moderated the effects of handwriting and keyboarding on writing outcomes. Results revealed that the effect size comparing quality of writing between handwriting and keyboarding was significant, with students producing better quality passages via handwriting than keyboarding. Results also revealed that only grade level significantly moderated the effect size for letter writing fluency and written word production. Findings further suggested that handwriting and keyboarding practices are associated with improvements on specific reading skills in primary education (i.e., letter recognition, letter naming, word reading, non-word recognition), but with no clear superiority of modality of writing practice on reading outcomes. We will discuss implications of this study’s findings for literacy research and for the teaching of literacy in primary education.

A Longitudinal Study on the Links between Writing Motivation and Text Quality in Grades 6-7

Presenting Author:Isabel Rasteiro, Faculdade Psicologia e de Ciências da Educação, Universidade do Porto, Portugal; Co-Author:Teresa Limpo, University of Porto, Portugal

The initial studies in the field of writing mostly featured a cognitive strand. Throughout the years, more and more scholars have been interested in examining writing from a motivational perspective. Over the last decades, writing motivation has been shown to decrease with schooling and predict writing performance. However, this evidence comes primarily from cross-sectional studies targeting general self-efficacy, while neglecting other beliefs that students hold about writing and themselves as writers, such as attitudes toward writing and motives to write. Here, we adopted a longitudinal approach to (a) examine the development of attitudes toward writing, writing self-efficacy domains, and motives to write from Grade 6 to 7, and (b) test their longitudinal (i.e., between adjacent grades) and concurrent (i.e., in the same grade) contribution to writing quality in Grade 7, after controlling for writing quality in Grade 6. For that, 112 Portuguese sixth graders filled in three questionnaires assessing attitudes toward writing (single factor), self-efficacy (three factors: conventions, ideation, and self-regulation), and motives to write (7 factors collapsed into intrinsic and extrinsic motives to write). Then, students composed two opinion essays. The procedure was repeated one year later in Grade 7. We decided to target this transition from Grade 6 to 7 because, in Portugal, it corresponds to a key change in the school system that carries several academic and emotional challenges. Thus, motivational aspects are expected to be of particular importance to the teaching and learning of complex skills, such as writing. Our findings showed that, while attitudes and all motives to write declined, self-efficacy did not.

Additionally, after accounting for previous quality, writing quality in Grade 7 was predicted by self-efficacy for self-regulation and intrinsic motives in Grade 7. No other beliefs in Grade 6 or 7 were significant predictors. Together, these findings support a concurrent but not longitudinal association between writing motivation and writing quality, suggesting that there is still a chance for middle-grade teachers to foster their students' writing quality. To that end, they should regularly build supportive and nurturing teaching environments capable of creating motivated writers.

Paper presentations: Teacher education

What characterizes the backgrounds of teachers who succeed in writing instruction in first grade?

Presenting Author:Marita Byberg Johansen, NTNU - Norwegian University of Science and Technology, Norway; Presenting Author:Anne Holten Kvistad, Norwegian University of Science and Technology (NTNU), Norway; Co-Author:Gustaf Bernhard Uno Skar, Norwegian University of Science and Technology, Norway; Co-Author:Arne Aasen, Soer-Troendelag University College, Trondheim, Norway, Norway

In this study we wanted to explore background characteristics of teachers whose classes made big jumps in text quality between the beginning of the academic year and June, in the first grade. Teachers and students participated in a large-scale writing research project in Norway, Functional Writing in Primary School (FUS). Students performed several writing tasks at the start of the first semester and at the end of the second semester in first grade. These tasks were used to derive measures of text quality. 122 teachers from 54 schools were interviewed in school-based focus groups. All teachers were interviewed via Zoom in the second semester of first grade, in 2020. From this sample, we selected teachers with the highest gains in their classes from the first to the last writing tasks.

These were nine teachers from seven schools. Data from the interviews (video recordings) have been coded in categories that has developed during an iterative process. One of the questions in the

interview was “Where or by who have you learned most about writing instruction?”. When analyzing the interviews, we identified categories and mapped what the nine successful teachers says regarding how they have developed their knowledge about

writing instruction. Preliminary findings show that a majority of these specific teachers express that they have learned most about writing instruction from their colleagues. Experiences from practice in the classroom are also highlighted by many teachers. Few teachers says that they have learned most about writing instruction in pre-service training. We will elaborate the nature of this investigation, the findings and particularly discuss its implication for teacher professionalization.

Professional development in strategy writing instruction: effects on teachers’ classroom practices

Presenting Author:Paula Lopez, University of León, Spain; Co-Author:Raquel Fidalgo, University of León, Spain, Spain

In order to promote students' mastery of writing, it is essential to implement evidence-based practices in the schools. One of the most effective instructional approaches for writing is strategy instruction. However, teachers generally need specific training for its successful implementation. Research have shown the positive effects of practice-based professional development (PBPD) in strategy instruction on students’ and teachers' outcomes such as self-efficacy or attitudes toward writing. However, no studies have examined the effects of PBPD on teachers' writing regular practices, which is a critical aim of these programs. The main goal of the present study focuses on the evaluation of fourth-grade teachers’ writing practices following PBPD in strategy instruction. The sample comprised three fourth-grade teachers. Teachers were randomly allocated to two experimental conditions. In the first experimental condition (N = 2), teachers participated in a PBPD program. The PBPD program comprised nine sessions in which teachers received specific content knowledge about the main components of strategy instruction as well as they were provided with opportunities to practice their implementation. In the second experimental condition (N = 1), the teacher just received a specific training for each instructional session before its implementation. Then teachers implemented strategy instruction for planning and drafting over six consecutive weeks. The study followed a pretest-posttest design. In each assessment moment teachers were recorded during the regular teaching of writing in their classroom. Additionally, qualitative data was considered to determine teachers’ experiences with the implementation of the instructional program and the training received. Teachers also completed a questionnaire about their beliefs and attitudes toward writing and the teaching of writing. Social validity was also assessed. Despite data of the study is under analysis, preliminary results have shown changes in teachers’ practices after PBPD as well as differential effects between teachers’ self-efficacy and attitudes toward writing. We will present the complete results in the conference.

Creating future writing instruction. Reintroducing didactic skills in teacher education?

Presenting Author:Helen Winzell, Linköpings universitet, Sweden

Since writing is a social and academic core skill, prospective L1 teachers need to develop effective teaching practices for teaching writing. However, several studies (Gilbert & Graham 2010; Grisham & Wolsey 2011; Winzell 2018) indicate that teacher education programmes need to better prepare prospective teachers for teaching writing. In my doctoral thesis (Winzell 2018) I investigate how the knowledge needed for the teaching of writing is developed in teacher education and during the first years of teaching. The overall analysis shows that practices for teaching writing are mainly developed in the teaching profession; in other words, after the exam from the teacher education programme.In one sub-study, nine novice Swedish teachers were interviewed in September,

February and June during their first year in the profession. The research method used is semi structured qualitative interviews, and the theoretical framework used is Lee

S. Shulman's (1987) idea of teachers' knowledge base and their ability to transform content knowledge into pedagogical content knowledge (PCK). This ability can be detected in teachers' use of teaching strategies. The result shows that the teachers' use of teaching strategies changed throughout their first year; there was a shift from theory and transmission to practice and discovery. Hence, the teachers' ability to transform their content knowledge changed. Is it possible for this change to take place within the teacher education programme? How can prospective teachers be better prepared for teaching writing? Is it time to reintroduce practical didactic skills in teacher education?

Paper presentations: Instructional design

Evidence-based classroom instruction of writing competence: A three-stage research programme
Presenting Author:Joachim Grabowski, Leibniz University, Germany

From the interdisciplinary collaboration between research on writing processes and linguistic didactics, a focus emerged on the role of genre-overarching abilities for the development and improvement of writing competence. A theoretical analysis provided, besides educated language proficiency, the ability facets of perspective taking (conceptual, spatial, and emotional) and coherence creation (in writing and reading as well) to be relevant. We empirically studied these subcomponents of writing ability during some eight years in a three-stage research program. Stage 1: Diagnosis. Before causal intervention effects are studied, it is advisable to ensure at least correlational connections between the relevant predictive abilities and the intended criteria (here: text quality as an indication of writing competence), and to examine the influence of other relevant variables (e.g., intelligence, cognitive processing, reading skills). As a result, perspective taking and coherence management abilities explained up to more than 50 per cent of text quality variation. Stage 2: Intervention. A pre-post quasi-experimental intervention study may allow to conclude that the correlated ability prerequisites exert causal influences on writing competence. To that end, materials must be developed that are suited to train and instruct students on the relevant abilites in a way that is standardized enough to assure sufficient internal validity of the study. Stage 3: Transfer. Finally, the instructional measures that are assumed to improve writing abilities need to be created, modified and explained such that they can be applied within regular classroom teaching by regular teachers. Again, the assumed effects must be empirically tested. This presentation will give a recapitulatory report of the program. It shows selected and typical results as well as examples of the learning and teaching materials that have been developed. Moreover, the decision for the chosen research strategy and its interdisciplinary background in the educational sciences will be presented and justified.

A Response to Intervention approach to teaching written composition skills in first grade

Presenting Author:María Arrimada, University of León, Spain; Co-Author:Mark Torrance, Nottingham Trent University, United Kingdom; Co-Author:Raquel Fidalgo, University of León, Spain, Spain

The Response to Intervention model (RTI) approach to literacy instruction supports early detection of students at risk of getting left behind because their learning in slower than that of their peers and intervention by means of multi-tiered instruction. This study explores the feasibility of an 18-months-long RTI approach to support the development of early written composition skills. During

the first 120 days of first-grade, 161 students received researcher-specified classroom instruction in transcription and planning (Tier 1 intervention, in RTI terms). Their overall composition skill was assessed through weekly probe tasks. On the basis of these, we identified 36 students whose rate of learning was considerably slower. During the next three months, all these 36 students received extra training on transcription, planning or both. Remedial training was tailored to students' individual deficits, identified by means of several literacy tests and took the form of homework tasks supervised by parents. Weekly probes and Tier 1 instruction continued in class for all 161 students. Tier 2 instruction ended at the end of first grade. During the first term of second grade, all 161 students came back to only Tier 1 classroom instruction.We report two studies aimed at evaluating this program. In the first study, we evaluated the individual improvement of 12 students who particularly struggled with transcription, immediately after Tier 2 intervention. Five of these students received an instructional program focused exclusive on transcription, while the remaining 7 received a combination of planning and transcription instruction. We added a comparison group of average student (N = 7). Results show that most students caught up with their peers in handwriting accuracy and compositional quality, but not in spelling. In the second study, we determined improvement in rate of learning for all struggling students (N=36), relative to their 125 peers. We looked at improvement immediately after Tier 2 and after the first term of 2nd grade. Findings show that during Tier 2 instruction struggling students improved substantially faster than their peers in compositional quality and handwriting accuracy, with again, no effects for

Paper presentations: Text analysis

Effect of medium of production on the quality of argumentative texts written by university students

Presenting Author:Ioannis Dimakos, University of Patras, Greece; Co-Author:Charis Panopoulou, Department of Education & Social Work, University of Patras, Greece

The aim of the present study is to compare handwritten and keyboard-produced texts written by university students in terms of quality. Although, several studies have investigated the differences in the handwritten, typed and dictated texts in terms of various quantitative measures, the present study reports on the quality of the texts produced in Greek.The study involved 27 university students (aged 18 to 30 years old) enrolled in a psychology class who volunteered for the project and received credits towards their final grade in the class. We asked participants to write about two separate essays about relevant environmental issues. There was no time limit to complete the texts, although almost no session lasted longer than an hour. Tools that used include paper, pen, and a timer for the handwritten production task and a laptop with corresponding software for the typing task. A questionnaire about demographics, typing skills and habits was also administered to the participants. The keystroke logging software used for the typing analysis was GenoGraphiXLog (GGXLog).We hypothesized that keyboard produced texts would be of higher quality to handwritten ones, as this type of text production is commonly used in the Greek educational system and allows writers to focus on the content rather than the mechanics of the writing process. In the future we would like to delve into the subject and investigate the comparison of these texts written by school age children. In addition, we would like to our investigation to include longer writing sessions with larger samples (including multi-session writing) and other text genres.

Analyzing Features of Writing Curriculum in Studies of U.S. Student Writing Achievement

Presenting Author:Kyle Oddis, Northeastern University, United States

Inconsistencies in design and language of writing curriculum can compromise students' ability to proficiently complete writing tasks. These inconsistencies can result in learning inequities—i.e., students may not be on equal footing to complete a writing task as articulated in curriculum. Assessment of writing curriculum in tandem with assessment of student writing is an underexplored area of writing studies and writing analytics research in U.S. postsecondary contexts (two-year and four-year colleges and universities). Researchers interested in quantitative measures of student writing achievement cannot control completely for contextual factors which are local and site-based (i.e., in context of a specific instructor's writing classroom at a specific institution). However, the inability to control for curriculum in studies of student writing achievement complicates interpretation of features measured in student writing by natural language processing (NLP)-based tools. This paper offers a novel framework for demonstrating how identifying and analyzing features of writing curriculum can provide dimensions of local context not captured in analysis of student-generated texts alone. Using a dataset of 48 curricular texts collected from 21 instructors teaching in 5 disciplines across 6 four-year public universities in the United States, this paper: 1) presents a set of curriculum scoring rubrics developed through qualitative analysis; 2) describes a protocol for training raters to use the rubrics to score curricular texts to achieve rater agreement and generate quantitative data; and 3) explores how this framework might be amended to more deeply consider feature relationships between curriculum and student writing in studies of student writing achievement. No U.S. study of postsecondary writing curriculum to date has attempted QWK in studies of writing curriculum. The qualitative and quantitative results of this research show little evidence of consistency across assignments even in the same courses at the same institution. Findings present myriad implications for student writing performance in U.S. writing program contexts. Drawing upon a wealth of literature in U.S. writing studies research paired with qualitative and quantitative data, his paper will discuss the study's methodology, findings, and implications for curriculum, writing/program assessment, and professional development in teaching and critical design of writing curriculum.

Symposium

Writing from sources as a learning activity

Chairperson: Liselore van Ockenburg, University of Amsterdam, Netherlands Organiser: Lieke Holdinga, University of Amsterdam, Netherlands Organiser: Amy Peters, University of Southampton, United Kingdom Organiser: Martina Graichen, University of Education Freiburg , Germany Organiser: Lidia Casado Ledesma, Universidad Autonoma de Madrid, Spain Discussant: David Galbraith, University of Southampton, United Kingdom

Writing-to-learn is the idea that writing is not just an important tool for communication, but that it can also facilitate learning and enable individuals to construct new knowledge (Klein, 1999). In the case of writing-to-learn, writing is mostly preceded by reading or studying source materials. Research on writing-to-learn may be conducted from different angles. First of all, researchers have tried to understand cognitive processes involved in writing-to-learn (e.g., Klein, 1999; Arnold et al., 2017). Second, research has focused on text genres and the different effects that these genres might have on learning (e.g. Wiley & Voss, 1999). Third, intervention studies on writing-to-learn aimed to explore the effects of writing tasks on learning in educational settings (e.g., Bangert-Drowns et al., 2004).Each of the papers presented as part of this symposium have the overarching theme of writing-to-learn in the context of writing from sources. We brought together four studies that all explore the effects of writing tasks on learning from somewhat different perspectives. The first presentation (United Kingdom) explores the effects of summarising source texts on text

comprehension and subjective (self-rated) knowledge. The second presentation (Germany) explores the effects of using prompts for journal writing about source texts on teacher-students' self-regulated construction of applicable knowledge for teaching. The third presentation (the Netherlands) is an intervention study testing evaluative writing tasks and strategy instruction for writing from sources in history. Finally, the fourth presentation (Spain) explores the effects of deliberative dialogues and argumentative synthesis writing in science education. Additionally, the symposium brings together writing-to-learn from sources amongst different types of writers; higher-education students, geography-teacher-students; and secondary school students.

The effects of written and mental summaries on text comprehension and subjective knowledge

Presenting Author:Amy Peters, University of Southampton, United Kingdom; Co-Author:David Galbraith, University of Southampton, United Kingdom

Writing-to-learn literature assumes that for learning to have occurred, an individual must develop their knowledge (i.e., their subjective knowledge increases pre- to post-writing; Baaijen & Galbraith, 2018). However, in a previous study, we found participants' subjective knowledge decreased pre- to post-writing, when they were asked to summarise (plan and write about) a source text. We suggested participants experienced an 'illusion of explanatory depth' (Rozenblit & Keil, 2002), whereby writing about the text helped participants realise the knowledge they do not know. Participants' subjective knowledge ratings were moderately positively correlated with their scores on a more objective text comprehension test. Additionally, there were no differences between the different planning (outline or synthetic) and writing (essay or free recall) activities. Thus, like Arnold et al. (2017), we concluded the effects of learning from writing about a source text result from retrieval practice. The current study is a follow-up study of this, aiming to confirm whether these effects can be generalised to another topic, and comparing the writing activities to non-writing conditions. Participants are randomly assigned to one of four conditions: written free recall, mental free recall, written essay, or mental essay. After reading a source text passage, in the written conditions, participants either write down as much of the source text as they can remember (written free recall), or write a draft essay on the text (written essay). In the mental conditions, participants think about recalling the text passage (mental free recall) or think about writing a draft essay about the passage (mental essay). Participants rate their subjective knowledge about the text after reading it (pre-task) and after writing or thinking about it (post-task). Participants return two-days later and re-rate their subjective knowledge, and then answer some objective text comprehension questions. Data is currently being collected. We predict that, as in the previous study, participants' subjective knowledge will decrease in all conditions, but the decrease will be larger in the written conditions as opposed to the mental conditions. We also expect the correlation between the subjective knowledge ratings and more objective text comprehension scores to be moderately to highly positively correlated.

Effects of journal writing on teacher students' integration of knowledge domains

Presenting Author:Martina Graichen, University of Education Freiburg, Germany; Co-Author:Elisabeth Wegner, University of Freiburg, Germany; Co- Author:Matthias Nückles, University of Freiburg, Germany

To develop teaching competence, teacher-students need to create coherence between content knowledge (CK), pedagogical content knowledge (PCK), and pedagogical knowledge (PK) (Baumert & Kunter, 2013). In many teacher education programs, students have to intertwine these domains in a self-regulated manner (Darling-Hammond, 2006).We examined how geography teacher students

could be supported to integrate CK-, PCK-, and PK- knowledge from multiple texts and transfer this knowledge to teaching-based application tasks. In an online-implemented experimental study, 63 geography-teacher-students participated in three consecutive sessions and therefore were able to practice knowledge integration thoroughly. In each session, they studied a CK-text, a PCK-text, and a PK-text (Session 1: Rock formation, teaching with texts, 2: Volcanism, teaching with visualizations, 3: Climate Change, Constructive Alignment). In session one they received either prompts that encouraged the use of intertextual learning strategies in writing a journal entry, or a combination of these prompts with a modeling example of a journal entry that exemplified the learning strategies. In the both transfer sessions, participants received the prompts and wrote a learning journal entry about the texts. Afterward, they evaluated the didactic quality of teaching-based application tasks (2: visualizations of volcanism, 3: lesson outlines on climate change).Results showed that studying a worked-example worked best for realizing coherence-supporting learning-strategies within learning journal entries. However, no significant differences for the application of this integrated knowledge can be attributed to the instructional mode (experimental condition). On the other hand, in session 3, we found that the number of coherence-strategies mediated the application of integrated knowledge. Evidently, supported journal writing is a promising method to facilitate teacher students' self-regulated construction of applicable knowledge for teaching when it is thoroughly instructed and the students receive repeated opportunities to integrate and apply the knowledge.

Learning history through evaluative writing tasks: an instructional design study

Presenting Author:Lieke Holdinga, University of Amsterdam, Netherlands; Co-Author:Tanja Janssen, Universiteit van Amsterdam, Netherlands; Co- Author:Jannet van Drie, University of Amsterdam, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Source-based writing is a common activity in the history classroom; it is therefore important for students to develop writing skills. In the Netherlands, teaching secondary school students how to write a good text is mostly a responsibility of the language teacher and not of the history teacher. As a consequence, the disciplinary knowledge of writing historically stays out of sight, although this knowledge of discipline-specificity is crucial for good writing in history (as for all disciplines) (Carter, 2007). Students should be aware of what a good text in history entails and what specifies a good writing process when performing writing assignments in history classes (Alston et al., 2021).The aim of our study was to close this gap; we designed and evaluated discipline-specific writing tasks and instruction, aimed at learning through writing. From previous research we derived two design principles. A first design principle was to use evaluative writing tasks, which have been proven useful for deep learning (Monte-Sano & Allen, 2018; Newell & Winograd, 1995; Van Drie et al., 2014; Voss & Wiley 1997). The second design principle was to include strategy instruction. In two lessons students learned how to use the history-specific reading-writing strategy Reading- Thinking-Writing. We based this strategy on a process study in which students performed assignments for history and philosophy while thinking aloud (Authors, 2021).We tested the instructional design with two teachers, each teaching one class, in a switching panels design. Data are qualitative (interviews with teachers and students) and quantitative (assessment of students' text quality).Preliminary results showed small indications of effectiveness, however, the results on the analysis of students' texts showed no significant effect on text quality. However, in interviews, teachers and students indicated that they valued the tasks and strategy instruction.

Bridges between synthesis writing, deliberative dialogues and learning of scientific content

Presenting Author:Lidia Casado Ledesma, Universidad Autónoma de Madrid, Spain; Co-Author:Isabel Cuevas, Autonoma University of Madrid, Spain; Co- Author:Elena Martín, Universidad Autonoma de Madrid, Spain

Scientific literacy can be promoted through oral and written argumentative practice (Mason, 2001; Rivard & Straw, 2000; Syh-Jong, 2007). Collaborative discourse has proven effective in fostering conceptual understanding, especially when discussions are developed under deliberative goals (Felton et al., 2009) Likewise, writing tasks as argumentative syntheses stand out for its epistemic value and its contribution to constructive learning processes (Mateos et al., 2014). However, there are no known educational interventions that have combined these two didactic activities to teach science.The objective of this research was to compare the impact of four intervention programs, based on deliberative dialogues and argumentative synthesis writing activities, on the learning of socio- scientific content by secondary school students (14-15 years). The four programs resulted from the combination of two instructional components: (1) explicit instruction through video modelling, and (2) the additional support of a guide; while deliberative dialogues and argumentative syntheses were constant elements.We conducted a pre-post quasi-experimental study in which 151 Spanish third grade secondary school students participated. Socio-scientific learning was evaluated through a content test made up of open questions. The results showed all students progressed in their socio-scientific knowledge. Instructional practices did not have a direct effect on content learning. However, we observed an indirect effect of explicit instruction on learning socio-scientific content, through learning of argumentative synthesis writing. Besides, we found a positive relation between progression in synthesis writing and knowledge acquisition.Science teachers are therefore recommended to combine the potential of dialogical activities and argumentative writing, supported by explicit instruction, to improve their students' learning outcomes.

Symposium

Symposium: Case Studies of L1, L2, and FL Writing Curricula across the Globe

Chairperson: Nora Müller, Westfälische Wilhelms-Universität Münster, Germany

Discussant: Tiane (Christiane) Donahue, Dartmouth, United States

The papers in this symposium reflect on theoretical, methodological, and practical insights that emerge from case studies of writing curricula from widely varying geopolitical contexts. Paper 1 sets the stage by examining methodological challenges of cross-national policy research and describing how these were addressed in a systematic manner in a cross-case comparison of writing curricula from nine school systems across the globe. Papers 2-4 then present results from three different case studies. A strength of the symposium is that in the case studies, not only curricula for L1, but also L2, and FL writing are examined.

Furthermore, all case studies draw on the same framework and apply Ivanič's Discourses of Writing (DOW; 2004; 2017) to their analyses of curricular guidelines for writing. Thus, results are comparable across case studies. For instance, Papers 2,3 and 4 show that none of the examined curricula offers a comprehensive conceptualization of writing and that the social practices and sociopolitical DOW is particularly neglected in all contexts. Paper 2 further highlights that the DOW foregrounded in educational guidelines for German writing particularly disadvantage weaker and L2-learners, a finding that is echoed in Paper 3 for writing in English as a foreign language in Germany. Comparative case analyses such as the ones presented in this symposium are important and can

serve both theoretical and practical purposes. As Paper 1 highlights, comparative case studies can describe policy-setting trends and common problems in administrative processes, with the overarching goal of generating new theories. On a practical level, systematic cross-case comparison allows stakeholders working in different contexts to learn from one another in order to design more effective policies. The symposium closes with the discussant's reflection on the methodological, theoretical, and practical implications for case study research of writing curricula worldwide.

A Cross-System Perspective on Variation in Writing Curricula

Presenting Author:Jill Jeffery, Leiden University Centre for Linguistics, Netherlands; Co-Author:Judy M. Parr, University of Auckland, New Zealand

We discuss the methodological challenges we encountered when developing a common analytic framework for cross-case comparison of writing curricula in nine school systems across the globe. We describe how we devised a unified yet flexible content analysis method, and what happened when researchers situated in different geopolitical contexts used that approach to analyse widely varied writing curricula. Following a brief discussion of scholarship regarding comparative policy analysis, we argue for the importance of such research for repositioning stakeholders' perspectives on writing curriculum development and implementation. We then provide examples from our cross-national project—focusing on patterns of variation in the processes underpinning curriculum design—to illustrate interrelated challenges and affordances of comparative research methodology.

In our project writing researchers situated in unique case study contexts undertook descriptive analyses of writing curriculum documents to address the question: With respect to writing, what is to be developed, and how? In addition to policy content, we sought to understand the processes underlying policy development (Lewis et al., 2019). The analyses for each case study focused on 1) curricular guidelines that stipulate the content of the writing curriculum; as well as 2) auxiliary documents that shed light on the rationales and processes underlying their design and any sample teaching methods envisioned in their application. Taken together, these documents serve to operationalise the writing curriculum, or what is valued as knowledge and the trajectories through which that knowledge might be expected to develop. To illustrate the methodological challenges to and benefits of comparative policy research, we focus our discussion on patterns of variation in roles that educators and researchers play in designing writing curricula.

We conclude by arguing that comparative analyses of writing cultures are essential for bringing students' school writing experiences into closer alignment with current theory and research regarding writing development. It is through the challenges with which comparative researchers grapple that new insights regarding writing curricular design are derived. In our paper's conclusion, we discuss preliminary findings from our survey research extending the comparative analysis to a wider range of curricular contexts.

Uncovering underlying beliefs about writing: Are German curricula aligned for teaching L2-learners?

Presenting Author:Nora Müller, Westfälische Wilhelms-Universität Münster, Germany; Co-Author:Vera Busse, University of Münster, Germany

Writing competence is a prerequisite for educational success and cultural participation. However, many adolescents in Germany do not obtain writing aims stipulated by educational policy (DESI-Konsortium, 2008; KMK, 2005). Especially students whose first language is not German need more

support to meet minimum standards; their texts are often rated as lacking in clear communicative purpose (Neumann, 2014; Neumann & Lehmann, 2008).

The discrepancy between educational objectives and performance assessment results underlines a need for closer examination of contributing factors, such as the beliefs that guide educational policy documents for teaching writing. These documents ultimately influence how students are taught in the classrooms.

In our study, we apply the discourses of writing framework (DoW; Ivanič, 2004) to an analysis of writing-related competencies stipulated by national and federal policy documents for Hauptschule graduation in Year 9/10 (the earliest time when students can move into the professional sphere). Thereby, we focus on two research questions:

RQ1) To what extent are the DoW represented in German policy documents?RQ2) To what extent are differential outcomes and/or additional support foreseen for L2/ multilingual learners and weaker learners?

The analysis revealed variation among the policy documents which reflects the fact that German federal states are relatively autonomous in developing curricula content. However, a common denominator is the overrepresentation of skills and genre DoW, while there is less emphasis onprocess- and creativity DoW. The social practices and the sociopolitical DoW are absent (RQ1). The analysis further revealed that the writing-related sections of the policy documents do not specifically address the needs of and L2/ multilingual and weaker learners; no differential outcomes and/or support are included (RQ2).

The DoW that are foregrounded in the policy documents disadvantage weaker learners and L2 learners who would especially benefit from the process DoW. Our data (Müller & Busse, submitted) further suggests that teachers need more training to provide effective feedback which is an important tool to support the writing process.

What beliefs about writing guide German EFL curricula? A document analysis

Presenting Author:Katrin Peltzer, Westfälische Wilhelms-Universität Münster, Germany; Co-Author:Lea Siekmann, Westfälische Wilhelms-Universität Münster, Germany; Co-Author:Judy M. Parr, University of Auckland, New Zealand; Co-Author:Vera Busse, University of Münster, Germany

Fostering writing in English as a foreign language (EFL) has become increasingly necessary in European countries such as Germany, as it is an important factor for job opportunities and crucial for participating in global discourses. However, little is known about the relative importance placed on teaching EFL writing in curricula which provide guidance for teachers' writing instruction and information about expected standards in secondary schools. Our study addresses this research gap and explores beliefs about writing that guide educational policy documents for EFL teaching in Germany.

Using Ivanič's (2004) discourses of writing (DoW), we conducted a document analysis of 11 curricula for secondary schools in four German federal states. Following Müller, Lindefjeld & Busse (2021), we identified writing-specific proficiency statements in the documents and allocated them to the DoW, thus operationalizing the documents' underlying beliefs about writing. The total number of proficiency statements referencing writing was counted as well as the number of statements that were allocated to each DoW, so that percentages could be calculated, in addition to the content analysis. We repeated the analysis with guiding superordinate documents, including the Common European Framework of Reference and federal Educational Standards.

We present our data and argue that none of the curricula offers a comprehensive conceptualization of writing. Theskills and the genre DoW are predominant; the process, the creativity, and the social practices DoW receive little attention, while the sociopolitical DoW is missing. Differences in discourse frequency in curricula among school types and federal states may hinder transitions between educational tracks. In documents for the subject German, Müller et al. (2021) find similar disregard for these DoW (Paper 2), which are emphasized in other international examples of curricula (see e.g., Jeffery & Parr 2021). The relative neglect of the procedural character of writing and the lack of acknowledgment of the social dimension of writing suggest a misalignment between curricula and current research into (EFL) writing pedagogy, which may be particularly detrimental for less proficient and socially disadvantaged learners.

Underlying beliefs about writing in Uzbekistan: Writing curricula in a multilingual context

Presenting Author:Diana Akhmedjanova, Khalifa University, United Arab Emirates

Uzbekistan, a multinational country situated in the Central Asian region, has been implementing educational reforms for the last thirty years. Once part of the Soviet Union, the country's education system includes instruction in both Uzbek and Russian across primary, secondary, and tertiary levels. The National Standards for the Secondary Education of the Republic of Uzbekistan, the document that lays out the standards across subject areas for primary and secondary education, recognizes the importance of language competency, which is specified not only in terms of the two native languages, but also emphasizes foreign language development. In addition to Uzbek and Russian, many students learn more than one foreign language, resulting in a multilingual system in which students might develop competencies in three or more languages.

This paper presents a content analysis of (1) the National Standards for the Secondary Education; (2) auxiliary documents used to clarify the standards; and (3) three textbooks developed and published through the Ministry of Education, to identify mis/alignment of standards for writing across these documents for Uzbek, Russian, and foreign languages. The paper first explores how Uzbek writing curricula build upon the standards articulated by the Ministry of Education, and the extent to which they align with researched practices of writing instruction. The paper then examines the challenges of using a framework commonly applied in anglophone educational settings, Discourses of Writing (Ivanič, 2004; 2007), to analyse Uzbek Standards and textbooks. Results show variation in the extent to which L1, L2, and L3 writing standards emphasise skills, genre, and process discourses. In addition, there is an obvious lack of the creativity, social practices, and sociopolitical discourses in both the Standards and textbooks. It concludes with methodological recommendations for further research in order to understand relationships between policy and pedagogy in Uzbek schools.

Session 8

Paper presentations: Academic writing

Centralised support for academic writing in Swedish universities: staff-member dilemmas in practice

Presenting Author:Ann-Marie Eriksson, University of Gothenburg, Sweden; Co-Author:Andreas Nord, Uppsala University, Sweden; Co-Author:Camilla Grönvall Fransson, University of Karlstad, Sweden; Co-Author:Ingrid Lennartsson Hokkanen, Stockholm University, Sweden; Co-Author:Marie Nelson, Stockholm University, Sweden

Characterized by internationalization, broadening participation and multiculturality, contemporary universities face heterogeneous student groups and new kinds of urgent challenges relating to student writing and language. A common, institutional response is to establish centralised support for academic writing (Essid and McTague 2020). Given that the centralising of this support often is rationalised with regard to democracy, access and equity, such initiatives represent an important process for higher education institutions. In addition, concrete support initiatives, such as extracurricular advising sessions/consultations provided for students, represent examples of writing in equitable learning environments. This presentation reports findings from an ongoing study in Sweden where universities can organise support for writing autonomously and according to their own, specific needs. In spite of a variety of organisational forms, similar forms of writing support practice seem to, somehow, be maintained across universities in different parts of the country.

While textual practices and writing traditions will emerge as part of concrete advising sessions/consultations (Mackiewicz & Thompson, 2018), writing support practice also implies significant professional development processes for individual staff. As part of an ongoing research project designed to explore the development in Sweden, we therefore document how groups of staff members from centralized writing support in four different Swedish universities talk about their advising/consulting work in terms of challenges and dilemmas during a series of inter-university, competence-development-workshops. On basis of analytical findings from video-recordings and publically available information for students in these universities, this presentation aims to demonstrate a series of tensions, related to professionalisation, that emerge at institutional as well as individual levels. From empirical examples illustrating what types of professional judgments staff members hold as central in their every-day advising practice, we also wish to discuss what challenges that seem to characterize centralised writing support in Sweden specifically.

How supervisors' responses facilitate MA-students' thesis writing

Presenting Author:Turi Marte Brandt Ånerud, Norwegian University of Science and Technology (NTNU), Norway

How supervisors' responses facilitate MA-students' thesis writingThis study aims to contribute with empirical knowledge about what happens in supervision on master theses and how students learn to write field specific through this activity. In this presentation I ask: In what ways does the supervisor respond to the MA- student's text drafts and oral contributions and how does this support the student's learning process?I define supervision as an extended communicative activity (Linell, 2009), with several means of interaction intertwined with each other: conversations, emails, text drafts and written feedback. Therefore, a wide range of data is collected over the last 6 months of supervision between two supervision pairs at a Norwegian teacher education, including video recordings of all meetings.The data is analyzed as a whole interaction (not separating talk from text), and a Bakhtinian (1986) view on utterances is used to study how the supervisor acts in conversations and in written feedback in response to the student's contributions in text drafts and conversations. This analysis reveals twelve different ways the supervisor responds, which I will discuss.Using a social perspective on learning (Lave & Wenger, 1991) I argue that the responses I have called cultural guiding, text instruction and backing are especially important to facilitate the socialization of the students into a new community, teaching them to write in a field specific way and encouraging them to contribute with knowledge in their field (Lea, 2016). Supervision is therefore argued to be a bridging activity, helping the students navigate from participating (i.e., write) as a student to participating more as a researcher.

Basic Writers and the Challenges of Writing from Sources: Self-Regulated Strategy Instruction

Presenting Author:Charles MacArthur, University of Delaware, United States; Presenting Author:Zoi Traga Philippakos, University of Tennessee-Knoxville, Greece

AimsIn the USA, half of beginning college students attend 2-year community colleges, and many are required to take basic writing courses. In the past decade, our research group has been developing and evaluating instructional approaches for basic writing based on strategy instruction with self-regulation. Our first two experimental studies (Author, 2015; in press) focused on writing without sources and found large effects on writing quality (ESs > 1.2), and motivation (self- efficacy, affect). For success in college, students need to read source materials critically and synthesize information to write their own critical essays. The purpose of the current study was to evaluate an extended curriculum that included strategies for writing using sources. Theoretical FrameworkWriting is a complex process that requires content knowledge, discourse and rhetorical knowledge, cognitive and metacognitive strategies, skills, and motivation. Research has demonstrated positive effects of strategy instruction with self-regulation on writing quality (Graham et al., 2016). The curriculum included strategies for critical reading and note-taking, writing summary-response papers, synthesis of source information, and planning and revising. Also, students learned metacognitive strategies for goal setting, task management, monitoring of progress, and reflection. Methods A randomized control trial was conducted at two community colleges with 23 instructors and 187 students assigned to treatment or a business-as-usual control for a full semester course. FindingsThe primary outcome was overall quality of an argumentative essay based on two source articles; a significant effect of treatment was found ($p < .01$; ES = .56). No significant effects were found on a standardized writing prompt or on motivation. Students also wrote a summary of a newspaper editorial; results will be available for the conference. RelevanceThe study extends research on strategy instruction in writing to college basic writers and goes beyond our prior work by addressing the challenges of writing with sources

Paper presentations: Intervention

What is writing? Scaffolding plurilingual students' learning through interaction and context.

Presenting Author:Kimberly Norrman, Uppsala University, Sweden

Scaffolding plurilingual students' learning through functional writing: student and teacher perspectives, Kimberly Norrman, Uppsala UniversityThe aim of the study is to create knowledge on how a functional writing approach allows for meaning making in interaction for plurilingual students during Swedish writing instruction. Functional writing here is understood as writing used as a means of learning and communicating (Hall, 2013). The research questions addressed in this study are: What type of issues and critical events are identified by teachers and students in learning and teaching plurilingual students during a functional writing intervention?How do these critical events lead to meaning making and writing development opportunities for plurilingual students, according to the teachers and students?Data includes student (pair) and teacher (pair or individual) interviews (approximately 15) and fourteen teacher reflection Zoom discussions. All interviews and discussions were semi-structured and audio-recorded. The first-grade teachers participated in a functional writing professional development intervention program which included eight functional writing lessons a year over two years, collaborative learning reflection discussions, and professional development sessions. The interview and discussion data were collected in conjunction with these lessons during year one of the intervention. Preliminary results emerging from the abductive thematic analysis of the interview transcripts show the functional writing approach allows for teachers to support plurilingual students' learning in a seamless and effective manner. Students report "liking" the different lessons and the teachers report increased student interest and

motivation. Teachers also report surprise at the quality of writing produced during the lessons.The preliminary conclusion is thus that the use of a functional writing approach is advantageous to plurilingual students' meaning-making and writing development through social interaction. Implications could be that functional writing can provide opportunities for scaffolding and the use of semiotic resources while also increasing plurilingual students' motivation. Further analyzation of student-produced texts to triangulate these claims is planned for a future study.

Conditions of effectiveness for an SRSD writing intervention. A preliminary moderation analysis

Presenting Author:Naymé Salas, Universitat Autònoma de Barcelona, Spain; Co-Author:Liliana Tolchinsky, University of Barcelona, Spain; Co- Author:Mariona Pascual, Universidade de Lisboa, Portugal

SRSD writing interventions have shown to be effective across a multitude of languages, population types, forms of administration, and grade levels (e.g., Graham et al. 2012, 2014; Graham & Harris, 2003; Graham & Perin, 2007). Although we know that not every child will have benefitted to the same extent from the intervention, little is known about under which conditions SRSD is most (or least) effective. In this preliminary study, we conducted secondary analyses on a data set from a successful SRSD writing intervention that taught 2nd and 4th grade children (N = 744) to plan opinion essays. Specifically, we aimed to understand whether children's pretest levels of handwriting fluency, spelling accuracy, and reading comprehension moderated their gains in planning quality, text productivity (no. of words), and overall text quality. In addition, we tested whether grade also had a moderating effect. We conducted moderation analyses for each of the purpoted moderators and outcome measures, focusing on the moderator * Group interaction; that is, whether there were different average gains at different levels of the moderator variable. Results showed that Grade moderated the intervention effect on gains only in number of words, such that children in 4th grade made larger gains than 2nd graders. Pretest levels of handwriting fluency did not moderate the impact of the intervention. However, better reading comprehension at pretest was associated with larger gains in text quality. Similarly, grade 2 children with better spelling skills at pretest benefitted from the intervention to a larger extent than poorer spellers. There was no indication that children did not benefit from the intervention at any pretest level of the moderator variables; that is, all children in the intervention group, regardless of their pretest scores in the moderator variables, outscored children in the controlgroup in all outcome measures; only differences in the extent of the benefit were appreciated. We will discuss the educational implications of the findings, as well as the advantages of conducting moderator analyses on intervention data.

The Power of Mindfulness-Based Programs to Promote Composing Quality in Primary School

Presenting Author:Sofia Magalhães, Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto (FPCEUP), Portugal; Co-Author:Ana Isabel Vieira, University of Porto, Portugal; Co-Author:Renata Rocha, University of Porto, Portugal; Co-Author:Carolina Cordeiro, University of Porto, Portugal; Co-Author:Inês Soeiro, University of Porto, Portugal; Co-Author:São Luís Castro, University of Porto, Portugal; Co-Author:Teresa Limpo, University of Porto, Portugal

As a psychological process, mindfulness refers to intentionally paying attention to internal or external experiences with a non-judgmental attitude. Although more and more research is showing the benefits of developing mindfulness in adults, little is known about its benefits in children and their school-related abilities. The twofold aim of this study was to examine the effects of a mindfulness-based program on dispositional mindfulness, children's behavior, writing performance,

and school achievement; and to evaluate the moderating role of lesson absences, intervention-related knowledge, and social validity. For that, 257 fourth graders were assigned to an experimental group receiving a mindfulness-based program (n = 130) or an active control group receiving a health-based program (n = 127). Both programs were implemented in the classroom for 8 weekly units, which included two 30-min sessions delivered by psychologists, followed by three 5- min sessions delivered by teachers. At pretest and posttest, we assessed children's self-reported mindfulness facets, teacher-rated behaviors of inattention and emotional lability, writing performance (viz., handwriting fluency, spelling accuracy, and composing quality), and academic achievement in Portuguese, Mathematics, and Social Studies. Linear mixed model controlling for pretest scores and the clustered nature of the data showed that, at posttest, the mindfulness group surpassed the control group in the mindfulness facets of internal awareness (b = .20), external awareness (b = .28) and decentering and nonreactivity (b = .38), as well as in composing quality (b = .45) and Mathematics grades (b = .20). Lesson absences, intervention-related knowledge, and social validity did not moderate the effects of the mindfulness-based program. These findings suggest that mindfulness practices may be a powerful complement to the primary school curriculum, which aims to development of students' abilities to write good texts. Further research is however needed to understand the mechanisms through which mindfulness practices lead to these writing-related benefits.

Paper presentations: Research methodology

On the development of new ways to study visuo-spatial working memory in writing research

Presenting Author:Christian Weinzierl, Leibniz University, Germany; Co-Author:Joachim Grabowski, Leibniz University, Germany

Research on working memory-related processes that underpin successful writing is frequently based on the dual-task paradigm. While adequate secondary tasks in that context exist for phonological working memory (e.g. articulatory suppression, presentation of irrelevant speech), it still poses a problem to define secondary visuo-spatial tasks. Here, appropriate tasks need to meet two conditions: (1) putting load on visuo-spatial working memory while (2) not interfering with central demands of the writing task itself (e.g., continuous processing of visual information regarding the text written so far, or control of the emerging writing trace). Based on research on the fractionation of visuo-spatial working memory into visual and spatial processing (Hecker & Mapperson, 1996), we present an experimental study that tested the effectiveness of two visuo-spatial secondary tasks that might be used in writing process research. In both tasks, irrelevant noise was presented in the participants' visual periphery on a computer screen. In the visual load condition, frames at the edges of the screen constantly changed between different colors („color flicker"), while in the spatial load condition the frame changed between black and white („black/white flicker"). 20 adult participants solved either a visual memory task or a spatial memory task while having to ignore the respective flicker noise. The effect pattern of the resulting 2×2-ANOVA showed an interaction ($\eta p2 = .14$) between primary and secondary tasks (dependent variable: percental deviation of correctly solved items relative to a control condition). Memory performance drops when both tasks are based on the same domain (i.e. visual/visual or spatial/spatial) compared to conditions where primary and secondary task involve different domains (i.e. spatial/visual or visual/spatial), indicating selective working memory loads. Besides general implications on working memory, our discussion will focus on the possibilites of applying this approach in cognitive writing research to identify and to separate the roles of spatial and visual processing. Moreover, possible extensions of the method such as using stroboscope-based visual noise or augmented reality headsets will be sketched.

Writing in vulnerable target groups: balancing generalizable measurements and participant burden

Presenting Author:Catherine Meulemans, University of Antwerp, Belgium; Co-Author:Sven De Maeyer, Antwerp University, Belgium; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands

Researchers often decide on the number and length of trials in an experiment without adhering to an empirical method or framework. Too little or too short trials compromise generalizability, whereas too many or too long trials unnecessarily increase participant burden. Especially in experiments with vulnerable target groups (e.g. participants with language disorders or cognitive impairment) it can be challenging to balance the generalizability of the collected measurements and the wellbeing of those who participate.Taking a sentence production task as an illustration, we want to show how generalizability theory can guide researchers in determining the length of a writing experiment. We obtained writing process data for 116 participants. Each of them completed a sentence production task that had 40 trials (i.e. sentences) of three different lengths (i.e. three, five, and eight words per sentence). The task was logged with the keystroke logging tool ScriptLog, and analyzed with the keystroke logging tool Inputlog and the R software.We conducted a generalizability study (G study) for each linguistic variable (e.g., pause times between and within all words, target nouns and target verbs) in which sentences and words were facets. The purpose was to determine the amount of variance in each variable that was caused by these facets. With the results of this G study we performed a decision study

(D study) for each linguistic variable to decide on the minimum number of sentences and (target) words that were necessary to generalize over trials.Based on the outcomes of the G and D studies we were able to decide on the ideal number of sentences (i.e. trials) and words per sentence (i.e. length of trials) in the illustrative sentence production task. Hence, results demonstrate that generalizability theory can serve as an empirical framework to ensure generalizable measurements on the one hand, and keep participant burden at a minimum on the other. This is particularly valuable for studies with vulnerable target groups, such as participants suffering from aphasia, dyslexia or Alzheimer's disease.

Student-level factors affecting rate of learning to write narratives in first grade

Presenting Author:Mark Torrance, Nottingham Trent University, United Kingdom; Co-Author:María Arrimada, University of León, Spain

A relatively large number of studies have demonstrated, as might be expected, that written composition performance - the quality of students' texts - correlates with their performance on a range of literacy-related measures. Writing, unlike speech, however, is a skill that develops in response to intervention: Children learn to write as a result of instruction. Arguably, therefore, understanding child-level predictors of rate of learning-to-write is more theoretically and practically valuable than establishing correlates of performance at a single timepoint.

The study that we report aimed to establish the effects of various literacy-related abilities, measured at school entry, on the learning trajectory of first-grade students as they are taught to write. 179 Spanish first-grade students (94 female, mean age 6.1 years) were assessed at start-of-school for spelling, transcription fluency, letter knowledge, phonological awareness, handwriting accuracy, word reading, and non-verbal reasoning. They were then taught under a curriculum that included researcher-designed instruction in handwriting, spelling, and ideation. Students’ composition

performance was probed at at least weekly intervals over their first 13 weeks at school providing a sample of, in total, 3512 texts. These were given holistic quality ratings.

Controlling for age, overall performance was predicted by spelling, transcription fluency, handwriting accuracy, word reading, and non-verbal reasoning. Most students showed rapid initial improvement, but then much slower learning. Weak spellers (and to a lesser extent less fluent hand-writers) showed weaker initial performance, but then steady improvement across the 13 week period.

Findings from this study (and from single-timepoint studies) will, to a large extent, be curriculum-dependent. Our present finding is consistent with first-grade teaching that focused largely on spelling and handwriting, resulting in slower development in composition performance for children who entered school with reasonable existing transcription skills.

Paper presentations: Instruction and feedback

Automating individualized, process-focused writing instruction: A design-based research study

Presenting Author:Evgeny Chukharev-Hudilainen, Iowa State University, United States; Co-Author:Emily Dux Speltz, Iowa State University, United States; Co-Author:Zoë DeKruif, Iowa State University, United States; Co-Author:Jennifer Godbersen, Iowa State University, United States; Co-Author:Jamie Smith, Iowa State University, United States

There is clear evidence that the quality of writing is dependent upon what processes are engaged, and when, during text composition. One major problem with current methods of writing instruction is that college students need writing-strategy advice that is tailored to their individual needs, considering each student's already-established writing processes. However, there is a major obstacle to providing this specific, individualized feedback that focuses on the writing process: writing instructors and the writers themselves do not have access to the moment-by-moment actions by which writing was produced. Therefore, the aim of the present study was to provide individualized, process-focused instruction to student writers by monitoring their moment-by-moment actions during the writing process through combined keystroke logging and eye-tracking. Utilizing a design-based research approach, this study iteratively developed and trialed a full prototype of a system that provides automated process-focused feedback to writers in the form of a "game plan." The prototype system drew on a minimalistic set of diagnostic rules consistent with providing plausible learning benefits. Specifically, multiple automated, process-focused interventions were developed. Development of the system focused on functionality and usability: extracting measures from the process data; providing a dashboard that presents this information in a form that is usable by the writing consultant and the student; developing mechanisms that allow dashboard information to drive replay-vignette selection; establishing a comprehensible and usable structure for game-plan specification; developing mechanisms for deriving scaffolding feedback from the game plan; and establishing optimal scaffolding-prompt frequency. In the first iteration, eight students used the system; they each composed an initial diagnostic text, a text with an automated intervention, and a follow-up text. Effects on student behavior were determined through direct analysis of biometric writing- process data before and after remediation and through changes in writing-process and written-product measures. Initial findings revealed that student behavior changed in line with the game plan. Data collection for subsequent iterations is ongoing, and our continuing analysis will reveal the extent to which the system's automated scaffolding disrupted process flow.

Concept and implementation of an evidence-based writing strategy training

Presenting Author:Seda Yilmaz Wörfel, University of Cologne, Mercator Institute for Literacy and Language Education, Germany; Co-Author:Nora Fröhlich, INSTITUT FÜR BILDUNGSANALYSEN BADEN-WÜRTTEMBERG, Germany; Co-Author:Simone Jambor-Fahlen, University of Cologne, Mercator Institute for Literacy and Language Education, Germany; Co-Author:Chantal Knips, University of Cologne, Mercator Institute for Literacy and Language Education, Germany

Writing strategies are mental tools that support students in writing texts (Becker-Mrotzek & Böttcher, 2015; Sturm & Weder, 2018). Unexperienced and/or young writers mostly do not know any writing strategies or they do not know how to use them. Meta-analyses show that writing strategy instruction is an effective approach to support text production (Philipp, 2016; Graham et al., 2012). Against this background, this paper presents the concept of a writing strategy training, which was developed in the framework of the government funded project “Die Textprofis” (The Textprofis) and the process evaluation of its implementation in secondary schools in Baden-Württemberg, Germany. First, we present the training concept. The training comprises the summarization of podcasts by fifth graders, as summarization has been proven to be a highly effective task for this age group (Philipp, 2015). The training concept is based on the Self-Regulated Strategy Development (SRSD) (Graham & Harris, 1996; Harris & Graham, 2017), where the participants receive direct instruction in a rule-governed approach to summarization by explicit modeling. In the second part, we discuss the preliminary results. Specifically, we look at how implementation and implementation fidelity can be countered in schools regarding the question to what extent does implementation depend on the complexity of the training concept. In the third part, the qualitative and quantitative analyses show which challenges or issues play a role in the transfer. Therefore, both teachers and students were interviewed about the quality and quantity of the transfer. Teachers answered questions regarding acceptance, feasibility, and effort-benefit assessment.

Furthermore, discussion and feedback rounds with the practitioners on each module provide additional insights into the implementation process.

Synthesis writing in pre-university classes: a synthesis between language and school subjects

Presenting Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands; Co-Author:Edith Alkema, RICDE / University of Amsterdam, Netherlands; Co- Author:Daphne van Weijen, University of Amsterdam, Netherlands

Source based writing is a demanding skill for secondary school students which needs to be actively taught. In the Netherlands, synthesis texts, based on sources, are written in both language and subject classes. Therefore, improving students' synthesis writing skills is a task for both language and domain-specific teachers. This study aimed to improve students' synthesis writing skills through a series of 7 lessons in Dutch 10th grade science orientation classes. A quasi- experiment with a pre-test-post-test design was carried out in science orientation classes in the experimental group (seven classes, n=129) and in L1-Dutch classes in the control group (four classes, n=86). Students wrote two syntheses, before and after the intervention, and completed learner reports after each lesson to indicate what they had learnt. The instructional design, based on earlier studies (Martinez et al., 2015; Mateos et al., 2018), included three main steps:

1) constructing a task definition, 2) creating a ‘question-based summary', and 3) observing the teacher selecting and integrating arguments, adding own knowledge, and writing a first synthesis paragraph. Text quality was rated by both language and subject teachers using a rubric with 5 main aspects.Results showed that students' writing performance improved significantly for multiple aspects and overall quality. Students' learner reports revealed that the key learning activities were

rather effective, despite the switch to livestream lessons halfway the experiment during the Covid-19 lockdown. Overall, the writing lessons in science orientation classes appeared to be effective in helping students improve their synthesis writing skills. This study's contribution to the writing research domain is the development of a general reading-writing model that can be adapted to the needs of all school subjects with minor modifications.

Paper presentations: Instruction

Enhancing genre knowledge through learning from (comparing) exemplars

Presenting Author:Tine Mombaers, University of Antwerp, Belgium; Co-Author:Roos Van Gasse, University of Antwerp, Belgium; Co-Author:Sven De Maeyer, Antwerp University, Belgium

Enhancing genre knowledge through learning from (comparing) exemplars Keywords: learning from comparing exemplars – genre knowledge – argumentative writing As writing is considered a tool for civic and democratic participation, argumentative writing is paramount. Nevertheless, previous research has shown that students struggle most with this type of writing (Prata et al., 2019).Preceding studies have shown that genre knowledge is related to high quality texts and the use of genre elements in persuasive texts (Olinghouse & Graham, 2009). Though its importance has been highlighted, there are no studies available on how to best enhance students' genre knowledge of argumentative texts. Previous research proclaims that learning from comparing exemplars can be a promising method to develop conceptual knowledge (Alfieri et al., 2013) in other domains (e.g., Physics and problem-solving). But does this also apply to learning how to write? In this study we will investigate whether learning from exemplars is an effective method to improve genre knowledge of argumentative texts and under which conditions (i.e., which types of comparisons). This study was conducted through an experimental design. Eleventh grade students were randomly assigned to three conditions and a control group. In the first condition, students compared analogue texts. In the second condition, students made 'near miss' comparisons, whereas in the third condition students compared contrastive texts. Students in the control group received single exemplars.

Participants had to complete a pre-test and post-test (before and after the intervention) about genre knowledge. They were asked in an open question to give advice to their friend which genre elements to include in an argumentative text. They also wrote an argumentative text that was assessed analytically (Stapleton & Wu, 2015) and holistically (comparative judgment) to score their writing level.

Mixed effects models will show whether learning from comparing exemplars is an effective method to enhance genre knowledge in argumentative texts and what type of students (writing level) benefit (more) from which comparisons. Upcoming study results will provide empirical insight in the effectiveness of learning from comparisons for genre knowledge. Moreover, this research can provide teachers with an effective method to enhance pupils' genre knowledge of argumentative texts.

Writing instruction practices in grades 7-8 of Chilean public schools: An observational study

Presenting Author:Magdalena Flores-Ferrés, Universidad Autónoma de Chile, Chile; Co-Author:Daphne van Weijen, University of Amsterdam, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Nowadays, people need to be able to communicate effectively through writing. Therefore, it becomes essential to collect evidence about how writing is being taught at schools. This study aimed to provide insight in how the intended Chilean curriculum for writing instruction is implemented in

practice in Grades 7-12. The specific goal was to describe the implementation of the domain-specific paradigms on which the curricular document is based. This study formed part of a larger project, composed by two parts. Part I provided a national overview of writing instruction in Chile, through a quantitative (survey) methodology (Flores- Ferrés et al., 2020; 2021). In the present study (Part II), we aimed to complement and enrich the information gathered by the survey study from a local perspective. We implemented a qualitative methodology – a narrative analysis of multiple cases – that would allow us to directly analyze teachers' practices in the classroom. Specifically, we conducted classroom observations to five teachers who had already responded to our questionnaire and represented varied orientations towards writing instruction.First, writing instruction in Chilean public classrooms appears to have clear macro-linguistic guidelines and a solid cultural basis, with different foci: writing-to-learn and writing for personal (and social) development. Writing lessons are commonly designed based on the linear decomposition of the writing process and prioritize micro-linguistic features. We did not observe authentic communicative writing. Second, coherent writing lessons that integrate various paradigms do exist in Chilean public classrooms. However, our findings suggest that most teachers pick elements from different paradigms without integrating them into a coherent whole. This study multiple case study complements the information gathered by the survey study, by validating and enriching the picture of writing instruction that the latter revealed. This study does so by describing how the Chilean intended curriculum is implemented into five different settings of writing instruction. This, in turn, can contribute to policy makers in Chile and to the international scientific body of knowledge regarding literacy and writing instruction.

Effects of modality (hand vs. typing) used in initial writing instruction

Presenting Author:Wenke Mork Rogne, Volda University College, Norway; Co-Author:Vibeke Rønneberg, University of Stavanger, Norway; Co-Author:Siv Måseidvåg Gamlem, Volda University College, Norway; Co-Author:Eivor Finset Spilling, Volda University College, Norway; Co-Author:Per Henning Uppstad, Norwegian Reading Center, Norway

Advances in new technologies and increasing access to personal tablets in school, provide valuable tools and opportunities for supporting beginning writers from Grade 1. However, research on how various conditions for learning and access to digital technology impact the students' writing skills, are currently lacking (Genlott & Grönlund, 2016; Spilling et al., 2021). In a longitudinal, natural experiment design, we aim to investigate how tablets and initial writing instructions influence students' (hand)writing skills from Grade 1(6 years) to Grade 2. The participants were 585 Norwegian students (50% females) from 33 schools representing three occurring conditions for learning writing skills in early years: The students either (1) learn to write on a tablet while postponing handwriting, (2) learn both handwriting and writing on a tablet or (3) learn to handwrite. 1148 digital and 1148 handwritten narrative texts are analysed for text length, spelling and handwriting legibility/letter shaping, in addition to holistic quality. These texts were collected at the start and the end of Grade 2. Currently, we are in the process of analysing the data, but effects on text quality measures will be assessed using Linear mixed effects models using the R lme4 package (Bates et al., 2013), and presented on the conference. This study, DigiHand, is founded by the Norwegian Research Council. The findings of this study will have implications for teachers and researchers working with early writing instruction.

Paper presentations: Writing difficulties

Orthographic knowledge and spelling in children with developmental language disorder

Presenting Author:Gareth Williams, Nottingham Trent University, United Kingdom; Co-Author:Rebecca Larkin, Nottingham Trent University, United Kingdom; Co-Author:Emily Whitaker, Nottingham Trent University, United Kingdom; Co-Author:Naomi Rose, Nottingham Trent University, United Kingdom; Co- Author:Suzannah Hemsley, Nottingham Trent University, United Kingdom; Co-Author:Clare Wood, Nottingham Trent University, United Kingdom

The research study investigated the relationship between English orthographic knowledge and spelling in children with Developmental Language Disorder (DLD) and typically developing (TD) children. Children with DLD often experience spelling difficulties (Williams et al., 2021).Children develop spelling skills in English in phases where they increasingly draw on orthographic knowledge (Ehri, 2017). Orthographic knowledge can be conceptualised as general, the spelling conventions of a written language, and specific, the spelling pattern of a word (Conrad et al., 2013).Children with DLD (N=57) and TD children (N=103) completed measures of general and specific orthographic knowledge. They were also asked to make spelling attempts to real words and pseudowords that were measured using a composite spelling scale (Bourassa & Treiman, 2003).Children with DLD had lower composite spelling scores and did not show significant associations between general or specific orthographic knowledge and spelling. TD children had significant associations for both general and specific orthographic knowledge for real words and general orthographic knowledge for pseudowords. The findings indicate that Children with DLD rely on working memory intensive processes that involve lexical retrieval. However, TD children are able to draw on more well-specified orthographic knowledge representations from long-term memory.The study is of relevance to the domain of writing as accurate spelling forms a foundation for effective writing.

Informative Paragraph Writing in Intermediate Students with Language-Based Learning Disabilities

Presenting Author:Anthony Koutsoftas, Seton Hall University, United States; Presenting Author:Cynthia Puranik, Georgia State University, United States;Co-Author:Alisa Hindin, Seton Hall University, United States

Informative paragraph writing allows students to showcase what they have learned about a topic (e.g., Hebert et al. 2018). Informative writing can be about familiar or academic topics; for the former the student relies primarily on their own knowledge whereas for the latter students rely on source materials. Informative paragraph writing has received less attention from researchers, especially for children with language-based learning disabilities (LLD). Children with LLD are those who present with spoken and/or written language deficits that have a negative impact on academic outcomes (Sun & Wallach, 2014). Research has demonstrated that children with LLD perform significantly more poorly than typically developing peers on a variety of writing tasks across measures at the word, sentence, and discourse level (e.g., Dockrell et al. 2007; Hall-Mills & Apel, 2012; Koutsoftas, 2016; Scott & Windsor, 2000). The first aim of this study is to describe informative writing in intermediate grade students with and without LLD. The second aim is to explore relationships among measures of informative writing and standardized measures of oral language, reading and writing. This study uses a cross-sectional comparative group design whereby students with LLD will be compared to typically developing peers from the same classroom on measures obtained from an informative writing task. The informative writing task, administered by classroom teachers, asks students to write an informative paragraph that teaches others about a topic recently learned in class. Writing samples were coded for word, sentence, and discourse level measures commonly used for written transcription analyses (e.g., Koutsoftas, 2016; Puranik et al. 2008). An additional holistic measure of writing quality was applied to writing samples. Students with LLD in the study completed standardized measures of oral language (Clinical Evaluation of Language Fundamentals, Fifth Edition; Wiig et al. 2013) and reading and writing from the Woodcock-Johnson

IV Tests of Achievement (Schrank et al. 2014). Measures from writing samples will be compared across groups and with some significant differences expected by level of language. Relationships among measures will be reported and discussed.

High-level writing skills and their contribution to text quality in students with and without LD

Presenting Author:Paula Lopez, University of León, Spain; Co-Author:Olga Arias-Gundín, University of León, Spain

Research on adult writers has shown that planning and revising processes play an important role in skilled writing. However, few studies have attempted to comprehensively explore the use that students with and without learning disabilities (LD) make of these processes and their contribution to text quality. The present study aims to analyze planning and revising skills in students with and without LD at the end of primary education (4th to 6th grade) in a comparative way as well as to examine whether these skills predict writing quality in those students. Forty-two upper-primary students with LD and 42 upper-primary students without LD participated in the study. The study was carried out in two days. In the first day, students were asked to plan and write a narrative story. In the second day, students were asked to locate, diagnose and correct a research-created text which include six mechanical and six substantive mistakes.

Students' planning skills was measures with a scale ranging from 1 (low) to 6 (high). Revision skills measures related with the location (i.e., locate the error in the text), diagnosis (i.e., correctly defined the error) and correction (i.e., propose a correction) of mechanical and substantive errors respectively. We also evaluated whether the correction was effective or not. Text quality was assessed through reader-based measures. Preliminary results have shown differences between students with and without LD. In general, upper-primary students show a minimal use of planning and revising skills, being even lower in students with LD. In these students, planning was almost non-existent. Regarding revision, students have several problems with the detection, diagnosis and correction of errors. The completed results will be presented in the conference. The study aimed to provide useful information on children's use of planning and revising skills, which may support the training of their writing skills according to their needs. *Note: this study is supported by the Spanish Ministry of Economy and Competitiveness grant (EDU2015-67484-P).

Symposium

Symposium :Key-stroke logging: methods of identification and analysis of the units of production

Chairperson: Thierry Olive, CNRS & Université de Poitiers, France

Organiser: Georgeta Cislaru, France

Discussant: David Galbraith, University of Southampton, United Kingdom

Keystroke logging (Lindgren & Sullivan, 2019) provides temporal and spatial data about the writing process. These data can be roughly split into two main categories: behavioral data (pauses, duration of writing bursts, etc.) and linguistic data (linguistic material produced in bursts, rewriting sequences, etc.) (Cislaru & Olive, 2018). Yet the identification of categories relevant for the analysis of the writing process is subject to multiple methodological discussions.

The aim of this symposium is to propose a methodological frame about pauses and identification of textual operations that can be adapted to various research issues on the writing process. We will focus on the following interrelated strands:

i) Pause duration and threshold are crucial in order to better understand the cognitive underpinnings of writing.

ii) The linguistic analysis of bursts of writing and their flow in text construction is an integral part of the study of writing.

iii) Temporal and spatial fluency and linearity/non-linearity of the writing flow offer some insights into the complexity of the writing process.

The symposium emanates from interdisciplinary research led by psycholinguists, linguists, natural language processing specialists and mathematicians. Part of the data put under discussion has been examined conjointly in order to confront and validate the concepts underlying our approach and methods.

Effects of cognitive demands of planning on bursts when writing with a pen or with a computer

Presenting Author:Thierry Olive, CNRS & Université de Poitiers, France; Co-Author:Sirine Bouriga, Université de Poitiers, France

Research on bursts of written language has shown that length of bursts increases with translating (e.g., Chenoweth & Hayes, 2003) and transcription skills (e.g., Alves, Castro & Olive, 2011). Kaufer, Hayes, and Flower (1986) conducted the first study that investigated bursts of production in English. They showed that adult writers typically compose by producing segments of text with an average length of 9 words. They also observed that more skilled writers produced longer bursts (in length and in number of words: four words more on average) than less skilled writers. To our knowledge, no study had investigated how planning demands may affect length of bursts. In this paper, we report an experiment that examined how cognitive demands of planning (familiar vs. unfamiliar topic of writing) affected bursts characteristics. In addition, undergraduate students composed two texts: one by handwriting and the other by typing. We also applied a procedure for deciding an individual pauses threshold that corresponded to the percentile of the 2-second pause in the distribution of pauses of all participants. As expected, typewriting resulted in a longer pre-writing pause, longer texts, bud did not affect fluency. Topic familiarity did not affect these variables and did not interact with the writing tool. Bursts were longer when composing with pen and paper, but this effect depended on type of burst (production, delayed revision, immediate revision): mainly revision bursts were affected by the writing tool. Topic familiarity did not influence charcateristics of bursts. The findings will be discussed in terms of writing processes that influence burst if writing.

Linguistic description of bursts of writing

Presenting Author:Georgeta Cislaru, Université Sorbonne nouvelle, France; Co-Author:Aleksandra Miletic Haddad, Université Sorbonne nouvelle, France;

Co-Author:Quentin Feltgen, Université Sorbonne nouvelle, France; Co-Author:Christophe Benzitoun, Université Lorraine (Nancy), France

The description of the bursts of written language is subject to discussion, and is still waiting for a methodological frame (cf. Cislaru & Olive, 2018). The bursts are segmented by pauses whose threshold may be fixed in advance (2 seconds in our case, Chenoweth & Hayes, 2001). This identification method segments data into bursts of varying length that are linguistically heterogeneous (see also Medimorec & Risko, 2017). Linguistic heterogeneity is however natural inasmuch as texts are composed using a great variety of linguistic forms. Thus, the question is not to fix a threshold able to generate more homogenous bursts, but to develop descriptive categories able

to grasp their levels of complexity and to offer cognitive linguistic explanations of i) the bursts' unity and of ii) pausing constraints.

In order to answer this question, we propose a detailed annotation of the bursts of writing. We first consider the nature and the function/dependency relation of all the elements of a burst. We then describe the frontiers of each burst and identify i) segmentation preferences according to the type of linguistic units and ii) regularities in bursts' interconnectiion both in case of linear concatenation and in case of revision.

What does graph-oriented data tell us about writing processes?

Presenting Author:Christophe Leblay, University of Turku, School of Languages and Translation studies, Finland; Co-Author:Gilles Caporossi, HEC Montreal, Canada; Co-Author:Hakim Usoof, University of Turku, Finland

Recording keyboard stroking helps understanding the writing process. However, the keylog is very hard to analyze for a researcher. Over the years, various statistics were made and various visualizations were proposed. For a long period of time, the so-called GIS representation was extensively used. If it was useful in most cases, its structure prevents it from being used in more detailed analysis. In 2011 (Caporossi & Leblay 2011), an alternative visualization was proposed based upon the concept of mathematical graphs. A graph is built of nodes (points) and edges (lines) eventually joining pairs of nodes. This structure is well suited for the analysis of relationships among objects.

Over the last decade, the graph model was extended and various paradigms were proposed. In the original form, each node represents a contiguous sequence of either insertion or deletion of text. A link between two nodes occurs as soon as some temporal or spatial link occurs. In a further version, nodes were eventually split in order to allow a deeper analysis (Usoof, Leblay & Caporossi 2020). Among others, this last version allows a clear visualization of the final text. However, it was still not possible to directly display the various successive versions of the text in time.

Two other visualizations were proposed recently to allow the evolution of the text to be constructed from the graph (Becotte et al. 2019). The evolution of the graph visualization with their qualities and drawbacks are presented in this talk.

WEDNESDAY 22 JUNE

Session 9

Paper presentations: Intervention

CriaTivo: an intervention to foster self-regulated learning in 4th grade students' narrative writing

Presenting Author:Maria Itália Temudo, Faculty of Psychology, University of Lisbon, Portugal; Co-Author:Ana Margarida Veiga Simão, Faculty of Psychology. University of Lisbon, Portugal; Co-Author:Anabela Malpique, Edith Cowan University, School of Education, Australia

Writing is a transversal skill to be developed throughout schooling. However, students' low proficiency in writing, portrayed in Portuguese government reports (IAVE, 2021), highlights the need to support the effective development of students' writing in schools today. Research on the use of self-regulated writing strategies confirms the effectiveness of the theoretical assumption that self-regulation is a major cornerstone of effective writing (Graham et al, 2018). This research will share findings from an intervention program – CriaTivo – designed to promote the explicit teaching of self-regulation strategies for narrative writing in 4th-grade classrooms. Participants included 9 elementary school teachers and their children (N = 150). The intervention was implemented by teachers that were engaged in professional training. Pre, post-test, follow-up, and process measures were used with students (i.e., SRL diary, motivational beliefs scale, individual reading test, and reflection exercises) to assess possible changes in their perceptions and practices to solve writing tasks. Pre, post-test, follow-up, and process measures were also used with teachers (i.e., writing practice questionnaire, reflective diary, focus groups, and reflection exercises) to identify possible changes in their perceptions and practices for teaching writing. Students' preliminary results will be presented, including changes on their conceptions of writing, on their writing performance, and on reading-writing relationships. Teachers' preliminary results will be presented showcasing change, transferability, and stability of self-regulated learning practices over time. Overall, this study contributes to the validation of an intervention that promotes school practices according to several dimensions of self-regulated learning (i.e., motivational, contextual, and metacognitive) and writing activities.

An interventional study on the implementation of digital writing tools in secondary schools

Co-Author:Zoé Dede, Mercator-Institute for Literacy and Language Education, University of Cologne, Germany; Co-Author:Till Woerfel, Mercator-Institute for Literacy and Language Education, University of Cologne, Germany; Co-Author:Viktoria Michels, Mercator Institute for Literacy and Language Education, Germany; Co-Author:Michael Becker-Mrotzek, Mercator-Institute for Literacy and Language Education, University of Cologne, Germany

The international assessment ICILS 2018 shows that word processors are the digital media most used in German classrooms. However, only little is known about the effectiveness of word processors on reading and writing texts in classrooms. So far, research shows that the usage of word processors only has an impact on writing quality when learners are provided with additional support, e.g., prompts (Graham & Harris, 2018). Furthermore, the speech synthesis function provides the potential for revising texts (Dahlström & Boström, 2017).In an ongoing non-randomized controlled interventional study, we aim to find out how students' digital texts are affected by word processor tools being part of a comprehensive learning environment. For this purpose, a control group (N=50) and two experimental groups (N=100) receive an evidence-based reading and writing strategy training (Harris & Graham, 2009), which includes prompts as an additional writing support. Both experimental groups receive a training in the use of the word processor and its internal media tools (spell check, synonym dictionary). One of the two experimental groups receives another training in the use of the speech synthesis function. After a four-week intervention all groups write both digital and analogue informational texts in a post- and follow-up writing task in order to determine the impact of the different conditions (pen and paper, tablet with tools, and tablet with tools and speech

synthesis) on the text quality (text length, spelling, structure, and content). The paper will present the first findings on the effectiveness of the intervention and discuss the educational participation of

Analyzing the Writing Processes in the Project Fair Debating and Discussing in Grade Nine

Presenting Author:Winnie-Karen Giera, Institut für Germanistik, University Potsdam (Germany), Germany; Co-Author:Lucas Deutzmann, Institut für Germanistik, University of Potsdam (Germany), Germany

One of the key objectives of inclusive didactics of writing is to enable students in lower secondary education to gain access to educational qualifications by teaching literacy skills and thereby achieve educational equity (OECD, 2013). Therefore, it is important to support all students, and especially the ones with weaknesses in writing, in order to enable them to participate in a professional, cultural, and political context through those competences.

The teaching and research project Fair Debating and Discussing is a twelve-week, controlled, quasi-experimental intervention study implemented in grade nine including several types of schools and 300 participants in total. The interventions comprise two series of lessons, debating (treatment D) and argumentative writing (treatment E). The research question is how the writing competence of the participating students develop in the course of the two treatments. In this context, the study investigates the mutual influence of debating competence on the one hand and writing competence on the other.

In the first stage (11/2021-04/2022) the project will be piloted, evaluated, and adapted. The innovative character of this study is, in addition to the inclusive teaching practice, the collection of reading and writing processes as a progression diagnosis using the digital survey platform Gorilla.sc. Reading and writing skills are assessed using reading and writing tasks from selected intermediate secondary school exams of the past ten years. All student texts are double-rated on Likert scale quantitatively. These results of the text quality, and the text length are compared between the four measurement points and the intervention and control groups.

Paper presentations: Instruction and feedback

Technology-mediated Dialogic Written Peer Feedback and Student Engagement: An Exploratory Case Study

Presenting Author:Suman Luhach, Bennett University, India

Recent research on second language writing has reported an increase in the use of technology to facilitate peer feedback mechanisms in composition classrooms and online classes have further aided this. A plethora of tools promoting student-centric, collaborative writing and learning culture are being adopted. The present study employs the ‘Peergrade’ tool, which provides a platform to submit and get written feedback from teachers and peers on writing assignments through genre-specific editable rubrics. Some previous research using this tool for peer feedback limit themselves to either reporting students’ perceptions (Sharma & Potey, M, 2018) to check the efficacy of the tool, to understand their perceptions about peer feedback with the use of learning analytics (Misiejuk et al, 2021), or to correlate their perceptions with their writing performances (Brenda, 2019). Students’ engagement through the analysis of the process of peer feedback has not been studied. The study explores the affective and cognitive aspects of student engagement in the dialogic written peer feedback.

Sixty first-year undergraduate students participated in the study by submitting the drafts of introductory paragraphs of argumentative essays. The data was collected in the form of transcripts of submissions and dialogic written peer feedbacks, and questionnaires. The results indicate that written feedback in technology-mediated learning environments can scaffold students' proficiency in the micro-genres of writing through the modalities of intensive reading and critical writing.

Evaluating an instructional program for cross-genre improvement of text quality

Presenting Author:Joachim Grabowski, Leibniz University, Germany; Co-Author:Michael Becker-Mrotzek, Universität zu Köln/ University of Cologne, Germany

When studying general cross-genre ability components that contribute to writing competence, perspective taking (the ability to take a partner's mental, spatial, and emotional perspective) and coherence management (the ability to establish coherence in reading and writing) appear to be particulary relevant; both were shown to substantially predict writing quality in German 5th and 9th graders. However, a respective intervention based on comprehensive self-learning materials did not yield the expected improvements. Therefore, we prepared a detailed teaching concept, comprising student booklets, instruction manuals for teachers, memory cards, slides, and model solutions for 8 one-hour units. The teaching units were framed by age-based cover stories, namely a journey to a fictitious writing-addicted land (5th grade), or an internship in an advertizing agency (9th grade). Eight classes, with a total of N = 186 students, participated in a quasi- experimental pre-post control group design (2 grades × intervention/control group × 2 different schools). The teaching program was applied by the regular German teachers. Students were tested for their general cognitive and linguistic abilites (pre), took tests on perspective taking and coherence management (pre and post), and wrote a reporting and an argumentative text (pre and post). Mainly, while 9th-graders expectedly received better text quality ratings than 5th- graders, intervention group students' quality of the reporting text improved more from the pre to the post measurement than the control group ($F(1,182) = 8.05$; p

The Effect of Corrective feedback in L1 Writing

Presenting Author:Janneke van der Loo, Tilburg University, Netherlands; Co-Author:Manouk Verbiesen, Tilburg University, Netherlands

Several studies have investigated the effectiveness of corrective feedback on students' revision and writing proficiency (Van Beuningen et al., 2012; Bitchener & Knoch, 2015), with mixed results. However, these studies mostly focused on L2 learners: the effect of corrective feedback on L1 learners has been relatively understudied. In our study, we aimed to gain insight into the effects of corrective feedback (direct, indirect, no feedback) on writing revision (short term), writing performance (longer term), and motivation of secondary school students with Dutch as L1. We conducted an experiment in which 99 students from higher general secondary education (M_{age} = 15.7 years) participated. In the first session, the students filled out a questionnaire on writing self-efficacy and motivation, and they performed a writing task (a formal e-mail). Depending on the condition, students then received direct corrective feedback (N = 34), indirect corrective feedback (N =32), or no feedback (N = 33). One week later, the students in the corrective feedback conditions revised their e-mails based on the feedback. Four weeks later, in the third session, the students again filled out the self-efficacy and motivation questionnaire and they wrote another formal e-mail. The students' texts were scored after each session for text quality (number of errors per 100 words). The results of this study showed that unfocused, corrective feedback in L1 learning works: students in both corrective feedback conditions wrote higher quality texts in the third session than students

who had not received feedback. Regarding the revision that students performed in the second session, direct corrective feedback led to more and better revision than indirect corrective feedback, but as mentioned this difference disappeared in the third session. In addition, motivation in the corrective feedback conditions was maintained, while there was a significant drop in motivation for students who did not receive feedback. During the presentation, implications for educational

Paper presentations: Creative writing

Jumping through hoops: Non-linearity of long-term writing processes

Presenting Author:Floor Buschenhenke, Huygens ING (KNAW), Netherlands; Co-Author:Luuk Van Waes, University of Antwerp, Belgium; Co-Author:Rianne Conijn, Eindhoven University of technology, Netherlands; Co-Author:Dirk Van Hulle, University of Antwerp & Oxford University, Belgium; Co-Author:Karina van Dalen-Oskam, Huygens ING (KNAW) & University of Amsterdam, Netherlands; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands

How do literary writers organize their writing process while composing stories over multiple writing sessions? Building on the framework of studies that relate to smaller and shorter processes, this paper reports on a case study addressing long-term writing processes with a special focus on non-linearity. The corpus consists of the processes of 11 literary writers creating short stories, spanning 240 hours, logged with Inputlog (Leijten & Van Waes, 2013).

The standard distinction in revision analysis between the leading edge and non-linear insertions is difficult to implement (Baaijen, Galbraith, & De Glopper, 2012). Moreover, in the context of long-term writing processes it is extra complicated, both technically and conceptually (e.g., if an author alternates working on several chapters within the same document, can we really say there is only one leading edge?).

Therefore, we propose a quantitative approach to non-linearity, using cursor 'jumps' as a basis (Perrin & Wildi, 2008; Kollberg & Severinson Ekhlund, 2002). From these jumps, a number of variables are calculated such as their duration, size in characters, and location in the document. Using this new approach, a non-hierarchical clustering is performed to characterise the writing sessions.

These multi-session writing processes consist of different writing cycles; episodes with varying dominance of subprocesses. In our presentation, we will demonstrate that we can use non-linearity measures to identify, locate and (comparatively) characterize these phases.

Visualizations to study long-term writing processes of literary authors

Presenting Author:Lamyk Bekius, Huygens ING (KNAW) & University of Antwerp, Netherlands; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands; Co-Author:Luuk Van Waes, University of Antwerp, Belgium; Co-Author:Dirk Van Hulle, University of Antwerp, Belgium; Co-Author:Karina Van Dalen-Oskam, Huygens ING (KNAW), Netherlands

Aim: In the project ‘Track Changes: Textual Scholarship and the challenge of digital literary writing’, we use the keystroke logging tool Inputlog to collect data about writing processes of literary authors (Leijten & Van Waes 2013). The aim of this study is to describe the visualizations of the text production and revisions suited for genetic criticism – research into the creative process underlying the writing of literary texts.Theory: Keystroke logging provides fine-grained data for the study of writing. The raw data contains the temporal dimension of the operations, which makes it difficult to locate the point in the text where the revisions were made and to interpret them (Bécotte-Boutin et

al. 2019; Kollberg & Severinson Eklundh 2001). The S-notation enables for the annotation of revisions within their context. However, it was initially developed to annotate revisions of short writing processes in experimental settings. As such the S-notation is not suitable for the study of long-term (literary) writing processes, logged in their natural setting. In this study we opted to manually annotate text production and revisions in TEI-XML and to transform these into visualizations in HTML.Method: Within the Digital Humanities and Textual scholarship, TEI-XML is widely used to create a digital form of humanities data (Burnard 2014). The encoding scheme defined by TEI (Text Encoding Initiative) is an application of XML. Textual units are described using elements and further specified using attributes. The encoding and annotation are conducted on the writing processes of 4 short stories and of parts of a literary novel. The revision taxonomy developed by Lindgren and Sullivan (2006) functions as basis for the classification of the revisions.Conclusions: TEI-XML allows for customisation to suit the needs of specific projects. This flexibility allows for the integration of revision taxonomies (Stevenson et al., 2006; Wengelin, 2007). The visualizations offer a profound foundation for genetic criticism to study the author's movements through the text.Relevance: For cognitive writing process research it presents a new, flexible, method for annotating and analysing revisions within their context. For genetic criticism it offers the possibility to expand the research to include keystroke logging data.

The poetic writing process: A case study of text composing by professional poets

Presenting Author:Victoria Johansson, Lund University, Sweden

This paper aims to explore the creative writing process of poems. The over-arching research question is how the poets engage in planning and revision activities during the poetic writing, and how these processes relate to the linguistic content and literate properties of the final poems Expert writing has been characterized as domain specific skill that involves complicated problem-solving processes (Scardamalia & Bereiter, 1991). Expert writers are also described as advanced designers (Maun & Myhill, 2005), and knowledge crafters with abilities to adapt their texts to the audience with less cognitive effort (Kellogg, 2018). The professional creative writing process is however little explored from a cognitive writing perspective (but see Bekius, 2019). This study wanted to capture the full writing process of a poem. For this purpose two professional poets were recruited. The data collection took part in a lab setting, where the writing processes were collected by keystroke logging, combined with eye-tracking. Each poem was elicited by a prompt at the start of the 60-minute recording session. Both poets were satisfied with their poems. The final poems were analyzed linguistically and found to be lexically dense and diverse, with a high usage of low frequent words, sometimes neologisms, and very few conjunctions. The literary analyses show how the final poems are constituted of multi-layered nets, constructed through metaphorical and metonymical connections. The analyses of the writing processes show two dynamic, though different writers. While both spend much of their writing time pausing and revising on a global level, one of them shows a writing pattern consisting of long pauses followed by bursts of text production, the other shows a text production pattern with many immediate revisions, and shorter pauses. The amount of reading differs between the poets, but an extensive global reading of the text is suggested to be a prerequisite for the creation of the dense, metaphorical texts in the poetic genre. In sum, this combination of theoretical and methodological perspectives shows the writing process of two mature, conscious writers who has a global plan for their texts, and who have the domain specific skills to execute the plan.

Paper presentations: Spelling

Root letter spelling in Hebrew: a production study across the school years

Presenting Author:Dorit Ravid, Tel Aviv University, Israel; Co-Author:Rachel Schiff, Bar Ilan University, Israel

A main challenge for language users is forging reliable relationships between words with shared components so that morphology as a system emerges from usage. The current paper investigates the acquisition of Hebrew root spelling across the school years, looking for the cognitive and psycholinguistic factors that govern this process. A major spelling in Hebrew challenge is the existence of homophonous letters, where each phoneme may be spelled in at least two different ways. Previous studies of Hebrew spelling showed that the spelling of homophonous root letters lags behind that of function letter spelling due to the smaller type frequency, higher token frequency and less complex morpho-orthographic relationships involved in spelling function letters (Gillis & Ravid, 2006; Ravid, 2001). The current study examined Hebrew root letter spelling in a dictation task. Participants were 337 native Hebrew speaking elementary and high school students aged 7-18 years in 11 consecutive grade levels from 2nd through 12th grade. All participants were of mid-high SES and with no developmental, learning or language disorders. Each of the five consonantal homophones was represented in the three root positions (initial, medial, final) in altogether 88 words with different verbal and nominal patterns. They had to spell the target words that they heard within sentences.Results indicated that most learning of homophonous root letters took place across elementary school. As hypothesized, morpho-phonological factors assisted in learning correct root letter spelling, mediated by letter frequency, root radical position and participants' age and schooling. The study points at the importance of morpho-lexical knowledge in learning homophonous root spelling. Age and schooling are crucial in gaining deep and detailed familiarity not only with roots and their components, but also with the nominal and verbal patterns into which roots are embedded.References Gillis, S. & Ravid, D. (2006). Typological effects on spelling development: a crosslinguistic study of Hebrew and Dutch. Journal of Child Language, 33, 621-659. Ravid, D. (2001). Learning to spell in Hebrew: Phonological and morphological factors. Reading and Writing, 14, 459-485.

The process-disruption hypothesis: Is this how spelling and handwriting ability affect text quality?

Presenting Author:Mark Torrance, Nottingham Trent University, United Kingdom; Presenting Author:Vibeke Rønneberg, University of Stavanger, Norway

Lack of transcription (spelling and handwriting) ability obviously negatively affects the spelling accuracy and neatness of children's texts. It is generally accepted within the writing research literature, although not consistently demonstrated, that lack of transcription skill also disrupts writing processes and that this in turn negatively affects text content and structure: Struggling to retrieve a spelling, for example, may result in a child forgetting what it is that they had intended to say. The theory, therefore, is that transcription ability affects transcription fluency, and that in turn transcription fluency affects text quality. Our research aimed to provide a relatively direct test of this claim.

101 children (mean age 11 years 10 months) writing in a relatively shallow orthography (Norwegian) produced argumentative essays by keyboard using a simple text editor that provided accurate timing for each keystroke. Production fluency was assessed in terms of both within-word and word-initial inter-key intervals and pause counts. We assessed the substantive quality of completed texts. Students also performed separate tasks in which we recorded time to press keyboard keys in response to spoken letter names (a keyboard knowledge measure), response time and interkey intervals when spelling single, spoken words (spelling fluency), and interkey intervals when typing a simple sentence from memory (transcription fluency).

Analysis (by piecewise structural equation modelling) gave clear evidence that all three of these measures predict fluency when composing full text. There was much less evidence of a relationship between production fluency and text quality. Students with longer mid-word interkey intervals when composing full text tended to produce texts with slightly weaker theme development. However, we found no other effects of composition fluency measures on various other measures of text quality. Our findings did not, therefore, provide support for the process-disruption hypothesis, at least in the context of upper-primary students writing in a shallow orthography.

French L2 plural acquisition according to spelling proficiency levels in primary school

Presenting Author:Lisa Klasen, Institute for Research on Multilingualism, University of Luxembourg, Luxembourg; Co-Author:Sonja Ugen, University of Luxembourg, Austria; Co-Author:Michel Fayol, Université Clermont Auvergne, France; Co-Author:Constanze Weth, Institute for Research on Multilingualism, University of Luxembourg, Luxembourg

Differentiating grammar teaching while taking individual learning trajectories into account proved to be extremely relevant during the pandemic.Spelling syntactic markers is challenging, especially when they are inaudible, like the French regular plural markers and . Many studies show that learners mark plural early on nouns but have difficulties marking plural correctly on adjectives and verbs even at advanced acquisition stages. Several factors influence plural spelling: semantics, frequency of word categories and plural markers in the learners' input, position of the word in relation to the determiner, and task complexity.The present talk looks at individual learning trajectories in French plural spelling after one year of formal French L2 instruction. More specifically, we focused on proficient (N=283) and non-proficient (N=234) noun plural spellers. Noun plural is acquired from an early acquisition stage on and seems to be the precondition to acquire verb and adjective plural. We tested four literature-based assumptions: (1) learners acquire verb plural before adjective plural, (2) the position of the adjective influences plural spelling, (3) only highly proficient plural spellers use morphosyntactic procedures independent of semantics, (4) non-proficient plural spellers recognise noun plural. Measures included plural spelling production and recognition.The results confirm our assumptions. L2 learners follow the typical difficulty pattern of plural spelling acquisition: proficient plural spellers acquire noun plural first, followed by verb plural and lastly by adjective plural. Non-proficient plural spellers do not mark plural on any word category accurately but can recognise noun plural.The differences between the performance groups implicate that spelling instruction could be improved by considering the heterogeneity of the pupils and the different acquisition stages they undergo. A training fostering the use of morphosyntactic regularities, including detection exercises could be beneficial for learners in all acquisition stages. As an outlook, we will present a video training, based on the difficulty patterns and learning trajectories. The training was tested with 200 fourth graders during the pandemic and showed positive training effects.

Paper presentations: Cognitive processes

The impact of depth and breadth of vocabulary knowledge on writing fluency and text production

Presenting Author:Markus Linnemann, University of Koblenz-Landau, Germany; Presenting Author:Sabine Stephany, University of Cologne, Germany

A closer look at the writing process reveals that the retrieval of words is closely linked to writing fluency and text production. Writing fluency consists of the translation of propositions into language (text generating fluency) and the fast recall and transcription of letters, words, and phrases (transcription fluency) (McCutchen 2011, Stephany et al. 2020). Both processes are highly reliable on vocabulary resources. It can therefore be hypothesized, that writing fluency and text production

substantially correlate with word knowledge.In a first study, a sample of 129 4th, 6th, and 9th graders administered the Peabody Picture

Vocabulary Test PPVT (Dunn & Dunn 2015) in German and tasks to measure writing fluency and text quality. The single correlation of word knowledge with writing fluency (rtranscription fluency=.49; rtext generating fluency=.29) and text quality (r=.43) was sufficient, but within a context of an extensive SEM vocabulary contributed little to writing fluency and text production. This might be due to a lack of differentiated vocabulary measurement. To write a meaningful and audience-oriented text, the writer must have not only broad word knowledge but also a deep understanding, being able to define and explain what a specific word means to use it in a text. In an in-depth analysis, we therefore took a closer look on depth and breadth of vocabulary (Oakhill et al. 2015) used in written descriptions of a zoo that were administered to assess text quality. We examined whether there are infrequent rather than recurrent words by comparing the frequency of the written words to the frequency described by 'childLex', an online database based on a corpus of German children's books (Schroeder et al., 2015). We assumed that students using highly infrequent words to describe their ideas about a fancy zoo possess a deep vocabulary. Results of a sub-sample show that deep vocabulary correlates higher with both aspects of writing fluency than the PPVT (rtf=.69; rtgf=.32). The analysis of the total sample, and the calculation of the SEM are still in progress. In the talk, we will give insights into the theoretical assumptions for the re-analysis and present the final results.

Unravelling discovery through writing by the analysis of titles

Presenting Author:Veerle Baaijen, Center for Language and Cognition Groningen, Netherlands; Co-Author:David Galbraith, University of Southampton, United Kingdom

Writing is not just a matter of transcribing preconceived ideas into a linguistic form but it is an active, goal-directed process leading to the development of the writers understanding (Bereiter, Burtis & Scardamalia, 1988). For effective writing, writers need to tailor the content that they want to express toward the needs of the reader. The title in a written text has a key function in this context as the title often represents the main point in an article and hence, could be seen as an indicator of the state of the writer's understanding of the topic. In this paper, we aim to unravel discovery through writing by looking at title productions. The data we report about consists of 83 articles for the university newspaper about a current affairs topic written by university students in two planning conditions (outline versus synthetic planning). In these articles we explore how titles are produced and how titles are related to the development of understanding of the writers.

When writing the articles, the writers produced a list of ideas both before and after writing and indicated whether they developed their understanding through writing. During writing their keystrokes were logged. We used an inductive content analysis approach to identify distinctive features of the title production. Our preliminary result show that we can distinguish between three different types of titles: definitive titles, working titles and draft titles. Moreover, we examined when titles are introduced and whether they were revised. We distinguishing between local and global revisions, and examined what type of revision it concerned.

Preliminary results indicate that for titles that emerge during text production, two different patterns of title production can been identified: titles either emerged as part of a revision round or acutely. We will present how these patterns of title production are related to development of understanding and text quality. Reference Bereiter, C., Burtis, P.J., & M. Scardamalia (1988). Cognitive operations in constructing main points in written compositionJ. ournal of Memory and Language, 27(3), 261-278.

Effects of outline-planning and rough-draft planning strategies on discovery through writing

Presenting Author:David Galbraith, University of Southampton, United Kingdom; Co-Author:Sophie Hall, University of Southampton, United Kingdom; Co- Author:Veerle Baaijen, Center for Language and Cognition Groningen, Netherlands

Effects of outline-planning and rough-draft planning strategies on discovery through writing The consensus amongst most writing researchers is that what sets expert writers apart from others is that they develop their understanding as a consequence of writing about a topic (e.g. Bereiter & Scardamalia, 1987; Galbraith & Baaijen, 2018). Yet, very little research has explicitly investigated subjective knowledge development as a writing outcome. The present research examines whether two different writing strategies - varying in the extent to which they promote explicit organisation or spontaneous text production - result in differences in the extent to which university students develop their subjective understanding after writing about a current affairs topic. 62 UK university students were randomly assigned to either an outline or synthetic writing condition. In the outline condition, participants had 5 minutes to create a hierarchically organised plan and 30 minutes to write a well-formed essay about a given topic. In the synthetic condition, participants had 5 minutes to write a single sentence summing up their main ideas around a given topic, followed by 30 minutes to write a rough draft essay. Participants rated their subjective knowledge about the writing topic immediately before and after writing using a newly developed subjective knowledge scale, consisting of 8 items representing an understanding and an organisation component. Data collection has just been completed. Based on the assumptions of the dual-process model of writing (Galbraith and Baaijen, 2018), it is expected that writers in the synthetically-planned condition will develop subjective understanding more after writing than those in the outline-planned condition. By contrast, writers in the outline-planned condition will develop subjective organisation more after writing than those in the synthetically-planned condition. The findings from this study will indicate whether writers can use different planning techniques to develop different components of their subjective knowledge and will further test the reliability and validity of the new subjective knowledge scale.

Paper presentations: Assessment

Explainable artificial intelligence in automated writing evaluation systems

Presenting Author:Rianne Conijn, Eindhoven University of Technology, Netherlands; Co-Author:Chris Snijders, Eindhoven University of Technology, Netherlands

Background & Relevance: Artificial intelligence (AI) is increasingly used in automated essay scoring and automated writing evaluation systems. Given the increased complexity of these AI algorithms, it is difficult to understand their inner workings, especially considering how these algorithms assess complex (and critical) constructs such as coherence, critical thinking, and creativity. However, it is important for students to understand the algorithm's advice to assess its accuracy and to be able to adopt it in the most effective way. Recently, explainable AI has been introduced as a solution to transparently explain AI algorithms. Explainable AI has shown to positively influence the users' trust and understanding of the system in a variety of domains. However, evidence for the use and effects of explainable AI in education is limited (for one exception, see: Conati et al., 2021).Aim: This study aims to identify the effects of the use of explainable AI in automated essay scoring on students' trust in and understanding of these systems.Method: Two experimental studies were run. In the first study, 147 higher education students were asked to read and grade two given argumentative essays, after which they received an automated essay score with or without the explanations (depending on

their condition). Objective trust was measured as the change in the initial grade, and subjective trust and understanding, as well as personality characteristics (need for cognition, trust in automation) were measured via a survey. The second study (ongoing) followed a similar setup, but with improved explanations. In addition, students were asked to write the argumentative essay themselves, to increase the 'stakes' of the automated essay scoring system.Results & Conclusion (preliminary): The first study did not find and effect of explanations on students' subjective and objective trust in and understanding of the automated essay scoring system. Insights in reasons why the explanations did not work, as well as recommendations for the content and form of the explanations will be presented.

The PERSUADE corpus

Presenting Author:Scott Crossley, Georgia State University, United States; Co-Author:Yu Tian, Georgia State University, United States; Co-Author:Perpetual Baffour, The Learning Agency, United States; Co-Author:Meg Benner, The Learning Agency, United States; Co-Author:Ulrich Boser, The Learning Agency, United States; Co-Author:Aigner Picou, The Learning Agency, United States

This presentation introduces the Persuasive Essays for Rating, Selecting, and Understanding Argumentative and Discourse Elements (PERSUADE) corpus. The PERSUADE corpus is an open-source corpus comprising over 25,000 essays annotated for argumentative and discourse elements (e.g., lead, claim, evidence), relationships between these elements, and the perceived quality of these elements. In addition, the PERSUADE corpus includes holistic scores of essay quality as well as detailed demographic information of its population of writers. The PERSUADE corpus comprises two sub-corpora consisting of source- based essays (n=13,200) and independent essays (n=13,200) written by U.S. middle and high school students in grades 6-12 on 15 writing prompts. The corpus is limited to essays with a minimum of 150 words. All essays in the PERSUADE corpus are linked to information on the student's gender and race/ethnicity. A subset of the corpus (n=20,932) also contains data on student eligibility for federal assistance programs, which we broadly define as economic disadvantage. A large sub-sample of the essays in the corpus also includes information on English Language Learner status (n=25,105) and disability status (n=25,147). Each essay in the PERSUADE corpus was human annotated for argumentative and discourse elements (e.g., lead, position, claim, counterclaim) as well as relationships between argumentative elements. Additionally, all essays were scored holistically. The purpose of the corpus is to serve as a benchmark dataset for discourse writing analytics from which to develop more robust algorithms to measure argumentative and discourse markers in writing along with their relationships to one another and their quality. The corpus should spur innovation in the development of AWE systems which will have long reaching effects on student writing development and proficiency. The corpus should also serve many ancillary functions within the writing community including, but not limited to, the development of algorithms to holistically score both independent and source-based writing samples, the development and testing of non-biased machine learning algorithms, the examination of links between the incidence of argumentative and discourse elements and their relationships to holistic assessments of writing quality, and the development of algorithms to predict the quality of discourse and argumentative elements in student writing.

The role of low-stakes writing activities in developing academic literacy in teacher education

Presenting Author:Ingunn Ofte, Norwegian University of Science and Technology (NTNU), Norway; Co-Author:Kristin Solli, Oslo Metropolitan University, Norway

Across disciplines in higher education, the written mode continues to play a dominant part in students' academic experience (Tuck, 2018, p. 3), and mastering academic writing constitutes as a major key to academic success (Lillis, 2001). However, writing in higher education involves much more than simply communicating acquired knowledge; it is also an important tool for thinking, learning and creating knowledge within disciplines as well as in professional fields of practice, such as teacher education. In this presentation, we report on a study in which we explore the role of low-stakes, in-class writing activities in the context of developing students' academic literacies in teacher education. The study is grounded within a sociocultural perspective which understands writing and writing instruction as social activities, always situated as parts of broader social practices (Barton, 2007). We analyze 15 low-stakes in-class writing activities, drawing on Ivanič (2004) discourses of writing and writing instruction in our analysis. We ask the following questions: · What aspects of writing characterizes low-stakes, in-class writing activities in teacher education? · What can these aspects tell us about the roles of such writing activities in developing academic literacies in teacher education? The preliminary analysis indicates that the role of low-stakes writing activities is to 1) promote academic competencies relevant for writing in higher education, 2) promote professional teacher competence, such as their pedagogical content knowledge, and 3) promote student learning, such as writing to access and articulate thoughts and ideas. By exploring these types of writing activities, this study may contribute with more knowledge about the role of such activities in the context of developing academic literacies, and a more nuanced picture of what writing instruction in teacher education may be.

Session 10

Paper presentations: Writing process (KSL)

Execution Processes: 50+

Presenting Author:Esther Odilia Breuer, Universität zu Köln/ University of Cologne, Germany

Writing is a process that activates thinking and helps people to memorise information. It is, therefore, a process that might be used effectively for supporting people in training their memory. However, for doing this, it is also important to be able to execute the writing processes fluently. Since humans lose their motoric abilities when getting older, it might be that the execution competencies diminish at later stages, especially when not needed as exceedingly as for example in the professional life. It would then need training to keep them as good as possible. In order to analyse whether this proposition is true, a study was set up in which 324 people of the age group 50+ was asked to perform a copy task in their L1 German. The material was presented to them in a special setting of InputLog, which was created for generating copytask studies. The phrases consisted of words which were different in terms of bigram frequency, in order to see whether more frequent bigrams were executed faster and with less errors, or whether this would change over age. The participants were also asked to copy senseless consonant strings as well as non-words which, if you moved two letters, would become sensible words. The latter was done in order to see whether whole-word reading and/or writing would take place, or whether writing mistakes would be related to writing words instead of non-words.The analysis shows that there are indeed differences between the age-groups, and that the execution abilities deteriorate with age. However, although the general motoric execution decelerates gradually and significantly, the correctness of the execution deteriorates only at a later step. This might be the effect of weaknesses in hand-eye coordination at a later age but it might also be the effect of less training due to changes in everyday life.

Within-writer behavioral stability across writing tasks: An eye-tracking and keystroke-logging study

Presenting Author:Emily Dux Speltz, Iowa State University, United States; Co-Author:Jens Roeser, Nottingham Trent University, United Kingdom; Co- Author:Mark Torrance, Nottingham Trent University, United Kingdom; Co-Author:Evgeny Chukharev-Hudilainen, Iowa State University, United States

Writing interventions implicitly assume that behavioral processes engaged in text production are consistent across writing tasks. There is some work on the consistency of measures relating to planning and drafting text (e.g., Torrance et al., 2000). However, to our knowledge, no previous studies have investigated the consistency of writers' moment-by-moment actions during the writing process including pausing behavior, revision, and reading of the already-produced and unfolding text. This is important because writing researchers typically rely on only one diagnostic session to decide an appropriate behavioral intervention; if measures of writing behavior do not show across-task consistency, intervention studies that rely on a single diagnostic session would require reconsideration. The present study provides robust evidence as to whether a writer's behavior, identified through analysis of keystroke transitions and eye movements, is stable across multiple writing tasks.

Our sample will consist of 30 native English-speaking undergraduates, each composing three texts in response to comparable prompts, over three sessions separated by around 1 week. Texts are composed in an online text editor with keystrokes and eye fixations recorded with GazePoint GP3s (0.5–1 degree visual angle; 60 Hz sampling rate) in a time-stamped log. Behavioral consistency across tasks will be examined in terms of (1) inter-key intervals at linguistically significant locations within the text (2) when and how much the writer revises, and (3) the extent to which the writer glances back at or reads the text that they have already written. Data will be analysed with multivariate Bayesian mixed effects models. If writing processes are indeed behaviorally consistent, we would expect to observe strong positive correlations between writer behavior at each of the three test occasions. Data collection and analysis is not yet complete but will be so in time for our presentation at the conference.

Modelling typing disfluencies as finite mixture process

Presenting Author:Jens Roeser, Nottingham Trent University, United Kingdom; Co-Author:Sven De Maeyer, Antwerp University, Belgium; Co-Author:Mariëlle Leijten, Universiteit Antwerpen, Netherlands; Co-Author:Luuk Van Waes, University of Antwerp, Belgium

To write anything on a keyboard at all requires us to know first what to type, then to activate motor programmes for finger movements, and execute these. An interruption in the information flow at any of these stages leads to disfluencies between the current and pressing the next keystroke. To capture this combination of fluent typing and typing hesitations, researchers typically calculate different measures from keystroke-latency data—such as mean inter-keystroke interval and pause frequencies. There are two fundamental problems with this: first, summary statistics ignore important information in the data and frequently result in biased estimates; second, pauses and pause-related measures are defined using threshold values which are, in principle, arbitrary. We implemented a series of Bayesian models that aimed to address both issues while providing reliable estimates for individual typing speed and statistically inferred process disfluencies. In particular, we compared an analysis of keystroke latencies in a linear mixed effects framework to extensions of these models as finite mixture process models with two mixing components. The advantage of the

latter is that keyboard typing can be represented as a weighted combination of fluent and disfluent transitions between keys. All models were implemented in the probabilistic programming language Stan. We tested these models on a random sample of 250 copy-task recordings involving a lexical (a low frequency adjective noun phrase) and a non-lexical task (sequences of zero-frequency bigrams). For both linear models and mixture models we used a log-Gaussian distribution. Cross-validation was used to compare fit while penalising models with more parameters. Model comparisons demonstrated a better predictive performance of mixture models over standard linear mixed effects models. This finding reproduced across both copy-task types. Our results illustrate that we can model copy typing as a mixture process of fluent and disfluent key transitions. We conclude that mixture models (1) map onto the information cascade that generate keystrokes, and (2) provide a principled approach to detect disfluencies in keyboard typing. Finally, we will present a walk-through with the full R and Stan code to apply our analysis on similar data problems.

Paper presentations: Academic writing

A concept analysis assignment as a tool for learning thesis writing

Presenting Author:Heli Katajamäki, University of Vaasa, Finland

According to Negretti and Kuteeva (2011) “metacognitive genre awareness relates their [i.e. the students’] ability to understand the target genre and to exploit this knowledge in their own writing”. However, students have often problems with the use of terms and concepts (Katajamäki 2020). In this study, I approach students’ metacognitive genre awareness from the point of view of using concepts. In the academic writing course Scientific Writing in Finnish (5 cr) the awareness of genre knowledge and scientific discourse is fostered by using a concept analysis assignment that is theoretically based on the model of concept analysis developed by Nuopponen (2005). This study focuses on how a concept analysis assignment based on a master’s thesis written by some other student in the same discipline helps students to develop their academic writing skills. Before the concept analysis assignment, the students are required to write a research plan for their own research, and after the analysis they are asked to improve their research plans. In this presentation, the focus is on how the students have modified their use of concepts in their research plans after learning about concept analysis. The data is based on 14 research plans (two versions, including modifications). Discourse analysis is used for analyzing the data. The results show that modifications are diversified. It can be concluded that applying concept analysis on another students’ text is useful for developing metacognitive genre awareness. At last, I briefly outline the pedagogical process as it has been implemented in the course and how it should and could be improved.

Stance and voice: a corpus-based cross-disciplinary study of student theses in English and Romanian

Presenting Author:Loredana Bercuci, West University of Timisoara, Romania; Co-Author:Madalina Chitez, West University of Timisoara, Romania; Co- Author:Claudia Ioana Doroholschi, West University of Timisoara, Romania, Romania

Stance and voice have been two of the most debated concepts in applied linguistics. The consensus is that novice writers need to master them in order to express their positioning towards their and previous research and to convey a sense of ownership of their texts, but the terms themselves have been variously defined, and voice has been regarded as a “marker of individuality and as an ideological expression of Western cultural hegemony” (Guinda & Hyland, 2012, p.1). In this study, we use Hyland's model (2008), which sees voice as cultural rather than personal, and determined by social, cultural and disciplinary communities. We look at how voice and stance are expressed across

disciplines and languages.Our corpus consists of 68 B.A. and 28 M.A. theses written by students at 10 Romanian universities, in four disciplines (Philology, Economics, Computer Science, and Political Science), in Romanian and English. It is part of the ROGER corpus, created at the West University of Timisoara in 2017-2020. Using Hyland's model (2008), corpus linguistics methods are employed to identify linguistic markers related to stance and voice (hedges, boosters, attitude markers, self-mentions). We conclude that stance and voice markers are discipline specific. In L2, the students' voice and stance changes considerably at graduate level as the students internalize writing practice in their discipline in English.

We therefore expect to draw conclusions on whether Anglo-American ways of expressing stance and voice influence those in Romanian L1 writing in specific disciplines. Interpretations are made on the specifics of Romanian and English writing cultures (Chitez & Kruse 2012) that could support data evaluation.

Developing my academic writing during COVID-19: the challenges of being a new university student

Presenting Author:Kirk Sullivan, Umeå University, Sweden; Co-Author:Niclas Lindström, Umeå University, Sweden; Co-Author:Hannah Lindfors, Umeå University, Sweden; Co-Author:Lukas Oskarsson, Umeå University, Sweden; Co-Author:Gustav Surting, Umeå University, Sweden; Co-Author:Nils Vestring, Umeå University, Sweden

New students to university have to rapidly learn the rules so the university 'game' and in particular how they differ from their understandings of school and/or work. Developing academic writing skills during the first couple of semesters of university can be seen as a core element for succeeding in the academy.

However, as frequently reported in the archived literature, writing is a complex task and challenging. During the COVID-19 pandemic universities were forced to rapidly adapt their teaching and learning support approaches, and new university students had to learn the rules of the university 'game' relating, among other things, to academic writing in unexpected and potentially novel ways. This paper reports on a participatory research project between two academics and four teacher education students during their first three semesters at university. During this time the university moved rapidly from socially distanced lectures, if the lecturer was ok with this and chose this option over online teaching, to only online teaching. In Sweden, university buildings were open. However people were encouraged to work and study at home. The possibility to study on campus was reduced by removing all reading spaces in the university library and other possibilities for study around campuses were also reduced. The authors of this paper worked and studied frequently on campus and organically developed a relationship that afforded the possibility to reflect, discuss, and draw conclusions about developing academic writing skills, and understanding what academic writing might be and achieves. Based on our reflections, personal and observed, and discussion, we present a narrative of developing academic writing skill during COVID-19 and draw out strategies the students used, and their perceptions and understanding of the strategies their lecturers used to support them. These we interview with learning theories and suggest lessons can inform post-COVID academic writing development support and learning.

Paper presentations: Intervention

Deliberative dialogues: evaluation of their quality and their impact on integration processes

Presenting Author:Maria Luna, Universidad a Distancia de Madrid (UDIMA), Spain; Co-Author:Lidia Casado Ledesma, Universidad Autónoma de Madrid, Spain; Co-Author:Isabel Cuevas, Autonoma University of Madrid, Spain; Co-Author:Elena Martín, Universidad Autonoma de Madrid, Spain

Introduction. Deliberative dialogues promote argumentative skills. Although there are many experimental studies that show the benefits of this type of dialogue, there are few studies that explore the discursive processes that define their quality. Likewise, there are no known studies that have analyzed the impact of deliberative dialogue activities on the learning of integration processes of arguments and counterarguments, within the framework of educational interventions with different instructional practices. This study arises from a previous research, in which we assessed the effectiveness of four instructional programs on argumentative synthesis writing.Objectives. Our objectives were: to design a coding tool to evaluate the quality of deliberative dialogues, to analyze the relationship between the quality of these dialogues and the different instructional practices, and to analyze the impact of these dialogues on the learning of the integration processes showed in the discourse and in different written syntheses. Methods. Dialogues were developed by 49 students, from three secondary schools located in Madrid, Spain. The coding tool was elaborated following a mixed deductive-inductive process. The first categories were proposed taking into account the theoretical framework that support the study (Felton et al., 2019). These categories were later nuanced based on the interactions that we observed during the discussions. Results. The results revealed that there was no relationship between the type of instructional practice received and the discourse quality. Likewise, the discussion sessions played a relevant role within the intervention programs, favoring the processes of integration of arguments and counterarguments during the successive dialogues, as well as the quality of the written argumentative syntheses.

Traditional statistical analysis for intervention evaluation does not tell us what we need to know

Presenting Author:Mark Torrance, Nottingham Trent University, United Kingdom

Group-comparison interventions involve measuring performance in a pre-test, then allocating participants to an intervention group or to a group that receives some form of control instruction. Performance is evaluated again after intervention. The universally-adopted approach to inferring the efficacy of intervention from this design involves the following: The researcher first establishes whether their data are consistent with the hypothesis that change between pre and post-test

in the control group is the same as change between pre and post for the intervention group. If the data are not consistent with this hypothesis then the researcher reports the difference between mean of the intervention and control group at post-test (often dividing first by standard deviation) and claims the intervention a success.

As a basis for decision making by a classroom teacher who wants to improve the writing of their students this approach is not fit for purpose. This is for a number of established reasons, one of which is the fact that filtering by statistical significance does not provide any guarantee that observed effect size accurately reflects true (out-of-sample, population) effect size. Where data are noisy, as is typically the case for writing intervention evaluations, it is possible – even relatively probable – that the observed effect size is not just different in size from the true effect, but in a different direction.

I will suggest an alternative, accessible approach to group-comparison intervention evaluation based in Bayesian modelling. This provides a robust estimate of true (population) effect of the form "there is an x% chance that the experimental intervention provides worthwhile improvement in student performance" where “worthwhile improvement” is a raw (unstandardized) effect of a size that the

end-user of the research sees as useful. I will illustrate this approach by presenting a reanalysis of data from a group-comparison, pre-post study that compared a strategy-focused experimental intervention for developing first grade writers' composition skills with practice-matched controls.

Direct teaching as a strategy to improve undergraduate students' academic writing

Presenting Author:Olga Arias-Gundín, University of León, Spain; Co-Author:María Arrimada, University of León, Spain; Co-Author:María Lourdes Álvarez- Fernández, University of León, Spain; Co-Author:Vanesa López, University of León, Spain

Academic writing is a hybrid task which involves collecting information from different sources and integrating it in a single, coherent synthesis text. University professors usually complain about the lack of quality of their students' academic texts, claiming these are simply a collection of pieces of information with poor organization and connection between them. Strategy-focused instruction has shown particular potential to improve undergraduate students' academic writing. This experiment explores the effects of direct teaching, as a component of strategy-focused instruction, on the quality of synthesis texts written by university students.A sample of 129 undergraduate students (26 men and 103 women) studying a degree in Education took part in the study. These were randomly allocated to either an experimental or a control condition. Students in the direct teaching condition (N = 64) were instructed on the features of a high-quality synthesis text by analysing a model text. Their peers in the control condition received information about textual genre. Instruction was conducted in a single session. Both conditions were assessed at pretest and posttest. Assessment involved writing a synthesis text from two source texts about one of the following topics: information and communication technologies (ICT) or leisure and free time. Topics were counterbalanced between conditions and assessment points. The texts produced by students were scored by two independent raters assessing the following variables: overall text quality, structure, general reading process, reading strategies (highlighting and taking notes), general writing process and planning. Each variable was assessed by means of a holistic scale.We conducted two-factor ANOVAs (time and condition interaction) to analyse the data. Results show that the direct teaching condition outperformed the control condition in most of the variables analysed, except for highlighting as a reading strategy. In light of the results obtained with a single instructional session, we emphasize the potential of direct teaching to improve university students' academic writing. We also suggest possible future research lines on the implementation of other components of strategy-focused instruction such as modelling.This research was possible thanks to funds from the University of León through the research project (Reference: GID12-2017), awarded to Dr Arias-Gundín.

Paper presentations: L2 & FL

Re-writing a fable in Spanish and Hebrew: A developmental study of temporality

Presenting Author:Ana Sandbank, Beit Berl Academic College & Levinsly College of Education, Israel

This presentation focuses on the linguistic means for suspending the narrative time-line in a reconstructed fable written in two languages - Spanish and Hebrew - from a developmental perspective. Both Spanish and Hebrew mark tense through verb inflections but only Spanish has a rich system of grammaticized aspect. Sixty four speakers of Argentinean Spanish and sixty four speakers of Hebrew divided in four school level groups - 2nd, 4th, 6th graders - were asked to write an adapted version of La Fontaine's fable 'The two mules', that was presented to them in a written version. The main assumption for this task was that re- writing a text is a constructive process that reflects how participants interpret a written text when they write it. The analyses relate between verbs as linguistic forms and their discursive functions in the text (Smith, 2007). A distributional

analysis showed that language means for suspending the timeline in Spanish were mainly verbs inflected for imperfective and progressive aspect, perfective past verbs in subordinate clauses. In the absence of verbal aspect, Hebrew speakers relied on the lexical aspect of verbs to suspend the timeline. In both languages, narrators used aspectual verbs and tense shifting to deviate from the chronology of events. A qualitative analysis showed that suspending the timeline accomplishes several discursive functions: background, evaluation, and changes of perspective. Rhetorical choices of each language were salient across all age groups beyond the forms obligatory marked (Berman & Slobin, 1994). Analyses show that re-writing a text provides a context for learn about the interplay among linguistic choices, rhetorical choices regarding written language as a discursive style, genre constraints, and interpretative processes of a written text.

Influence of L1 phonology and spelling on L2 writing in young pupils

Presenting Author:Elisabeth Zetterholm, Linköping University, Dept of Culture and Society, Sweden

It is known that transfer occurs from speaker's first (L1) to their second (L2) language, and a foreign accent can be related to phonology and pronunciation in the speaker's L1 (Moyer 2013). Orthographic transfer is found in L2 writers' texts and spelling errors related to the writer's L1 (Andersson 1981). In the first stages of writing, spelling errors are common as a part of the learning process, and Nauclér (1989) found that young L1 Swedish pupils often did the same kind of spelling errors. This presentation reports on a study that investigated 1) whether young L2 learners of Swedish make the same spelling errors as young L1 speakers, and 2) whether there are spelling errors in the L2 learners' texts that can be related to the phonology in their L1.

Texts written in L2 by young pupils were analyzed with a specific focus on spelling. All participants were 8-10 year-old L2 speakers of Swedish. Most of them were born in Sweden or arrived in Sweden before starting school, and many of them learn to read and write in both L1 and L2 simultaneously. Analysis shows that L2 pupils, regardless of their L1, often do the same spelling errors as L1 pupils at the same age, e.g. double spelling of long consonants. However, there are other spelling errors that seem to be related to the pupil's L1 phonology, such as confusion about the use of the consonants /f/ and /v/ as well as /p/ and /b/, especially in texts written by L1 Somali and Arabic speakers. The results have didactic implications for teachers when teaching young pupils to read and write in Swedish.

Paper presentations: Handwriting

Developmental Constraints and the Simple View of Writing: An Exploration

Presenting Author:Cynthia Puranik, Georgia State University, United States; Co-Author:Molly Duncan, Fulton County Schools, United States

The present study examined the contributions of transcription and text generation abilities to composition outcomes in a sample of kindergartners. Specifically, we tested the possibility that transcription is a moderator of the relation between text generation and writing quality. Previous studies have considered only the possibility that transcription and text generation are independent contributors to composition, neither modifying the relation of the other. Research questions were as follows: 1) What are the relations among transcription, text generation, and composition quality in kindergarten? 2) What are the relations among transcription, text generation, and composition productivity in kindergarten?

Participants were 282 kindergarten students from 49 different classrooms in urban and suburban neighborhoods in the eastern US. The average child age was about 6:0 years (Range- 5:6 to 7:0

years) and gender was fairly evenly distributed (52.6% female). Transcription skills were measured using a standardized assessment of spelling and the handwriting measure assessed children's ability to accurately retrieve and form upper and lower case letters. Text generation was measured using a standardized test and composition was measured by asking children to write about two different prompts. The first prompt asked children to tell about a special event from their life. The second prompt asked children to tell about something they know a lot about. Data analysis included fitting a confirmatory factor analysis, and fitting a structural model with and without a moderator term. The results of this study reinforce the evidence that transcription abilities are strongly related to composition outcomes and provide important nuance to our understanding of the relations between text generation and composition. Results indicated that (1) the relation of the component skills of text generation and transcription with composition outcomes differs at different levels of the component skills and (2) that text generation, though it may not have a direct relation with composition quality, plays an important role in the quality of early composition.

Children's and Adults' Muscle Activity and Writing Process Measures during Handwriting on a Tablet

Presenting Author:Sabrina Gerth, University College of Teacher Education Tyrol, Austria; Co-Author:Julia Festman, University College of Teacher Education Tyrol, Austria

Handwriting is an important and complicated motor activity that takes years to master. It requires the manipulation of a writing tool (e.g., a pen) on a two- dimensional writing surface (e.g., paper). The specific motor programs for writing evolve over years and handwriting automaticity is achieved only through constant writing practice. We were interested in the link between muscle activity and handwriting processes and compared children's and adults' handwriting performance to reveal possible developmental patterns. Thirty-seven children in third and fourth grade (25 female, mean age 9.6 years) and a control group of eighteen adults (11 female, mean age 28.6 years) participated in the study and performed the following tasks with a stylus on a digitized tablet: copying geometric forms, capitalized letters, and words. We tracked the position of the stylus in real-time to obtain writing measures such as writing duration, velocity, pen pressure and number of inversions in velocity (a measure of handwriting automaticity). Additionally, we used surface electromyography placed on the handwriting-related muscles of the upper limb to record electrical activity. The writing process data recorded by the tablet replicate previous findings in handwriting research: Adults wrote faster than children in all three tasks and were more automated in their handwriting movements – with lower writing duration, higher writing speed and better automaticity. The adults' muscle activity data was lower compared to the children's muscle activity for thumb, wrist extensor and flexor (distal joints). However, for the shoulder (proximal joint), adults exhibited higher muscle activity than children. Following the assumption that the more active a muscle, the more it is involved in handwriting movements, it seems that children's distal joints were more actively involved in handwriting than their proximal joints, whereas the adults showed the opposite pattern.We conclude that children's lower muscle activity in the shoulder and increased muscle activity in the distal muscles could suggest a difference in development of motor skills and programs during handwriting and a relationship between muscle activity and handwriting performance. We will discuss further implications in the talk.

Developmental course of handwriting skills among children with graphomotor impairments – a RTC-study

Presenting Author:Sibylle Hurschler Lichtsteiner, Languages and handwriting research group, University of Teacher Education, Lucerne, Switzerland; Presenting Author:Melanie Nideröst,

University of Teacher Education of Lucerne, Switzerland; Co-Author:Christian Marquardt, Science&Motion GmbH, Germany; Co-Author:Carlo Di Brina, Department of Human Neuroscience, Sapienza University of Rome, Italy., Italy; Co-Author:Werner Wicki, Languages and handwriting research group, University of Teacher Education Lucerne, Switzerland

Handwriting difficulties often occur during the first months of schooling. In Switzerland, Psychomotor therapy is a well-known therapy for children facing graphomotor impairments and teachers designate this intervention as highly effective (Vetter & Sandmeier, 2020). However, there is a lack of empirical data about the effectiveness of this therapy. This paper presents the results of a controlled-randomised study on the effectiveness of psychomotor therapy. The sample (N=121) consisted of Swiss first and second graders with graphomotor impairments, partially meeting the criteria of DCD (n=50), the remaining children (n=71) suffered from developmental dysgraphia (DD). Most of the participating children were male (n=90) and right-handers (n=106), equally distributed over the intervention and the waiting-control group.We examined handwriting skills on a digitizing tablet using an extended version of the CSWin software (Mai & Marquardt, 2007) longitudinally at five points, i. e. every 4 weeks. Besides the measures collected by the digitizer, the participating children had to complete a copying task, a self-concept questionnaire, and a standardized motor performance test (BOT-2) twice at t1 and t5 (pre- and post-test). The study consists of three cohorts carried out under similar conditions. Data collection will be completed by end of 2021. Every child of the intervention sample attended psychomotor therapy over 16 weeks, with a focus on improving graphomotor skills. As psychomotor therapy is a child centred approach with individualized programs, we collected data about the examination and the aims of the therapeutical interventions. Furthermore, the therapists recorded every therapy lesson by structured forms. Preliminary data analyses including children of the first and second cohort revealed better fine motor performance of the therapy group compared to the control group. Besides, the intervention group showed a higher increase in consistency, and a lower handwriting speed than the waiting group. This presentation will focus on results among all three cohorts. The results' impact on research, diagnostics and interventions will be discussed.

Paper presentations: Symposium

To profile or not to profile: of writing process constellations and writing profiles

Chairperson: Elke Van Steendam, KU LEUVEN, Belgium Organiser: Elke Van Steendam, KU LEUVEN, Belgium Organiser: Nina Vandermeulen, Umeå University, Sweden

Organiser: Gert Rijlaarsdam, University of Amsterdam, Netherlands

Discussant: David Galbraith, University of Southampton, United Kingdom

In this symposium we present three studies clustering patterns of writing approaches and profiles (of either secondary school writers or undergraduates writing) for two different task types, that is, the argumentative essay and the (argumentative/informative) synthesis task. The studies present a range of methods to group and to tap into writing processes.1. Kim uses a person-based latent profile approach to group writers based on process and product data such as revision changes between first and final drafts and quantity of internet searches, plan organization and elaboration, as measured by video- and observational data.2. De Smedt et al. have students report on their writing process by filling out a validated questionnaire on writing processes (Vandermeulen et al., 2020) and combine this data on students' writing process with information on their writing motivation (De Smedt et al., 2020) in a cluster analysis on two different samples.3. Van Steendam et al. investigate patterns in keystroke logging process data of students writing different synthesis texts

and conduct a latent profile analysis to do so.In addition to answering the question if inter-writer variability, and writing performance can be explained by so-called profiles (on process measures), the symposium also takes the discussion a step further by investigating intra-writer variability and generalizability of these profiles. More specifically, De Smedt et al. investigate if the profiles hold across different population samples. Van Steendam et al. study if the profiles found are generalizable across genres. One more question which is being asked is if the profiles found are indeed personal writer profiles, so-called writer signatures, across different tasks or different genres, or if conversely, writers display different profiles for different tasks within a same genre. Are, in other words, writing profiles stable, or variable writer characteristics? Is the term profile warranted or would process constellation be a better alternative? In answering these two questions the symposium with its three studies spanning different task types and student populations aims to add to theory-building on the role and meaning of profiles in writing research.

Profiles of undergraduate writers: Differences in writing strategy and impacts on text quality
Presenting Author:Hyeyoun Kim, Dongguk University-Seoul, Korea, Republic of

Theoretical framework and Research AimsThis study aimed to identify undergraduate students' pattern of digital writing strategies and its association with writing quality. To this end, I employed a person-centered profiling approach and examined the differences in text quality according to students' profile membership.

Person-centered profiling has been attempted under the premise that writers in post-secondary education tend to maintain or prefer certain strategic choices when they write under the same conditions (Torrance, Thomas, & Robinson, 1999, 2000).Methodology260 Korean undergraduate students participated in the study and wrote an opinion essay. Some process and product data were collected such as quality of planning output, revision changes between the first and final drafts, and quantity of Internet searches. Thus, five variables were used for profiling: plan elaboration, plan organization, microscopic revision, macroscopic revision, and number of steps during Internet searches. Latent profile analysis and one-way MANOVA were adopted as analytic tools. ResultsFour profiles emerged: Revision-based, Plan-based, Search-based, and Correction-based Writers. Revision-based Writers depended mainly on macroscopic revision (sentential and textual changes) rather than any other activity, whereas Correction-based Writers depended more on microscopic revision (e.g., correcting words and spelling errors). Plan-based Writers tended to depend relatively more on planning in both elaboration and organization. Search-based Writers mainly depended on Internet searching behaviors throughout writing processes. Among four profiles, Correction-based Writers represented the majority (two-thirds).

Revision-based Writers outperformed the other three profiles; however, the other profiles did not show significant differences in text quality between each other. Discussion – Relevance to the domain of writing The research findings corroborated evidence for the existing issue of planning vs. revising strategies in that Revision-based writers outperformed Plan-based writers. In addition, the findings supported the previous studies that microscopic revision would be ineffective compared to macroscopic revision. Other educational implications were also derived by analyzing the current state of undergraduate students' writing.

Writer profiles based on cognitive writing processes and motives for writing: A cluster analysis

Presenting Author:Fien De Smedt, Ghent University, Belgium; Co-Author:Yana Landrieu, Ghent University, Belgium; Co-Author:Bram De Wever, Ghent University, Belgium; Co-Author:Hilde Van Keer, Ghent University, Belgium

Theoretical framework and research aimsAlthough argumentative writing is important for academic advancement (Howell, 2018), secondary school students' argumentative writing proficiency appears highly substandard (Ferretti & Lewis, 2013; National Center for Education Statistics, 2012). This is disappointing, but at the same time not entirely unexpected, since argumentative writing is intellectually and motivationally challenging. Therefore, this study aims to establish a deeper understanding of these cognitive and motivational challenges in argumentative writing. Based on a growing body of research on how learning strategies might cluster together as patterns or profiles of learners (e.g., Rogiers, Merchie, & Van Keer, 2019), this study aims to investigate the existence of writer profiles based on cognitive writing processes and motives for writing. Based on this overall aim, the following research question is put forward: Can distinct writer profiles based on cognitive processes and writing motives be identified?MethodologyThe current study uses data from two samples (n sample 1 = 386 students; n sample 2 = 383 students). Participating students completed student questionnaires on writing processes (Vandermeulen et al., 2020) and writing motivation (De Smedt et al., 2020), and they completed an argumentative writing test. A hierarchical cluster analysis and k-means cluster analysis were conducted on the first sample. To confirm the cluster solutions, the same analyses were conducted on the second sample.ResultsTwo writer profiles based on cognitive processes and writing motives were identified. Students identified in the first writer profile are characterized as process-oriented writers with a high autonomous writing motivation (n = 182, 47.15%), while the students identified in the second writer profile report lower levels of cognitive writing processes and are less autonomously motivated to write (n = 204, 52.85%).Discussion - Relevance to the domain of writing The present study contributes to the literature on cognitive and motivational challenges in argumentative writing, especially since no studies to date have investigated writer profiles in secondary education by combining cognitive and motivational processes.

Dynamic process configurations in synthesis writing tasks

Presenting Author:Elke Van Steendam, KU Leuven, Belgium; Co-Author:Nina Vandermeulen, Umeå University, Sweden; Co-Author:Sven De Maeyer, Antwerp University, Belgium; Co-Author:Marije Lesterhuis, Erasmus University Rotterdam, the Netherlands, Netherlands; Co-Author:Huub Van den Bergh, Utrecht University, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

Theoretical framework and research aims Synthesis tasks are hybrid reading-and-writing tasks for which writers need to integrate the relevant and essential information from various sources into a new text. Hence, a complex interplay of source-related activities and other writing activities such as e.g. production must be orchestrated across the writing process to result in a qualitatively good text. In this study we study such configurations of reading and writing process activities in synthesis writing and investigate their generalisability. Methodology In a national survey with a representative sample of 658 upper-secondary school students, we collected writing tasks, registered students' writing process (via keystroke logging) and tasks perceptions, and assessed the quality of their texts.

Each student in the sample wrote 4 tasks, in two different genres, an informative and an argumentative synthesis writing task. With students' process data, including source use and production activities for different phases in the writing process (first, mid and final part), we conducted latent profile analyses to explore writing process constellations in synthesis writing. The fact that students wrote multiple tasks in two genres allowed us to also investigate with multilevel models if these writing process constellations were genre-, task-, or person-specific. Results Four distinctly different process constellations were distilled, some of which were more likely to occur with the informative genre. One process configuration, a production-oriented profile proved to be

the more effective one leading to qualitatively higher texts than the others. The results also showed that students displayed more than a single process constellation. Process constellations could thus not be labelled person-specific 'profiles'. Results also showed that writers' task experiences such as topic knowledge and topic interest predicted the occurrence of certain process constellations within writers. Discussion - Relevance to the domain of writing Despite some limitations, the profile analyses in this study on the basis of theoretically grounded and empirically-validated process measures provided us with a varied, rich and integrative window on writing configurations in

Session 11

Paper presentations: Assessment

Assessing writing in fourth grade: Task specification effects on text quality

Presenting Author:Veronika Österbauer, IQS, Austria; Co-Author:Sophie Gruhn, Universität zu Köln/ University of Cologne, Germany; Co-Author:Ilka Fladung, Universität zu Köln/ University of Cologne, Germany; Co-Author:Joerg Jost, Universität zu Köln/ University of Cologne, Germany

In writing instruction, it is considered "good practice" to specify writing assignments in terms of purpose and function of writing, audience, medium, and context of social interaction. Previous studies showed that such task or rhetorical specifications have a positive effect on text quality1. However, rhetorical specifications may lead to wordy and complex formulations, which could introduce an undesirable dependence on reading competency. This is problematic in particular for assessing younger children's writing due to validity concerns. Previous studies either focused on writing assignments or were conducted with older participants1,2,3. Thus, the benefit of rhetorical specifications in writingassessments with novice writers is not yet clear. This study examined the effect of rhetorical specification on text quality in an assessment prompt for fourth graders.In a pilot study of the national educational assessment in Austria (iKMPLUS), 166 fourth graders were assessed with an expository paper-pencil-based writing prompt. They received the same prompt but were randomly assigned within classrooms to one of three different conditions: high rhetorical specification (n = 78), medium rhetorical specification (n = 44), or no rhetorical specification (n = 44). While the in-depth analysis of text quality is still in process, text length was used as an initial indicator for differences in text quality between the three groups. A one-way-ANOVA indicated that text length did not differ between the three conditions ($F(2, 163) = 1.43$, $p = .24$, $\eta^2p = .02$). Our paper will clarify whether the analysis of more specific indicators of text quality, such as coherence building and adaption to the audience, confirmed these findings or revealed influences of task specifications. The results will be discussed in terms of the costs and benefits of rhetorical specifications in writing assessments for novice writers.

Effects of rubric use on the accuracy of teachers' grading in a high-stakes writing assessment

Presenting Author:Pauline Schröter, Insitute for Educational Quality Improvement, Germany; Co-Author:Lars Hoffmann, Institute for Educational Quality Improvement (IQB), Germany; Co-Author:Dorothee Wieser, Technische Universitaet Dresden, Germany; Co-Author:Joerg Jost, Universität zu Köln/ University of Cologne, Germany

During the official German school-leaving state examinations in 12th grade (Abitur) all examinees have to write essays on German literature and language. However, the German federal states have different standards for the evaluation of these essays, ranging from traditional holistic scoring to the usage of task- specific analytical rubrics. To guarantee nationwide equal and fair examinations, the federal states currently strive to harmonize their scoring standards. Against this background, our

study aims to determine the impact of different scoring methods on grading accuracy in the Abitur examinations in German. For this purpose, we conducted an experimental mixed-methods study and asked 33 experienced teachers from 2 federal states with differing scoring standards (e. g. holistic grading vs. rubric based grading) to grade transcripts of 64 original Abitur essays on 4 different tasks either holistically or based on a rubric. Confirming previous findings (Jonsson & Svingby, 2007), we found that rubric-based grading was less influenced by surface features (e. g. orthographical errors) than holistic grading. Also as expected (Rezaei & Lovorn, 2010), teachers assigned significantly lower grades when using a rubric instead of evaluating holistically. Surprisingly, we determined lower levels of accuracy for the rubric-based grading teachers ($p = 0.013$, $d= 0.383$). This rubric-effect was particularly large for less experienced teachers. Since further conditional effect analyses (Mayer, Dietzfelbinger, Rosseel, & Steyer, 2016) attributed this finding especially to one specific task, we additionally conducted qualitative analyses on this task's essays and the grading comments of our participants with support of didactics experts. These analyses led to the conclusion that the accuracy of rubric-based grading might be reduced when task prompts are ambiguous and student's essays present unexpected answers.References:

Schools as stakeholders in National writing quality assessment tools: a user perspective

Presenting Author:Ines Cardoso, Universidade de Aveiro, Portugal; Co-Author:Luísa Alvares Pereira, Universidade de Aveiro, Portugal; Co-Author:Luciana Graca, University of Toronto, Canada; Co-Author:Betina Martins, Agrupamento de Escolas de Esgueira, Protextos - UA, Portugal; Co-Author:José Ferreira, Universidade de Aveiro (Portugal), Portugal; Co-Author:Ana Soares Ferreira, Universidade de Aveiro, Portugal; Co-Author:Tatiana Pereira, Universidade de Aveiro, Portugal; Co-Author:Aurora Cerqueira, Agrupamento de Escolas Mário Sacramento, Portugal

This longitudinal study comprises document analysis and systematic literature review to provide a conceptual reflection to understand the path of formative writing assessment in Portugal and how it has been driven by national assessment tools. We will firstly trace the understanding of formative assessment in general, in our country, moving to what has been recommended regarding formative assessments in writing tasks.We analyzed specifically the national assessment test "Provas de Aferição" [Portuguese Assessment Benchmarking] developed in Portugal, from 2001 to 2020, meant to formatively inform the authorities, schools, teachers, parents, and society about reading, writing and mathematical abilities in primary school students. Considering the national assessment test only addressed to monitor language skills (Portuguese), we focused on the writing production task throughout almost 20 years. Therefore, our data comprise: the most required textual genres in all tests implemented, evaluation criteria, results' reports available by IAVE, the Portuguese Institute for Educational Assessment, regarding young learners writing proficiency.We will show how these national assessment tools were conceived with two main aims: not only to inform about national writing performance of young children but also to provide relevant clues for teacher training in matters of writing teaching and writing formative assessment. Moreover, the Ministry of Education has sent to all schools a report of the evaluation made concerning its students.More recently a national project to revamp formative assessment has been implemented. In this context, we will organize and develop focus group meetings, comprising teachers working at different schools in the same district, whom are teacher trainers and known to be aware of national guidelines for the teaching of writing.

This focus group will be facilitated by an informal community of professional development/practices, ProTextos - Teaching and Learning of Text Writing (http://protextos.web.ua.pt/), which has started in 2005 and has accompanied regionally the implementation of changes in writing teaching monitored by formative assessment tools. We intend to discuss the impact of these theoretical

contributions into practices, and to analyze writing assessment tools developed at their institutions, assisting teachers in their evaluation practice. Keywords: formative assessment; writing; national assessment tools; basic education.

Paper presentations: Academic writing

Social annotation in teacher education

Presenting Author:Hildegunn Otnes, Norwegian University of Science and Technology (NTNU), Norway; Presenting Author:Anita Normann, Norwegian University of Science and Technology (NTNU), Norway

Social annotation in teacher education Social annotation (SA) is a type of learning technology that enables the annotation of digital resources for information sharing, social interaction and knowledge production (Novak et al., 2012). As opposed to text annotation applications, SA enables multiple readers to interact with a text and with each other in a shared context (Kalir et al., 2020). We will present and discuss findings related to trying out interactive social annotation with two groups of students in higher education and two different social annotation tools; Lacuna Stories and Word Online. Our research question is: How did the participants experience the use of the two annotation tools, as ways of working collaboratively with reading, thinking and writing? The study is based on two sets of data: · Print screens from a group of undergraduate students' dialogue from the Lacuna Stories annotation dashboard and their written reflection texts.

Written reflections from a group of MA-students, upon completing a SA assignment involving the use of Word online. Technical and pedagogical challenges are presented, and students' voices are integrated in the discussion. Findings suggest positive experiences related to increased awareness around the reading material and the possibilities of interacting with each other and with the text. On the negative side, students point to varioustechnical features of the tools. A theoretical framework for social annotating contains concepts such as "learning through dialogue", "multiple perspectives", "discourse communities", "integrating reading and writing processes" (Schneider et al, 2016), and "critical thinking", "meta-cognitive skills" and "reading comprehension" (Novak et al., 2012).

Translanguaging: A study of the writing of Master's students' foreign language writing

Presenting Author:Vanessa Hidalgo, Umeå University, Sweden; Co-Author:Kirk Sullivan, Umeå University, Sweden; Co-Author:Yvonne Knospe, Umeå University, Sweden

Students beginning a Master's programme are often concerned about their academic writing skills. The growth of English as a Medium of Instruction (EMI) as universities internationalize their student bodies places challenges on non-native English speaking students. Writing is considered a challenging and complex task. The writer must deal with communicative intentions, orthography, constructions of sentences, cohesion, coherence, and the audience (Torrance & Gallbraith, 2008). The multilingual writer will also need to monitor their final text to remove any translanguaging traces that may have been part of text production. This paper analyses the writing of first month EMI master's students randomly assigned to groups of six. Each group discussed the set topic for 15 minutes before writing individually for 45 minutes. Keystrokes made and websites visited were recorded from the start of the discussion using Inputlog (Leijten & Van Waes, 2013). We considered two aspects of writing to illustrate the variation we found among our participants. Translanguaging in Internet search and writing, and pausing and revision behaviour as described by Inputlog. Based on our findings we argue that translanguaging is an integral aspect of writing in English during the initial stages of EMI master's programmes. We tentatively consider how translanguaging and

translanguaging avoidance interact with pausing and revision behaviour. In our interpretation of the keystroke logged data we make use of additional interview data about writing and translanguaging, and changes observed at two later data collection points during the first year of the master's degree.

Paper presentations: L2 & FL

Extending Minds: A Longitudinal Study of L2 Writers at an EMI Institution

Presenting Author:Matthew Overstreet, Khalifa University, United Arab Emirates

This paper will present preliminary findings from an ongoing longitudinal study of the writing processes of L2 writers at an English-as-medium-of-instruction (EMI) institution in the Middle East.Our study follows 20 student writers over the first two years of college. Through in-depth interviews and screen-recording we trace how writing and writing processes evolve in response to EMI education. We pay particular attention to how participants deploy digital and networked reading, writing and research tools. In recent years, a variety of studies have sought to trace how emerging technologies impact writing practices (Bray 2013; Ching 2018; Takayoshi 2015), some specifically focusing on L2 writers (Kessler 2020). While this work is insightful, it is hampered by reliance on theoretical frames which privilege the intentional and ideational. Because much literacy behavior lies beyond conscious awareness, important nuance is obscured. To capture the full diversity of writing processes, we deploy a novel theoretical frame—writing as extended mind. This frame reconceives cognition as embodied action. Seen through such a lens, writing emerges as a locally distributed material process in which cognizers combine disparate resources within personalized ecologies. All told, extended mind allows for unique insight into how writers use their tools.Among other findings, we will discuss how, as they mature, writers use increasingly sophisticated environmental structuring techniques to reduce the cognitive burden of language processing and thus allow for more attention to higher order concerns. Via annotation and the physical arrangement of resources, for instance, writers optimize their ability to produce sophisticated texts. Such findings pose a significant challenge to the "long-standing incorporeal constructions of processes," which Hannah Rule (2018) argues continue to dominate writing studies (404). They may also help writing teachers formulate new pedagogical interventions. Rather than focusing on what writers think, as in their internal representations of a writing task, our findings suggest it is perhaps best to focus more on what writers do, as in specific material competencies. This insight, we will argue, can significantly change writing pedagogy.

Rewriting processes of L2 university students: Investigating the impact of plain language training

Presenting Author:Alessandra Rossetti, Universiteit Antwerpen, Belgium; Co-Author:Luuk Van Waes, University of Antwerp, Belgium

Research aim We aim to understand the impact of plain language training in English on the rewriting processes of university students — native Dutch speakers— with English as a second language (L2). We focus on the rewriting of content on corporate social responsibility (CSR). Ultimately, our goal is to develop a writing instruction that prepares students to communicate clearly in the workplace. Theoretical framework Rewriting is a form of revision that involves extracting the content of a text and expressing it with different words or with a new text (Hayes et al., 1987). Rewriting texts produced by others — as our students did — is a complex undertaking, especially for less experienced and low-proficiency L2 writers (Barkaoui, 2016). Training and observational learning can influence revision/(re)writing processes (Braaksma et al., 2004; Schriver, 1992; Wallace & Hayes, 1991). However, no previous research has analysed the rewriting processes of L2 university students

following plain language training. Furthermore, earlier work has mainly focused on students revising their own texts.

Methodological design We are collecting keystroke logging data from 45 students who rewrite CSR texts to make them easier to read. The students are divided into an experimental and a control group — the former receives writing instruction on plain language, while the latter receives instruction on CSR. All participants conduct a pre-test rewriting task (before training) and a post-test rewriting task (after training). To gain qualitative insights, we also collect screen recording data and interview data from five participants. (Expected) findings We expect our findings to: (i) provide insights into the effectiveness of our instruction; and (ii) shed light on the rewriting processes (e.g. task organisation, pauses, revisions, source use) of university students with English as L2.

Relevance to domain of writing and other forms of text production This investigation draws upon models of (L2) writing and revision while also seeking to advance theoretical understanding and empirical evidence on the intermediate process of rewriting. By focusing on plain language rewriting, this work is also relevant for text adaptation, text simplification, and the instructions that can facilitate these processes.

DigiSchreib - A tool to support teachers in the use of digital writing tools in German classrooms

Presenting Author:Charlotte Wendt, Leuphana Universität Lüneburg, Germany; Co-Author:Astrid Neumann, Leuphana Universität Lüneburg, Germany

The presentation covers the conception, development, and evaluation of DigiSchreib, a tested instrument developed within a design-based research approach (Anderson & Shattuck, 2012). DigiSchreib supports German teachers at vocational schools in the selection and teaching use of digital writing tools.

Empirical studies on the literary skills of students at German vocational schools draw clear conclusions: students are disproportionately reluctant to write (Efing, 2006) and on average, they have comparatively few individual skills in respective to writing (Stanat et al. 2015; Neumann, 2015). Summarised: their literary skills are, in sum, inadequate. One of the primary reasons for the insuffeciency is the lack of practicing formulating indenpently (Efing, 2008). Furthermore, the amount of time spent writing in class decreases as students get older (Philipp, 2015).

Using digital writing tools in class could support teachers in creating an internal differentiated and individualised lesson design (Limpo et. al, 2020). However, studies show that Germany lags in international comparisons of media-supported teaching (EC, 2019); there is a lack of technical equipment, as well as concepts for initial and in-service training for teachers (Drossel et al., 2019).

The central research question of the project is: how can an assessment tool support teachers in the selection of digital writing tools in a differentiated German classroom at vocational schools?

Therefor the assessment tool for digital writing tools DigiSchreib was developed. It focuses on a didactical view of the tools, which is closely linked to empirical findings on writing research.

Grounded in the DBR approach, a variety of methods are used to develop DigiSchreib. In addition to a questionnaire survey to identify needs from practice, a systematic literature analysis and a document analysis are used to form categories.

The writing tools are evaluated with the help of a qualitative description in these formed categories. They include, among others, the following topics: didactic classification (Fidalgo, et al., 2018), needs from the classroom and technical requirements.

In first expert interviews DigiSchreib appears to be an effective tool to support teachers in their choice of digital writing tools for class. Writing in schools, digital writing tools, differentiated teaching, teacher education

Symposium

Writing and participation

Chairperson: Eva Lindgren, Umeå University, Sweden

Organiser: Carina Hermansson, Sweden

Organiser: Eva Lindgren, Umeå University, Sweden

Discussant: Sandra Stotsky, University of Arkansas, United States

Freedom of speech, the right to communicate opinions and ideas in both oral and written language, is a fundamental democratic right and a building block for sustainable democracy. In particular, "the ability to write on matters relating to civic or political life is crucial for the proper functioning of the institutions of democratic self-government" (Stotsky, 2013: 228). Matre and Solheim (2015) similarly conclude that "writing has the potential to educate the students to become independent and reflective people. In addition, writing gives access to participation and contribution in a democratic society" (p. 26). Over the past few decades literacy in people's everyday life has transformed from reading of printed sources, such as books, papers and magazines to writing in digital media (Brandt, 2015). Even though democratic fundamentals as well as research confirm the importance of free speech and the power of writing in democratic processes, the necessary writing skills, (e.g. knowledge of purposes for writing, audience, style, argumentation, voice) are not a priority in education internationally. Instead, both curricula and practices show a strong focus on the requirement of skills for writing, such as spelling and grammar, writing as a process and genre and only occasionally on writing as a social practice or as a sociopolitical act or writing as a tool for thinking (cf. Peterson, Parr, Lindgren & Kaufmann 2018; Sturk & Lindgren, 2019). In this symposium we explore participatory writing as a concept and its implications for education and research in the 21st century. Questions that are addressed are for example: How can participatory writing be conceptualized in the 21st century? How can teaching practices account for participatory writing? What research methodologies may be applied successfully to the participatory writing classroom?

(Re)conceptualizing participatory writing

Presenting Author:Per Boström, Umeå University, Sweden; Co-Author:Peter Ström, Umeå University, Sweden

In the research project Writing as Nutrition for Democracy, we aim to strengthen the opportunities of Swedish citizens to make their voices heard and open their eyes to what it means to participate in a democratic society, specifically through writing. This is especially important as "[t]he ability to convey one's idea in writing is far more empowering than the ability simply to read or to listen to what others have written" (Stotsky, 1996, p. 228). This paper focuses on how societal participation is perceived in a Swedish context, what characterizes participatory writing, and what can be characterized as participatory texts. In order to shed light on this, we have conducted semi-structured focus group discussions (cf. Marková et al., 2007). The focus groups and participants are diverse on several levels, regarding geography and socio-economic status as well as gender, age and occupation. Results show that both participation and participatory writing are multifaceted phenomena, not easily defined. Participation is often equalled with influencing and making a

difference, discussed as a non- dichotomous phenomenon and present at different levels of society. Participatory writing can be, as one participant states, almost anything – it's writing a physical letter, tweeting, taking minutes, giving a Facebook post a "thumbs up" – all examples of prototypical participatory texts. In the concepts explored lies a belief that any writing activity has potential to be participatory. Still, some bottlenecks are discussed, e.g., hesitancy to participate out of fear of negative feedback.

Educating writers for participation: Resources and practices

Presenting Author:Synnøve Matre, Norwegian University of Science and Technology, Norway; Co-Author:Randi Solheim, Faculty of Social and Educational Sciences, Norway

In this paper, we draw on experiences from two large-scale, long-term intervention projects on writing in primary school, aiming to develop independent and critical student writers. Both the NORM project (Developing national standards for the assessment of writing. A tool for teaching and learning, cf. Berge et al., 2017) and the FUS project (Functional writing in primary school, cf. Skar, Jølle & Aasen, 2020) are designed to support and implement perspectives aligned with participatory writing, through functional and purpose-oriented approaches. This implies that writing is seen as a tool for interaction, situated in varying contexts, for varying purposes. Basic dimensions in both projects are acts and purposes of writing, mediated through various semiotic resources. However, the two projects lean on different resources and practices. In the NORM project, the three basic dimensions are operationalized in an elaborated construct, the Wheel of writing (Berge et al., 2016). This formed the theoretical basis for the project and worked as a central resource for the teachers in designing of writing tasks, and for planning and carrying out writing instruction and assessment – adapted to own students. The FUS project is anchored in the same three basic dimensions, while the resources here are pre-made in terms of tasks and detailed guidelines for writing instruction. Thus, the teachers in this project are not to the same extent invited into developing and adapting the writing instruction practices to their local writing cultures. These two different approaches to interventions in writing education will be discussed in light of teachers' agency and professional development. In a methodological perspective, strengths and weaknesses of ecologically based, versus more controlled interventions will also be discussed with regards to validity (cf. Biesta, 2007) and sustainability.

Appraisal as a tool to develop participatory writing in the classroom

Presenting Author:Eva Lindgren, Umeå University, Sweden; Co-Author:Carina Hermansson, Department of Language Studies, Umeå University, Sweden; Co-Author:Erika Sturk, Umeå universitet, Sweden; Co-Author:Anna Nilsson, Umeå municipality, Sweden

In this paper we explore effects of an intervention where appraisal theory was used to improve middle-school pupils' ability to express themselves through writing. Participatory writing is a powerful tool for citizens (Stotsky 2013) that requires writers to focus on meaning as well as readers. Appraisal theory (Martine & White 2005) provides such tools as it focuses on whether a writer evaluates something or someone (attitude), how strong the evaluation is (gradation) and how the reader is invited into the text (engagement). Based on Appraisal theory, a three-week intervention was developed in close collaboration with teachers. During the intervention, pupils worked daily with narrative and argumentative texts focusing on meaning and reader; how they, as writers, are positioned in relation to different readers, and how their thoughts can be presented differently to different readers. Instruction was supported with linguistic tools, semiotic resources, with different devices, and through different classroom designs. Before and after the intervention pupils wrote

narrative and argumentative texts which were analysed for text quality, complexity, vocabulary and text length. In addition a qualitative analysis was undertaken to explore if, and how, student employed appraisal tools, how they adjusted their text towards readers and how they positioned themselves in their texts. Preliminary results show that texts were similar in length before and after the intervention but that they were more complex, including longer words and more varied vocabulary after the intervention. Ongoing qualitative analysis further indicate that pupils used more appraisal tools and a clearer rhetorical structure after the intervention.

Students as active participants in their learning: pedagogic voice in the writing classroom
Presenting Author:Judy M. Parr, University of Auckland, New Zealand

The paper begins by presenting our systematic analysis of research relating to student participatory 'voice' in the school classroom, highlighting, the literacy classroom where writing instruction takes place. Briefly, the rationale for including students in their learning, together with existing definitions of participatory voice, are explored. We then offer a definition of pedagogic voice with, arguably, more encompassing parameters than are currently considered, a definition to consider when researching or attempting to implement student pedagogic voice in the writing classroom. Arising from this, two aspects are considered. The first concerns response and outcomes. When the lens offered by our definition was applied to existing studies, analyses showed that very few presented evidence of the nature of the response to student participatory voice or the outcomes from that response. Such evidence is needed to allow explanation and evaluation of its contribution to the enhancement of teaching and learning. Research designs need to allow a more systematic tracing from the context or opportunity for participatory voice; through to the hearing, the reception and response; to the outcome of that response in terms of changed practice, including student awareness of their part in the changed practice; and, finally, student response to changed practice, the outcomes in terms of their learning. The second aspect in the consideration of student pedagogic voice is to mirror the desired research design features and identify how teachers enable participatory voice and how they ensure that the chain of actions that should stem from hearing, receiving and responding, also happen.

Symposium

Curricular implementation of writing instruction in multiple national settings

Chairperson: Liselore van Ockenburg, University of Amsterdam, Netherlands

Organiser: Magdalena Flores-Ferrés, Chile

Discussant: Fien De Smedt, Ghent University, Belgium

Analyzing writing curricula can contribute to provide an insight regarding the way educational institutions are providing writing instruction to the upcoming generations. Since the curriculum is not univocal, such an analysis could be a rather complex task, including different perspectives, such as the intended curriculum and the taught curriculum. Additionally, one must also consider the role that contextual features – material, social, cultural- play in shaping the writing curriculum in each country.This symposium presents findings from three studies that analyze curricula for writing instruction in countries from widely varying educational contexts: Sweden, Chile, Denmark, Germany, Hong Kong, New Zealand, Norway, England, United States and Uzbekistan. In particular, two studies look at teacher perspectives, and the third examines the prescribed curriculum. The presenters discuss conceptualizations of writing curricular paradigms, the relations between curriculum in theory and in practice, and cultural and social factors shaping the writing curriculum.

The first study provides insight into Swedish language teachers' perspectives about writing instruction by means of teacher questionnaires (n = 60) and observational data. The data were analyzed using Ivanič's (2004) framework for discourses of writing. Results revealed that teachers do what the curriculum asks them to do in relation to knowledge requirement. The second study focusses on curriculum implementation in Chile, by relating teachers´ practices of writing to their beliefs about writing instruction (n = 182 language teachers completed online questionnaires). Findings revealed that teachers' practices of writing instruction have a solid cultural and linguistic basis, and that recursive processes and authentic communicative writing need to be reinforced. The final cross-case study discusses writing curricula and instruction based on data of the school systems from different national settings. It highlights patterns of differences and similarities across three dimensions: social and cultural factors shaping curricula, discourses of writing and hallmarks of classroom practice. With this symposium, we expect to contribute to the international community of researchers by discussing the variations of writing curricula and writing instruction across the world, and the multiple scenarios, actors, factors playing a role in the way they are shaped.

The challenge of implementing policy aims in practice

Presenting Author:Erika Sturk, Umeå universitet, Sweden; Co-Author:Eva Lindgren, Umeå University, Sweden

Writing has been put forward as a central skill for citizens in order to enact freedom of speech and to participate in society; therefore, the teaching of writing is crucial. The questions posed in this presentation concern how the teaching of writing in Swedish compulsory school years 4–6 relate to educational policy and to theories of the teaching of writing. In order to investigate these relations, we have compiled results from our studies on teachers' beliefs about writing and the teaching of writing in practice (Sturk & Lindgren, 2019; Sturk, forthcoming) and analysed them in relation with the Swedish national curriculum. Underpinning the analysis is Ivanič's (2004, 2017) framework for discourses of writing in which writing education is perceived of as holistic and embedded in layers of cognition and social structures. Results indicate that the teachers in our studies predominantly visualise skills, genre, process and creativity discourse, whereas discourse for thinking and learning and social practices and socio-political discourse are rare. The curriculum, on the other hand, is contradictory. On an overall 'aim-level', the aims present a more holistic view on writing as compared with the core content and the knowledge requirements. Furthermore, the aims include social- practises and socio-political discourses while the knowledge requirements do not. Rather, they focus on skills, genres and processes, which are also the discourses enacted by teachers. This tension between the aims of the curriculum on the one hand, and the knowledge requirements and teachers' beliefs on the other, will be discussed in relation with a current school culture of measurement.

Understanding curriculum innovation in Grades 7-12 in Chile: Linking teachers' beliefs and practices

Presenting Author:Magdalena Flores-Ferrés, Universidad Autónoma de Chile, Chile; Co-Author:Daphne van Weijen, University of Amsterdam, Netherlands; Co-Author:Gert Rijlaarsdam, University of Amsterdam, Netherlands

This study aimed to gather evidence for further innovation of writing instruction in Grades 7–12 of Chilean public schools. Teachers' beliefs influence their curricular interpretations; therefore, these beliefs play a key role in educational innovation. Hence, we investigated (1) the relations between how Language teachers' currently implement the national curriculum in their teaching practices and

their beliefs regarding the five paradigms of Language instruction related to writing instruction, as well as (2) the internal coherence between their adherence to beliefs and practices within each paradigm and (3) the extent to which teachers' generic self-efficacy beliefs explained variations in their adherence to domain-specific paradigms. In a nation-wide survey, teachers (n=182) reported adhering rather strongly to four out of five curricular paradigms in terms of their practices and beliefs, but not to the communicative paradigm. We also obtained that, the cultural paradigm was the most coherent and the communicative one, the least. In addition, beliefs were generally significantly correlated with feedback practices, especially in Grades 7–8, but rarely with instructional practices. The strength of the implementation of teachers´ practices of writing instruction seemed to be related to teachers´ beliefs, about writing and more general aspects as well, such as regarding the socio-educational of the teaching practice.

However, differences between teachers in Grades 7–8 and 9–12 revealed that the situation seems more positive for high-quality writing instruction in lower grades, than in the upper grades. Overall, the results suggest that policymakers should focus public efforts on reinforcing teachers' beliefs regarding writing instruction, especially regarding communicative writing and on the connections between practices and beliefs within paradigms. In addition, we recommend that public efforts prioritize improvements in Grades 9–12 over Grades 7–8.

A cross-case comparison of writing curricula in nine countries

Presenting Author:Jill Jeffery, Leiden University Centre for Linguistics, Netherlands; Co-Author:Judy M. Parr, University of Auckland, New Zealand

In this paper we present a cross-case analysis of writing curricula in nine countries whose educational systems are diverse: Chile, Denmark, Germany, Hong Kong, New Zealand, Norway, England, United States and Uzbekistan. The analysis compares case studies conducted by writing researchers situated within each of the school systems. To provide a framework for comparing writing curricula, the case study researchers applied Ivanič's (2004; 2017). Discourses of Writing (DoW) categories to a content analysis of curricular documents. The only guidance given each was to consider their analysis of curricula and official documents in relation to the DoW. Thus, case study researchers took varying approaches; in some, the DoW framework served more as an overlay to view results of an inductive analysis. Thus, in this cross-case comparison, we employ the DoW as a wide lens to frame discussion; its features allow us to highlight certain aspects and the resulting similarities and differences that can be inferred. Our approach was to treat the cases as qualitative data, reading them iteratively to extract themes. We identified themes under three broad dimensions: social and contextual factors that shape writing curricula; the discourses of writing reflected in curricula and official documents, and hallmarks of classroom practice, including the relationship with official discourse. Themes included: a trajectory towards accountability and outcomes-based educational reform to address perceived under-performance in writing; a range in the extent of flexibility in implementing curricula, linked to notions of teacher professionalism; common curricula discourse of skills, process and genre; limited robust data on writing; narrow constructs of competence in writing in some countries' standards and assessments; non-empirically based development of writing standards; detrimental influence of high-stakes assessments, and evidence of a disjuncture between curriculum statements about writing and assessment, and between curricula and actual implementation. In almost no cases did curricula specify the nature of writing instruction. However, research on writing instruction in classrooms was limited in several countries. We conclude by reflecting on the internal consistency across discourse and practice and consider the nature of any gaps between espoused theory in official documents and the instantiation of this theory in practice.

Symposium

WRITING PROCESSES: GRAPH-BASED VISUALIZATION & ANALYTICS

Chairperson: Minjing Zhong, China Organiser: Christophe Leblay, Finland

Discussant: Ioannis Dimakos, University of Patras, Greece

Contemporary writing technology offers us a decisive turning point: through the intermediary of various dedicated software, digital writing gives us access to the complex data of writing (Lindgren & Sullivan 2019). This symposium presents 3 papers using the same software GenoGraphiX-LOG (GGXLog) which is derived from an interdisciplinary approach between text genetics and mathematical graph theory. From a methodological point of view, textgenetic analysis tries to 1) collect material traces of the creative processes and 2) relate them to each other in order to arrange them in a chronological sequence that reflects the stages of the writing's elaboration. Differently from GIS-based methods whose purpose is to record, archive, analyze and visualize information on a Cartesian plan using two axes with fixed positions, a graph-oriented logging tool should offer, in the field of spatial and temporal Humanities, dynamic and interactive drawings, using shapes, colours and interconnections by highlighting visual common patterns (Bécotte-Boutin et al. 2019). Based on traces left by the writer, the aim is to identify mainly the fluency, pauses and revisions (Cislaru & Olive 2018). Further, this visualization of writing processes provides insights into the strategic competence of multilingual writers in different skill levels. In this symposium, we aim to highlight the future role of visualization in studies of writing processes and its usefulness in the acquisition of writing from a pedagogical perspective. A demonstration session (GenoGraphiX-LOG: Graph-based Data Visualization & Analytics for Insights into Writing) is also organised in conjunction with this symposium to show the functionality of the software.

Visualising the stages of a writing process

Presenting Author:Florence Tanoï Namio, Polytechnique Montréal, Canada; Co-Author:Alain Hertz, Ecole polytechnique Montréal, Canada; Co-Author:Gilles Caporossi, HEC Montréal, Canada; Co-Author:Christophe Leblay, University of Turku, School of Languages and Translation studies, Finland

The main purpose of this work is to give some tools that can help to study the different stages of writing before the final text. Indeed, every day, we write but the first thing we write is often absent in the final version because we made several changes. Then, it would be an important asset to know the contribution of each change to the final text. Starting from the visualization of the writing process based on graph theory, this paper first defines the notion of "Community of modifications" which show the modifications made during a text writing. Then, presents a visualization model of the writing process that illustrates the different stages of writing that led to the final version of the text. The communities of modifications allow, through the representation, to have the extent of the modification, its position in the text and its composition. In addition, they allow direct access to the writer's modification, which will allow a more in-depth study of the modifications. This can help researchers to understand the writing process and to further study the processes of text revision. This article also gives examples of analysis of the writing process with this representation. In particular, the identification of revision episodes using the communities merging, and the evaluation of modifications with the contribution rate to the final version of the text. This illustrates the fact that the visualization of the writing process with graph theory opens the door to several other ways of analyzing the writing process.

Textual coherence in recorded writing processes. The case of Chinese learners of French

Presenting Author:Minjing Zhong, Xiangtan University, China

Coherence is a property that characterizes the text as a unified and interpretative whole. Chinese learners of French L2 may have difficulty producing a coherent text in French. This work therefore aims to analyze their management of the textual coherence, and more precisely, the uses of connectors and the resolution of reference chains in their recorded writing process. Eighty-two Chinese students wrote a narrative text and an argumentative one in response to the same instructions (Zhong, 2020). Among them, twenty-six students have used the GenoGraphiX software (Leblay & Caporossi, 2015) from 2017 to 2018, the other fifty-six have used GenoGraphiX-Log 2.0 software (Usoof et al., 2020) in 2021. The total corpus represents 110h30min and 38 090 words. Through graphic and statistical visualizations, we will study the modification operations inspired by the textual genetics - insertions, deletions, replacements, displacements (Doquet-Lacoste, 2003) - and the pauses (Cislaru & Olive, 2018) during the uses of connectors and the resolution of reference chains. This allows us to analyze the eventual problematic operations in the coherent writing by Chinese learners of French, and to discuss methodological approaches to improve their writing skills.

Idiosyncrasies and regularities in recorded writing processes. The case of French L2 learners

Presenting Author:Denis Foucambert, Université du Québec à Montréal, Canada; Co-Author:Tracy Heranic, Concordia University, Canada; Co-Author:Leslie Redmond, Memorial University, Canada

Enabling advanced students to write effectively in their second language is one of the main objectives of post-secondary language courses. However, instructors often only have access to final texts that provide a limited view of the real difficulties students face while writing. Software that records writing processes makes it possible to reconstruct the temporality and spatiality of writing (Doquet & Leblay, 2014) and to analyze the moments and contexts in which obstacles in writing emerge.This presentation seeks to understand and differentiate between the specific difficulties faced by each writer, as well as those shared by different writers, which may be due to certain problematic grammatical, discursive or enunciative complexities.Twenty university advanced L2 French students wrote a short narrative text in response to a well-tested prompt (Garcia-Debanc, 2018; Zhong, 2020) using Ggxlog software. We will present different visualizations of the obtained writings to show how they respond to and complement each other to allow for observation and understanding of students' difficulties. This will allow us to differentiate what is specific to each individual from what is generalizable to all students. The study of the pauses and their context of occurrence will allow us to identify problematic operations (Cislaru & Olive, 2018; Zhong, 2020) with regard to models of written production (Hayes, 2012), particularly in L2 writing.Finally, we will discuss the relevance of Ggxlog in advanced L2 classrooms to help teachers and students understand the different aspects that are problematic in mastering fluent and effective writing.