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Methods in Writing Process Research

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Methods for studying writing processes have significantly developed over the last two decades. The rapid development of software tools which support the collection together with the display and analysis of writing process data and new input from various neighboring disciplines contribute to an increasingly detailed knowledge acquisition about the complex cognitive processes of writing. This volume, which focuses on research methods, mixed methods designs, conceptual considerations of writing process research, interdisciplinary research influences and the application of research methods in educational settings, provides an insight into the current status of the methodological development of writing process research in Europe.

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Methods in Writing Process Research

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Carmen Heine, Dagmar Knorr and Jan Engberg

Methods in writing process research

Introduction and overview

1 Introduction

Research methods are at the core of assumptions, hypotheses, research questions, and research interests in writing research projects, regardless of researchers' personal preferences, underlying research decisions, theories, situational circumstances, obstacles and hindrances, etc. Hence, research methods are, without doubt, a principal variable of any approach taken to investigate the production of text and its outcomes.

The major methodological advances of recent years have changed, re-focused and significantly influenced writing process research across Europe. The development of modern writing process tools on the one hand and the acquisition of qualitative and quantitative methods originating from neighboring disciplines, adapted to suit the needs of writing process research on the other, have brought about new techniques to track, investigate and value writing processes and products. Key logging, screen capturing, eye tracking and other process tools, as well as accompanying possibilities to obtain, measure, analyze, compare, assess and, as a consequence, teach, enrich the field of writing process research.

As the field broadens and opens up for transdisciplinary views, process and product phenomena are researched into from more diverse and multiple angles than previously possible. This gives rise to new methodological and theoretical approaches to research and their practical implementation and validation in the writing domains.

The X. *prowitec*-Symposium "Methods in Writing Process Research", hosted by the writing center "Schreibwerkstatt Mehrsprachigkeit" at Hamburg University, 14.-15.02.2013 in Hamburg, which also marked the 20th anniversary of the German Association for Professional Communication in Education, Industry and Technology, *prowitec* e.V., acknowledged this development and brought together writing researchers and scholars from neighboring disciplines to discuss conceptual considerations of writing research, means of data collection and data evaluation, writing didactics methodology and writing research methods in interdisciplinary contexts.

Besides the ongoing general interest in content characteristics, competence and skill descriptions, two major areas of current interest in European writing research

emerged from the symposium. The first is to combine different but complementary research methods and approaches to generate process data and their subsequent scrutiny and discussion. The second is the evaluation, effect measurement and quality assessment of the resulting process data and products in the respective writing domains against set research objectives. Domains which continue to be in focus are workplace and pedagogical domains and university settings, where writing research methods are applied and pupils' and students' writing practice, production competence and product quality outcome are examined and the feasibility of the methodology and its applicability for didactics are tested. It is here, where machine learning techniques, web-based learning environments and visual resources in the form of logs and videos begin to play an ever-increasing role in writing research.

We have assembled a number of contributions from the symposium into this volume along the aforementioned research interests and topics. The volume is divided into three parts.

2 Overview of the contributions to the volume

Part 1 of the volume starts out with three contributions reporting about general approaches to writing research studies and methods which suggest, critically discuss and apply a multitude of techniques to track, investigate and value the phenomena of the writing process in regard to theoretical, methodological, pedagogical and transdisciplinary views and set research objectives.

In "An exploratory study of context characteristics in writing process research in educational and workplace settings", *de Glopper, Van Kruiningen* and *Hemmen* present a study of 70 peer reviewed journal articles published between 1980 and 2012 about writing processes in the educational and workplace domain. On the basis of the famous claim in writing research that writing activities are based on contextual factors, the authors explore to what extent and how context is accounted for in the articles. The study examines the characteristics that pertain to the methodology applied and to the writing contexts described in the publications. For the purpose of examining the characteristics, a coding scheme is used. The focus of the article is on methodological approaches and characteristics, the description of the characteristics of the contexts in which writing processes have been studied and the methodological discussion of context. This is supplemented by an analysis of the impact of context characteristics on study outcomes. The authors stress the differential treatment of context in the researched domains and suggest causes for this state of affairs.

In “Combining methods in AL-informed writing research”, *Perrin* addresses writing from an Applied Linguistics (AL) perspective, drawing on writing as a language-based activity in complex and dynamic real-life contexts. Two methodologically complementary ways of doing writing research into real-life writing processes, namely *ex post* and *in situ* are examined. The author uses cases from literary writing and mass media production as examples. In his AL-informed writing research approach, the author considers writing to be a joint activity of researchers, practitioners and society. In this view, individual or collaborative writing is researched into as a material, mental, and social activity in analogue or digital environments, *ex post* or *in situ*, and, in order to understand and improve it. The author outlines a typology for four methodological perspectives in AL-informed writing research which include material differences between text versions, individuals’ writing strategies, variation of practices within and across organizations’ writing, and communities’ metadiscourse reflecting their written communication. The challenges of combining perspectives and methods are highlighted in this contribution.

In “Between Experience and Empirical Research. Writing Process Counseling as a natural setting for Writing Process Research”, *Ruhmann* refines a pedagogical setting – writing process counseling (WPC) – on the basis of experience in counseling academic and scientific writers. Experiences from writing process counseling at German universities set the scene for the description of the elements of writing process counseling, which include but are not limited to: the counselor and the academic writer, their interaction, techniques applied, the cooperative communication process and its interpretation and successive actions taken in the process and its evaluation. The author describes the dilemma of grasping the individual aspects of writing processes in an integrated way through research and sheds light on the cognitive perspective by contrasting WPC and cognitive writing process research, and the socio-cognitive perspective by discussing writer’s overload. The author introduces the concept of the systematic core and explains the task specific core of WPC and the rational and emotional cores. The non-empirical integrative virtue of the method is highlighted and a dialog between the heuristic WPC approach and empirical writing process research is suggested.

Part 2 continues with five contributions in the broader field of text production process research, including translation studies’ approaches for the evaluation of process data and writing skills’ effects on translation products. The combination, implementation, application and usefulness of process research methodology and the resulting data in learning settings is reported about. In addition to the process-oriented approach, product related variables of the production processes such

as aspects of text quality assessment approaches and effect measurement also play a key role in these contributions.

In “Looking Beyond Text. The usefulness of translation process data”, *Massey* and *Ehrensberger-Dow* shed light on a challenge of translation process research, namely the establishment of its relevance to the quality of translated products. Drawing on a corpus of processes, the authors apply quantitative research approaches to determine process measures and classifiers which can complement traditional product measures of translation evaluation, in order to explore the differences between student and professional performance. The findings include an initial indication of an increased use of internal resources, more targeted use of external sources, stronger capability of distinguishing linguistic and extra-linguistic problem types, higher ability to process longer stretches of text and a more considered, reflective approach with professional and MA students than with beginners. On the basis of their findings, the authors propose that reflective text production may be a strong indicator of translation competence. The authors tentatively suggest a number of process-oriented “good performance” guidelines and discuss implications of their findings for diagnostics, training and evaluation.

In “The translator as a writer. Measuring the effect of writing skills on the translation product” *Schrijver*, *Van Vaerenbergh*, *Leijten* and *Van Waes* present the results of an experimental pretest-posttest study with an experimental group trained in writing instructive texts and a control group receiving placebo training. The study investigates the effects of genre-specific writing on the translation products of undergraduate translation students and compares these with the placebo group’s on the basis of transedited rich points, in order to gain insights into what influence writing competence acquired through intervention training has on translation product quality. The findings show that the experimental group’s translation products showed significantly fewer violations of target language genre conventions, yet a significant effect of the writing training on overall translation quality could not be determined.

In “New methods of text production process research combined”, *Heine*, *Engberg*, *Knorr* and *Spielmann* report about a research project located at the crossroads between the fields of writing process research and hermeneutics. The project encompasses academic writing workshops carried out with semi-professional and professional academic writers. During these workshops a combination of state of the art writing research tools and an interview method, originally developed in the field of educational psychology, were applied. The focus of the research project was on participants’ self-reflection during writing sessions and on co-constructed, collaborative social interaction through dialogue about participants’ subjective

theories of their writing or their writing processes respectively. The contribution describes the incremental application of a mixed-method workshop design, discusses the applicability of the methods and their combination and initial reactions of the participants.

In “Comparing and combining different approaches to the assessment of text quality”, *Grabowski, Becker-Mrotzek, Knopp, Jost* and *Weinzierl* refer to an interdisciplinary research project which investigated the influence of subcomponents of writing literacy on three text types produced by 5th and 9th graders. With focus on their reliability, their interrelations and their concurrence, and with the aim to acquire appropriate quantitative characteristics of text quality, different approaches to the assessment of text quality are taken under scrutiny. Against basic assumptions regarding the concepts of writing literacy and the quality of texts, the authors introduce their empirical data material and analyse four different approaches to the quantitative assessment of text quality through a comparison of their properties, strengths and weaknesses. The results are correlated and put into perspective with the consequence that the authors’ aggregated text quality measure provides a result that they classify as highly systematic.

In “Applying machine learning techniques to investigate the influence of peer feedback on the writing process”, *Leijen* discusses how web-based reciprocal peer review systems can be used to collect peer feedback data and how machine learning methods can serve to analyze this data, in order to provide insight into writing processes of student learners. The contribution describes the use of web-based peer review systems with the *SWORD* system as an example. The feasibility of such systems for didactical and theoretical application in writing research is discussed together with their performance. The peer feedback approach is related to the concepts of machine learning. The results of a number of studies are compared and suggestions for further research are provided, where the necessity to investigate whether, and if so how, peer feedback has an impact on writing revision processes is highlighted.

Part 3 rounds off the volume with contributions dealing with the practical application of methodology and assessment alike. It draws on the areas of writing practice and student writing. In this section, a combination of methods of how students’ text production competence, as it appears in university writing courses, can be measured, is suggested and discussed. Different types of assessment are in focus and the resulting text quality of academic writing is the object of interest. In addition, a showcase on reading and writing in a web-based learning environment developed for pupils and students is presented, writing strategies applied in this showcase are described and the feasibility of the methods used for teaching purposes is analyzed.

In “Methods of measuring students’ text production competence and its development in writing courses”, *Göpferich* reports about a study with L1 texts produced by 20 German students where current practices to measure students’ text production competence were investigated. The author explains two interconnected text quality assessment methods comprising an error classification scheme which yields assessments of argumentative texts on four levels and an additional holistic evaluation of textual macro-structure and stringency. The qualities of texts produced at the four text levels serve as cues to an understanding of the sub-competencies that form the complex set of competencies of the writing process as a whole. The results of the study are interpreted in the light of Dynamic Systems Theory and McCutchen’s capacity theory of writing.

In “A showcase on reading and writing. Visual resources for analyzing, teaching and learning how to write academic texts”, *Lehnen, Schüler* and *Steinseifer* present a web-based learning environment for scientific writing (SKOLA) that scaffolds the writing process and logs process activities. The logs can later be used for linguistic analysis and classroom teaching. With examples from two students’ production processes as a showcase, the article compares the writing strategies of the two and discusses how visualizations through process diagrams and other graphic representations can help gain insight into the conditions of the acquisition of domain-specific writing competencies.

Part I

General Approaches to Writing Research Studies and Methods

Kees de Glopper, Jacqueline van Kruiningen
and Noortje Hemmen

Context in Writing Process Research

An exploratory analysis of context characteristics in writing process research in educational and workplace settings

This paper reports on an exploratory study of the representation of context in writing process research. A sample of 70 publications that report on 74 studies into writing processes has been analysed by means of a coding scheme that addresses aspects of study methodology, setting for writing, writing task and task conditions. The outcomes of the analyses point out that writing contexts vary in systematic ways with study settings, study designs and study approaches. Studies in the educational domain, experimental studies and studies with a solely quantitative orientation often involve impoverished, unnatural conditions for writing. The degree to which context is a theoretical inspiration and/or a methodological concern also covaries with research settings, designs and approaches. Future research could strive for a richer and more realistic picture of the processes involved in real life writing by addressing the 'white spots' this exploration has identified.

1 Introduction

Writing is an activity with a dual nature: the composition of text has both social and individual aspects. Writing is social in the sense that writers interact with readers in contexts that are shaped by social, cultural and historical tools, practices and understandings. Its individual character is clear from the fact that writers bring their personal goals and resources to the act of writing. Accordingly, writing can be studied from social and individual perspectives. Theory and research with a social orientation address the use and appropriation of shared cultural forms, functions and technologies of writing. Accordingly, sociocultural studies of writing focus on the situated activities of writers and try to describe and explain how environment and activity interact. Cognitive, affective and motivational aspects of writing are studied from an individual-psychological perspective. This perspective involves

a theoretical and empirical focus on individual writers' resources and on the way they (learn to) orchestrate the composition process.

Sociocultural and individual-psychological approaches provide complementary perspectives: cultural practices require individual participation and appropriation, while individual writing activity necessitates orientation on socially and culturally defined tools and practices. The dependency of individual activity on its context has been recognized by models that have guided psychologically oriented research into the writing process (Flower/Hayes 1981, Hayes 1996 and 2012). Over the years, these models have acknowledged the importance of the task environment and of long-term memory. The task environment comprises collaborators, critics and audience as social factors; the writing task, writing plans and materials, and the text produced as textual constraints; and the transcription technology. Long-term memory is a resource that contains different kinds of knowledge that are social and cultural in nature (e.g. linguistic knowledge and genre knowledge).

At a theoretical level, current writing process models thus acknowledge that processes (and subsequently products) of writing depend on context. This has important implications for the study of writing processes, since our understanding of writing results from the study of specific forms of writing that occur under specific circumstances. This calls into question in what kinds of contexts composition processes have been studied. There is no review of writing process literature available that provides an answer to this question. This paper, therefore, deals with this issue. It presents an exploratory analysis of the writing process literature. We present a coding scheme for analysing the characteristics of the contexts in which writing processes have been studied and we apply it by analysing a sample of 70 writing process studies, carried out between 1980 and 2012. The resulting description of the characteristics of the contexts in which writing processes have been studied is supplemented by an analysis of the way in which the impact of context characteristics on study outcomes is discussed in this sample of research articles.

2 Writing in context: building blocks for the coding scheme

Some preliminary remarks on the scope of the notion 'context' and on the relation between context and activity are necessary. Sociocultural approaches to writing maintain that writing is a situated activity. Writing is shaped by its immediate context and by the broader cultural and historical context in which it occurs. In the immediate context or task environment we find concrete constraints and affordances such as other participants that may act as collaborators, reviewers or readers, materials that help shape the text to be written, such as task descriptions and

specifications, plans and templates for writing, draft versions, and technologies for inscription and distribution. All of these aspects are rooted in broader cultural and historical contexts. A genre, for example, that a particular writer may try to follow, has evolved over time and places into a typified pattern of writers' actions that responds to the needs and expectations of readers. The relation between context and activity is not unidirectional and deterministic however. Context and writing activity are co-dependent as participants in written communication not only react to context parameters, but make specific aspects of context relevant in their actions and thus shape their environment (Duranti/Goodwin 1992). Moreover, the tools and practices for writing that have become available in specific discourse communities are not invariable and set, but may be contested and adapted (Bazerman 1988, Gross/Harmon/Reidy 2002).

What aspects of context are relevant for the study of writing processes? For several reasons this is a difficult question. First, the notion of context itself is broad and somewhat vague. Context is commonly understood as the background against which focal events or activities can be interpreted, but we lack a precise delineation of the dimensions of contexts that are relevant for the study of (written) communication (Van Dijk 2008). Second, there is no agreement on the point of departure for studying the relation between context and activity. One important approach is to study the relevance of context from the perspective of participants and describe what aspects of context participants treat as relevant (Duranti/Goodwin 1992). In a radically different approach one adopts an outsider's perspective and studies covariations between aspects of context and activity (Conrad 2002).

For our present purpose we need not solve these problems. Below we will present a tentative list of features of context that appear to be important for the study of writing processes. Some context variables are clearly relevant, for theoretical or empirical reasons. For other aspects the backing is less secure, as we will indicate. It should be clear from the outset that our discussion of relevant context parameters is not meant to be exhaustive.

The institutional environment

The larger institutional environment in which writing takes place is a first and important contextual variable. Writing is done and studied in both educational and workplace environments and, to a much lesser extent, in private settings. In schools, writing is both learned and used as a tool for learning and for demonstrating learning outcomes. Learning to write quite commonly takes place under circumstances of pretence and reduction. Often, motives, purposes and audiences for writing are imposed (or even absent), rather than authentic and it is quite usual that efforts to simplify or facilitate writing tasks result in restrictions with respect

to collaboration, communication, drafting, publication and readership (Applebee/Langer 2011). Workplace writing is an umbrella term for a wide range of types of writing, performed in different kinds of institutions (e.g. hospitals, government institutions, commercial firms) and by employees and managers at different levels of authority and control, both as a support of other types of actions or as a primary activity. Writing in the workplace may differ from educational writing in many respects, such as the purposes and audiences for writing, the variety of genres that are practised or used, access to information and model texts, issues of authorship and responsibility, and the ways in which participants are socialized to become members of specific discourse communities (Beaufort 2008).

The writing task

The writing task itself, its purpose and audience and the corresponding genre that is at stake are obvious key elements of the immediate writing context. These variables figure prominently in the task environment that is included in writing process models. Genre is a core notion, both in socio-cultural and in individual-psychological accounts of writing (Donovan/Smolkin 2006, Prior 2006). There is ample evidence that processes (and outcomes) of writing covary with genre (Beers/Nagy 2011, Chanquoy/Foulin/Fayol 1990, Van Hell/Verhoeven/Van Beijsterveldt 2008). Audiences for writing may be more or less familiar to the writer and the social and cultural distance between writer and reader may vary, as a function of differences in status, age, gender, and linguistic, ethnic or religious background. Audiences need not be specific and can, in school writing, also be fictitious or left unspecified.

Participants

While composition is prototypically portrayed as a communication situation where the partner for conversation is absent, writers have to deal with other participants, in all sorts of contexts. Participants can be immediately available as collaborators or more remotely present as reviewers, critics or teachers. Collaborative writing may change the nature of the process in different ways (e.g. by division of labour) and at different moments (e.g. before writing or between drafts) (Graves 1983, Topping/Nixon/Sutherland/Yarrow 2000).

Communication

Individual writing does not imply writers' independence, as major parameters of the activity, such as purpose, genre or time, may be set by other individuals or by institutional constraints. It does, however, limit communication with others on the function, content and form of writing. Communication may, for example, help clarify task demands, supply additional information for the text, specifications for