



Knowledge in the Making: Methodological Considerations on the Production, Dissemination, and Usage of “Small Forms in Education”

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Abstract • Collecting and producing mass data has offered an appealing way to condense educational phenomena. However, thus far, little attention has been given to the seemingly insignificant pre-printed forms that represent the basis for compiling and aggregating data. Taking inspiration from science and technology studies and the ensuing development of so-called paper technologies, this article highlights the potential of small forms in education that were used to record, evaluate, and aggregate data for educational statistics. By suggesting a multi-level methodological approach that we frame as 3D hermeneutics, we seek to contribute a methodological proposal on how to analyse these materials and showcase what lies beneath – or what comes before – the knowledge produced by educational statistics. These analyses draw on pre-printed forms collected by the Prussian educational administration at the turn of the nineteenth century, and re-trace the contexts they were embedded in, examine their materiality, and reconstruct their usage.

Keywords • small forms in education, 3D hermeneutics, knowledge production, school administration, educational statistics

Introduction

In the field of social history, the collection and production of mass data has offered an appealing way of condensing social and educational phenomena. By conducting large-scale surveys, policy makers and educational reformers have sought to gain insights into the development of specific conditions in the field of education.¹ However, focusing on the knowledge of statistics and the effects they produce often neglects the detailed procedures that went into the production of mass data. Therefore, we propose to examine the technologies that have provided the basis of aggregated information: files, blanks, index cards, lists, reports, as well as records of assessment and evaluation – materials that we frame as *small forms in education*.² Our understanding of these sources builds on the notion of small forms,³ a genre

1 This article was inspired by materials and sources collected in the research projects “The Bureaucratization of Groupings. Local and Transnational Dynamics of Innovation in the Introduction of Age-Graded School Classes in Compulsory Education (Prussia, the USA, and Spain, ca. 1830-1930)” and “Profession, Normative Orders and the Emergence of Special Education”, both funded by the German Research Association. The authors owe important input to Prof. Dr. Marcelo Caruso (Humboldt-Universität zu Berlin) and Prof. Dr. Vera Moser (Goethe-Universität Frankfurt am Main). The Swiss National Science Foundation, through the NFP 76 (Project-No. 177436), further funded Jona T. Garz’s work on this article.

Martin Lawn, ed., *The Rise of Data in Education Systems: Collection, Visualization and Use, Comparative Histories of Education* (Oxford: Symposium Books, 2013).

2 The question whether *small forms in education* constitute a discipline-specific type or if a *small form* is a distinct epistemic form enabling identical epistemic practices across disciplines and knowledge fields remains to be further discussed.

3 “Small forms” is a translation of the German term “kleine Formen”. Unlike the English word “form”

originally coined in the field of literary studies.⁴ Small forms share one feature: they are products of deliberate acts of miniaturisation.⁵ Some of these acts are enforced by time and space constraints, others follow aesthetic purposes, are the effect of formalisation, or the result of concentration on details. Tapered to the field of history of education, we propose to read small forms in education as short(er), highly formalised, widely disseminated, readily accessible, and seemingly casual sources that nonetheless are central to knowledge production structures. By focusing on this specific source type, our contribution will complement analyses of established source material by exploring the smallest units of data collection and discussing how educational knowledge was produced.

The success of small forms is closely linked to the cultural development in Europe since the end of the seventeenth century that ultimately gained momentum in the course of the nineteenth century. This included the emergence of an (inter)national press, the formation of a global market – and with it a global public – as well as scientific professionalisation and the emergence of widely used *media technologies*.⁶ In the course of ‘modern’ developments, small forms promised “to create orientation, to cope with contingency, and to make acceleration navigable”.⁷ Counting cards,⁸ pre-printed forms,⁹ questionnaires,¹⁰ notebooks,¹¹ and so on became central to

that relates to the shape of an object and a pre-structured document the German term “Form” relates to the shape of an object and more generally denotes a text genre, so that it encompasses more a qualitative meaning than its literal English translation.

- 4 Walter Haug and Burghart Wachinger, eds., *Kleinstformen der Literatur*, Fortuna Vitrea v. 14 (Berlin/Boston: De Gruyter, 1994), <https://ebookcentral.proquest.com/lib/gbv/detail.action?docID=4793858>.
- 5 Maren Jäger, Ethel Matala de Mazza, and Jürgen Vogl, “Einleitung” in *Verkleinerung: Epistemologie und Literaturgeschichte kleiner Formen*, ed. Maren Jäger, Ethel Matala de Mazza and Joseph Vogl (Berlin/Boston: De Gruyter, 2020).
- 6 While many of these media technologies have a history dating back to at least the sixteenth century, their ubiquitous presence and the importance of their use in modern offices and administrations was closely linked to the developments in nineteenth century Europe. They became even more powerful in the first decades of the twentieth century when Taylorist “scientific management” was adopted in offices around the USA and Europe. Ann Blair, *Too Much to Know: Managing Scholarly Information before the Modern Age* (New Haven: Yale University Press, 2010); Markus Krajewski, *Paper Machines: About Cards & Catalogs, 1548–1929*, History and Foundations of Information Science (Cambridge: MIT Press, 2011).
- 7 Michael Gamper and Ruth Mayer, “Erzählen, Wissen und kleine Formen: Eine Einleitung,” in *Kurz & knapp: Zur Mediengeschichte kleiner Formen vom 17. Jahrhundert bis zur Gegenwart*, ed. Michael Gamper and Ruth Mayer (Bielefeld: transcript, 2017), 15. Translation by the authors.
- 8 Christine von Oertzen, “Machineries of Data Power: Manual Versus Mechanical Census Compilation in Nineteenth-Century Europe” *Osiris* 32, no. 1 (2017), 129–50, <https://doi.org/10.1086/693916>.
- 9 Volker Hess, “Formalisierte Beobachtung. Die Genese der modernen Krankenakte am Beispiel der Berliner und Pariser Medizin (1725–1830)/Formalizing Observation: The Emergence of the Modern Patient Record Exemplified by Berlin and Paris Medicine, 1725–1830,” *Medizinhistorisches Journal*, 2010, 1–48.
- 10 Peter Becker, “Formulare als ‘Fließband’ der Verwaltung? Zur Rationalisierung und Standardisierung von Kommunikationsbeziehungen,” in *Eine Intelligente Maschine? Handlungsorientierungen moderner Verwaltung (19./20. Jh.)*, ed. Peter Collin and Klaus-Gert Lutterbeck (Paderborn: Nomos, 2009).
- 11 Anke te Heesen, “The Notebook: A Paper-Technology,” in *Making Things Public; Atmospheres of Democracy; [Exhibition at ZKM, Center for Art and Media Karlsruhe 20.03.–03.10.2005]*, ed. Bruno Latour and Peter Weibel (Cambridge: MIT Press 2005).

academic and bureaucratic practices of the nineteenth century¹² as they promised a quick and straightforward information management, one that was rational and selective – crucial criteria in a newly accelerated world.¹³

Different kinds of small forms have been used in science, bureaucracy and in educational settings to meticulously record all kinds of details.¹⁴ The observation and recording of marginal and mundane things are a hallmark of ‘modern’ science.¹⁵ Observation techniques, and thus the production of knowledge, relied not only on microscopes, but also on specifically designed small forms as “paper technologies”¹⁶ that miniaturised the complex and vast world into/onto a sheet of paper. Serial data accumulated through “paper technologies” enabled the production of tables, diagrams and graphs on a range of topics and subjects, leading to new standards of precision.¹⁷ As such, small forms were actively involved in the production of knowledge: On the one hand compressing the specific situation into a pre-printed form and thus reducing the complexity of “what is the case”, making the information transportable as well as manageable. On the other hand, they enabled academic and bureaucratic practices of assessing different series of cases, thus widening the gaze and promising the discovery of hidden relationships or finding the ‘truth’ within the collected data sets.¹⁸ It is exactly this relationship between paper technologies and the emergence of knowledge that we are interested in.

While several studies of specific small forms have shown their functioning as knowledge production technologies, little effort has been put into systemising these findings methodologically. This article sets out to do just that for small forms in the field of education, seeking to contribute to a discussion on how to read and interpret

12 Peter Becker and William Clark, eds., *Little Tools of Knowledge: Historical Essays on Academic and Bureaucratic Practices* (Ann Arbor: University of Michigan Press, 2001).

13 James R. Beniger, *The Control Revolution: Technological and economic origins of the information society* (Cambridge: Harvard University Press, 1986); Gamper and Mayer (2017); Maren Jäger, Ethel Matala de Mazza, and Jürgen Vogl (2020); te Heesen (2005).

14 Becker and Clark (2001).

15 Lorraine Daston and Elizabeth Lunbeck, “Introduction: Observation Observed,” in *Histories of Scientific Observation*, ed. Lorraine Daston and Elizabeth Lunbeck (Chicago, London: University of Chicago Press, 2011).

16 Te Heesen (2005); Volker Hess and J. A. Mendelsohn, “Case and Series: Medical Knowledge and Paper Technology, 1600–1900,” in *Seriality and Scientific Objects in the Nineteenth Century*, ed. Nick Hopwood (Cambridge: Science History Publications, 2010), 287–314; Volker Hess and J. A. Mendelsohn, “Paper Technology und Wissensgeschichte,” *NTM Zeitschrift für Geschichte der Wissenschaften, Technik und Medizin* 21, no. 1 (2013); Lauren Kassell, “Paper Technologies, Digital Technologies: Working with Early Modern Medical Records,” in *Edinburgh Companion to the Critical Medical Humanities*, ed. Anne Whitehead, Angela Woods, Sarah Atkinson, Jane Macnaughton and Jennifer Richards (Edinburgh: Edinburgh University Press, 2016). Instead of focusing on the established but narrower concept of paper technologies, we prefer to use the concept of small forms. Paper technologies focus on the design and usage of paper objects, whereas the concept of small forms allows us to look at text genres (form), literary technologies (content), and knowledge practices (usage) that are connected to note-taking but cannot be reduced to the material object alone.

17 Jäger, Matala de Mazza, and Vogl (2020).

18 Jäger, Matala de Mazza, and Vogl (2020); danah boyd and Kate Crawford, “Critical Questions for Big Data. Provocations for a Cultural, Technological, and Scholarly Phenomenon”, *Information, Communication & Society* 15, no. 5 (2012): 662–79, <https://doi.org/10.1080/1369118X.2012.678878>. Jona T. Garz, *Zwischen Anstalt und Schule. Eine Wissensgeschichte der Erziehung schwachsinniger Kinder, Berlin 1840–1914* (Bielefeld: transcript, 2022).

mass data by offering a “behind the scenes” perspective of what went into their making.

In a first step, the article introduces the source type of small forms in education. Secondly, we discuss the utilised methodological framework, which takes inspiration from “paper technology” approaches. Thirdly, to re-read small forms from the field of history of education and highlight their processual and epistemic character, we use a methodical approach that we label *3D hermeneutics*. This examines small forms in education in three distinct and interconnected ways: as a text, as an object, and with respect to their epistemic usage. A fourth section will demonstrate our approach using the example of elementary school statistics at the turn of the nineteenth century in Prussia. Focusing on Berlin and Brandenburg, the practices of collecting data on the school level as well as aggregating said data in order to produce national statistics will be analysed.

Small forms in education as a methodological framework

The complex process by which scientific facts and knowledge are fabricated can be reconstructed primarily ethnographically, that is, by observing the practices in for example scientific laboratories.¹⁹ Historically, such observation is not possible. Instead, however, the material traces of small forms resting in the archives can be understood as testimonies of the “knowledge practices” (*Wissensspraxen/Wissenspraktiken*)²⁰ embodied by them.²¹ The analysis of small forms in education draws on the concept of “paper technologies” that has established itself in recent years as a perspective of analysis in order to examine records as a cultural technique, that is, in relation to their materiality as well as to their intended and unintended administrative and epistemic effects. “Paper technologies” are technologies tied to specific noting formats on paper used to feed, process, and visualise information according to certain rules embedded into the format.²² Among the “paper technologies” that have been analysed are index card systems,²³ patient files,²⁴ and police search warrants²⁵. What small forms add to previous studies is that they move

19 Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts* (Princeton: Princeton University Press, 1986).

20 Martin Lengwiler and Stefan Beck, “Historizität, Materialität und Hybridität von Wissensspraxen: Die Entwicklung europäischer Präventionsregime Im 20. Jahrhundert,” *Geschichte und Gesellschaft* 34, no. 4 (2008).

21 Sabine Reh, “Looking at Practices—Can We Discover Something New by Looking at Practices? Practice Theory and the History of Education,” *Encounters in Theory and History of Education* 15 (2014).

22 Te Heesen (2005).

23 Eric J. Engstrom, “Die Ökonomie klinischer Inskription: Zu diagnostischen und nosologischen Schreibpraktiken in der Psychiatrie,” *Psychographien* 7798 (2005); Krajewski (2011); Isabelle Charmantier and Steffan Müller-Wille, “Carl Linnaeus’s Botanical Paper Slips (1767–1773),” *Intellectual History Review* 24, no. 2 (2014): 215–38.

24 Sophie Ledebur, “Verstetigen eines Moments: Zum Verfahren des stenographischen Protokollierens in der Psychiatrie,” in *Das Protokoll: Kulturelle Funktionen einer Textsorte*, ed. Michael Niehaus and Hans-Walter Schmidt-Hannisa, 29–41. (Frankfurt am Main: Peter Lang, 2005).

25 Peter Becker, “The Standardized Gaze: The Standardization of the Search Warrant in Nineteenth-Century Germany,” in *Documenting Individual Identity*, ed. Jane Caplan and John Torpey (Princeton: Princeton University Press, 2018).

from the question of *what* (the question of the content), and include the *how* (the question of knowledge practices). Small forms not only act as devices for recording data, but are central to the data collection process itself. At the same time, the analysis of writing formats, recording practices, and the devices and materials used in the process are connected to epistemic practices embedded in a general historiography.²⁶ By recognising small forms in science and their constant presence in accounting, bureaucracy, and also jurisprudence, it becomes possible – through the history of these cultural practices, social spaces, and social institutions – to call attention to those unintended epistemic effects of writing down and putting into order, and thus to relate them to the formation of knowledge.²⁷

Flanked by new forms of empirically based, scientific-bureaucratic productions of truth and evidence, “knowledge practices”, which focused on the institutionalisation of statistically based expert knowledge, developed at the transition between the eighteenth and nineteenth centuries.²⁸ The term “knowledge practices” encompasses not only academic forms of knowledge production, but also entanglements and translational mechanisms between different knowledge milieus, which are also reflected in the administrative small forms in education. Accordingly, knowledge practices are understood in this article as practices that produce knowledge, but do not do so exclusively in the scientific field, but rather in a complex negotiation relationship between experts in and outside of schools, institutions, and administration.²⁹ In terms of media technology, these knowledge practices were made possible by small forms in various formats.

This article will focus on the small form of pre-printed forms/blanks³⁰ (*Vordrucke*), specifically those used for collecting standardised data on schools, their teachers as well as students in Prussia at the turn of the nineteenth century. These forms, and their interconnectedness with various aggregated lists, can be used to analyse the practices of administration – as well as the formation of knowledge. For the standardisation of noting observations in science and the standardisation of administrative procedures, it is equally true that the widespread use of blanks represented a shift in media technology. In both areas, the form of the pre-printed documents made it possible to make economical use of limited resources such as time, paper, and attention. In both areas, the blank as a pre-print, the economical use of the limited space on paper, combined with the possibilities of reproduction, made it possible to process each case in a standardised way according to certain rules, regardless of the situation and the persons involved, leading to the possibility of processing ever larger quantities of data. The limitation and miniaturisation of the blank allowed for a maximal expansion of the reach of knowledge practices.

The prerequisite for the creation of a blank is an already existing institutionalised way of writing, which then materialises into a standardised form.³¹ Blanks are

26 See for the role of note-taking and filing in the Prussian state at the end of the nineteenth century Cornelia Vismann, *Akten: Medientechnik und Recht* (Frankfurt am Main: Fischer, 2011), 248–50.

27 Hess and Mendelsohn (2013).

28 Lengwiler and Beck (2008).

29 Ibid.

30 In the following we will use the terms ‘blank’ and ‘pre-printed form’ synonymously.

31 Becker (2009).

part of the material organisational structure insofar as they determine and control administrative acts. They are standardised paper sheets, labelled in a specific way and available in multiple copies. There are lines, text and blank spaces, which arrange themselves into fields into which information is to be written. They bear witness to how an administration works, why it works and what people do in and with it and what it does to people. While there are various types of pre-printed forms – like tables intended for collecting data, lists for making inventories, file covers for sorting, forms for standardised communications between units – they all share a common trait: By defining relevant information and directing the attention of the person who fills in the blanks, they create a moment of cognitive relief.³²

Understood as “materialised bureaucracy” and used in the context of knowledge practices, blanks let us see these practices retrospectively.³³ Because blanks limit the scope of interpretation and action of those who work with them, they provide historians with hints to the ways and contexts in which they were used.³⁴ Through their formalisation, blanks can act as “boundary objects”³⁵ ensuring that different people, in different places, record the same information about a case, object or problem, thus simplifying further knowledge processing. The completed blanks become objects that contain unchangeable information, independent of time and place, and thus they contribute to the stabilisation of administrative actions as well as to reliable data collection.

The methodological approach of “paper technologies” provides the framework for our own methodological proposal on how to deal with small forms in education – the mundane paperwork organising, structuring and administering the entire field of state sponsored education. By focusing on the material preconditions, that is, the paper objects themselves, their production and function as well as the knowledge practices in which they are involved, we seek to gain insights into the practices of knowledge production within the history of education and aim to analyse the functions and routines that small forms enable regarding educational statistics in Prussia at the end of the nineteenth century.

3D hermeneutics: Text, object, usage

Although paper technologies and small forms have been researched in an array of fields³⁶, little attention was devoted to describing the concrete analytic steps to deal with these materials, especially when it comes to the aspect of their usage.

32 Rainer Paris, “Soziologie des Formulars,” in *Normale Macht: Soziologische Essays*, ed. Rainer Paris (UVK-Verlag-Gesellschaft, 2005); JoAnne Yates, *Control Through Communication: The Rise of System in American Management* (Baltimore: Johns Hopkins University Press, 1989).

33 Paris (2005), 189.

34 While we argue that pre-printed forms have an (epistemic) effect on the actors dealing with them, we do not argue for “media determinism”. Whether actors produce objects or whether objects configure the practices is not determined, but decided in the moment of action. Ates Gürpınar, *Von Kittler zu Latour: Beziehung von Mensch und Technik in Theorien der Medienwissenschaft*. (Siegen: universi, 2012).

35 Susan Leigh Star und James R. Griesemer, “Institutional Ecology, ‘Translations’, and Boundary Objects: Amateurs and Professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–1939,” in *The Science Studies Reader*, ed. Mario Biagioli (New York/London: Routledge, 1999), 505–24.

36 For examples of these studies see footnotes 5–13.

As discussed above, their concepts are mostly historiographically plausible and gain legitimacy due to the well-formed structure of their originating story. While they matter as genealogies, as methodologies those studies do little to enhance the theoretical discussion. To fill this gap, we propose to follow a procedure that we label 3D hermeneutics. We call this process hermeneutics as many of the sources we have in mind were historically thought of as irrelevant and therefore not that resourcefully archived and secured, and sometimes not preserved within the context of their usage. Firstly, it is quite correct to frame the process of their analysis as a systematic understanding, as it is an active process of understanding their role and their relevance pertaining to knowledge production processes. Secondly, we think it useful to highlight a certain processuality and openness of the analysis. The statistics aggregated through the use of small forms often generated the illusion of objectivity, an illusion we believe the term hermeneutics counters very well.

Such an undertaking parallels other attempts of using hermeneutic methodologies to analyse different materials, like it has been done for visual art³⁷ or literary hermeneutics³⁸. Hermeneutics are used to reconstruct contextual meaning and usage of the material. We draw on Klafki³⁹ and Rittelmeyer⁴⁰ and loosely follow their proposed analytic procedures.⁴¹

In a first step (1), the interests in the source and the pre-understanding are articulated and it is attempted to grasp some of the prior experience and prejudice one has when dealing with the specific material. Looking at the example in focus here, this means being aware of the historical understanding of statistics as well as their contextual and historiographical usage. Since the 1960s and 1970s methods from sociology and their usages of mass data have poured into the general discussion of the history of education in German research communities, replacing and competing with more established approaches of a history of ideas. This innovation meant mostly to integrate methods of interpreting, not discussing educational data, often involving the aggregation of data from already aggregated historical statistics.⁴² Some works connected wide-spanned

37 Gottfried Boehm, "Zuwachs an Sein: Hermeneutische Reflexion und bildende Kunst," in *Die Moderne und die Grenze der Vergegenständlichung*, ed. Hans-Georg Gadamer et al., (München: Klüser, 1996); Stefan Müller-Doohm, "Bildinterpretation als Struktural-Hermeneutische Symbolanalyse," in *Sozialwissenschaftliche Hermeneutik*, ed. Ronald Hitzler and Anne Honer (Opladen: Leske + Budrich, 1997), 81–108.

38 Peter Szondi and Jean Bollack, *Einführung in die literarische Hermeneutik* (Frankfurt am Main: Suhrkamp, 1975); Erwin Leibfried, *Literarische Hermeneutik: Eine Einführung in ihre Geschichte und Probleme* (Tübingen: Gunter Narr Verlag, 1980).

39 Wolfgang Klafki, "Erziehungswissenschaft als kritisch-konstruktive Theorie: Hermeneutik – Empirie – Ideologiekritik; Heinrich Roth zum 65. Geburtstag gewidmet," *Zeitschrift für Pädagogik* 17, no. 3 (1971); Wolfgang Klafki, *Aspekte kritisch-konstruktiver Erziehungswissenschaft: Gesammelte Beiträge zur Theorie-Praxis-Diskussion* (Weinheim: Beltz, 1976).

40 Christian Rittelmeyer, "Was kennzeichnet Hermeneutische Forschung?," *Zeitschrift für Erziehungswissenschaft* 6, no. 4 (2003); Christian Rittelmeyer, Michael Parmentier and Wolfgang Klafki, *Einführung in die pädagogische Hermeneutik* (Darmstadt: WBG, 2001). See also Mikula, R., & Felbinger, A., "Geisteswissenschaftlich- und sozialwissenschaftlich-hermeneutische Zugänge," in *Handbuch Gender und Erziehungswissenschaft*, ed. Edith Glaser, Dorle Klika and Annedore Prengel (Bad Heilbrunn/Obb.: Klinkhardt, 2004).

41 We mainly follow Rittelmeyer, Parmentier and Klafki (2001), 43–46.

42 Peter Lundgreen, "Quantifizierung in der Sozialgeschichte der Bildung," *VSWG: Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 63, no. 4 (1976); Peter Lundgreen, "'Bildungspolitik' und

theorems with the data⁴³, some attempted to grasp how data differed within the German context⁴⁴ but nearly all these studies fall short in reflecting on the production processes and the meaning of this data.⁴⁵ We know of the data, we know how it was aggregated and (re-)interpreted over time, we even know from (historical) studies about the data aggregation agencies and their histories,⁴⁶ but the ways and means of knowledge production remain opaque. A contextual reading of the textual dimension of the small form might serve as a guide to the relevant categories, it might allow for new questions, but it mostly allows to specify the research interest. Asking why certain terms are included in such a complex and expansive questionnaire might add to the researcher's understanding of the sources.

Secondly (2), a description of the material is needed. We suggest a two-dimensional description: First the small form is described with regard to the written content before in a second step the small form is described in its material dimension. Ideally all relevant aspects will be taken into account – an endeavour that often proves difficult. When we discuss the statistics in question it is necessary to focus

'Eigendynamik' in den Wachstumsschüben des deutschen Bildungssystems seit dem 19. Jahrhundert," *Zeitschrift für Pädagogik* 49, no. 1 (2003); Peter Lundgreen, "Historische Bildungsforschung auf Statistischer Grundlage," in *Beiheft zur Zeitschrift für Erziehungswissenschaft Bildungsbeteiligung: Wachstumsmuster und Chancenstrukturen 1800–2000*, ed. Peter Lundgreen (Wiesbaden: VS Verlag, 2006), 5–13; Hans Jürgen Apel, *Das preußische Gymnasium in den Rheinlanden und Westfalen 1814–1848: Die Modernisierung der traditionellen Gelehrtenschulen durch die preußische Unterrichtsverwaltung*, Studien und Dokumentationen zur deutschen Bildungsgeschichte 25 (Köln: Böhlau, 1984); Hans Jürgen Apel and Michael Klöcker, *Schulwirklichkeit in Rheinpreußen: Analysen und neue Dokumente zur Modernisierung des Bildungswesens in der ersten Hälfte des 19. Jahrhunderts*, Studien und Dokumentationen zur deutschen Bildungsgeschichte 30 (Köln: Böhlau, 1986). For an overview of the development and all references to the manifold data handbooks, see Thomas Ruoss, *Bildungsgeschichte als quantifizierende Sozialgeschichte: Bringing a Dead Man Back to Life?* (2020), <https://doi.org/10.25523/32552.7>

- 43 Detlef K. Müller, *Sozialstruktur und Schulsystem: Aspekte zum Strukturwandel des Schulwesens im 19. Jahrhundert* (Göttingen: Vandenhoeck und Ruprecht, 1977); Detlef K. Müller, "The Qualification Crisis and School Reform in Late Nineteenth-Century Germany," *History of Education* 9 (1980); Detlef K. Müller, "Der Prozeß der Systembildung im Schulwesen Preußens während der zweiten Hälfte des 19. Jahrhunderts," *Zeitschrift für Pädagogik* 27, no. 2 (1981).
- 44 Marion Klewitz and Achim Leschinsky. "Institutionalisierung des Volksschulwesens," in *Enzyklopädie Erziehungswissenschaft Band 5: Organisation, Recht und Ökonomie des Bildungswesens*, ed. Martin Baethge and Knut Nevermann (Stuttgart: Klett-Cotta, 1984), 72–97; Marion Klewitz, *Preußische Volksschule vor 1914. Zur regionalen Auswertung der Schulstatistik: Primary schools in Prussia prior to 1914* (Weinheim, Basel: Beltz, 1981); Leschinsky, Achim. "Volksschule zwischen Ausbau und Auszehrung." *Vierteljahreshefte für Zeitgeschichte* 30, no. 1 (1982).
- 45 For a general discussion on the idea of neutral raw data see Lisa Gitelman, "Raw Data" is an Oxymoron (Cambridge: MIT Press, 2013). Ulrich G. Herrmann, *Sozialgeschichte des Bildungswesens als Regionalanalyse* (Köln: Böhlau, 1991) also reflects on data aggregation processes. For a contemporary critique of the quantification of historical research, see for example Kerstin Brückweh, *Menschen zählen: Wissensproduktion durch britische Volkszählungen und Umfragen vom 19. Jahrhundert bis ins digitale Zeitalter* (Berlin, Boston: De Gruyter Oldenbourg, 2015); Stefan Haas, Michael C. Schneider and Nicolas Bilo, *Die Zählung der Welt: Kulturgeschichte der Statistik vom 18. bis 20. Jahrhundert* (Stuttgart: Franz Steiner Verlag, 2019).
- 46 Michael C. Schneider, *Wissensproduktion im Staat: Das königlich preußische statistische Bureau 1860–1914* (Frankfurt am Main: Campus Verlag, 2013); Konrad Saenger, "Das Preussische Statistische Landesamt 1805–1934," *Allgemeines Statistisches Archiv, Jena* 24 (1934); Emil Blenck, *Das Königliche Statistische Bureau im ersten Jahrhundert seines Bestehens, 1805 bis 1905* (Verlag des Königlichen Statistischen Bureaus, 1905); Richard Boeckh, *Die geschichtliche Entwicklung der Amtlichen Statistik des Preussischen Staates* (Berlin, 1863).

on the blanks that were distributed by the statistical officials on all levels as well as the available accompanying manuals and instructions on how to fill them. Changes made to these blanks can be indicators of relevant shifts and highlight debated matters. In our case some published and some unpublished survey forms as well as accompanying materials and some examples of filled-in forms were archived that we describe to an extent appropriate to the aim pursued here. Our analysis also includes additional archival sources that problematise the pre-printed forms provided.

The third step (3) of the analysis deals with the dimension of the usage of the aggregated statistical data. The point here is to describe and track all the signals and hints related to the material usage of the recorded data. Here of course the object itself is of central interest, but it might as well be helpful to look at complimentary sources that closely interact with the source and discuss necessary adjustments in the small form itself and might even propose alterations. As media products small forms are products of miniaturisation, but the level of formalisation and openness of their form is not always identical. One therefore might divide step (3) into an analytic approach towards (a) the concrete (but not necessarily intentional) usages and (b) more abstract and discursive usages. To identify and re-trace relevant adjustments it can also be useful to (c) involve previous versions and practices and visualise changes.

We attempt to complete all three steps here to a certain extent. It is not helpful for this article to engage in depth with the ongoing pedagogical discourse of the period in question and to trace all usages of and references to the statistical data and the process of its aggregation. Hence, we limit ourselves to the administrative discussion on the data at hand and look at what the statistical agency wanted the statistics to report and how the data and its aggregation were discussed internally. Further chronological comparisons would have been possible, but we decided to compare two very closely connected statistics, as they show how some alterations might be connected to concrete experiences of statistical aggregation and feedback towards those procedures. This direct connection allows for a compelling case concerning the influence of survey conductors on the formation of statistical knowledge.

This form of analysis allows for a reconstruction of knowledge-producing practices that would be inconceivable without small forms in education. In the following exemplary analysis, we focus on some, but not all possible aspects of all three dimensions. We chose the material to highlight the distinctive advantages of the perspective and the analytical proposal. The small form we will be focusing our analysis on consists of a table and the corresponding guidelines for filling in the required information.

The 'context' of the statistical survey and its media

The source in focus stems from the Provincial School Board of the Province of Brandenburg (*Provinzienschulkollegium Brandenburg*), the institution aggregating the data collected at the school level before sending them to the Prussian Statistical Bureau (*Preußisches Statistisches Landesamt*). The filled-in blanks from different elementary schools of the province as well as the aggregated data from the Provincial School Board can be found at the Brandenburg State Archive, they cover the years

between 1876 and 1929.⁴⁷ The aggregated, nation-wide statistics were later published through the Statistical Bureau.⁴⁸ When looking at statistical surveys for Prussia as a whole, we are dealing with central state documents, which were connected to the Prussian Ministry of Religion, Education and Medicine (*Ministerium der geistlichen, Unterrichts- und Medizinalangelegenheiten*) as the central actor. This ministry was in the position to give orders to the subordinate institutions, like the Prussian provinces, the statistical office of the Prussian state (*Königlich Preußisches Statistisches Bureau*) and the Provincial School Board of the Province of Berlin and Brandenburg (*Provinzialschulkollegium Berlin Brandenburg*), which was as well responsible for the school matters of Berlin, in the form of the municipal school deputation (*Städtische Schuldeputation*). Starting in 1816, the Prussian Ministry commissioned the statistical office to conduct surveys about all elementary level schools within the kingdom. The statistical office was thus in charge of planning, scheduling, and organising the collection of data.

By the end of the nineteenth century surveys had become quite popular. Not only the state but city actors and even teacher associations⁴⁹ were conducting surveys of the school system structures, trying to get an overview but also gather data and information to clarify urgent organisational matters, like the question of which type of school structures works best. Not only statistical organisations were founded but also an educational statistics central institution to preserve and gather all information.⁵⁰ The quantification of educational problems had become a central

47 Brandenburg State Archive (*Brandenburgisches Landeshauptarchiv* BLHA), Rep. 34 (Provinzialschulkollegium), no. 1160; 1169; 1163. There are seven volumes of “Statistische Mitteilungen über die Schulverhältnisse in Berlin” (1876–1929) that are preserved in the files of the Provincial School Board. Although Prussian school data had been aggregated nation-wide since the very foundations of the Prussian state (see Otto Behre, *Geschichte der Statistik in Brandenburg-Preussen* (Vaduz: Topos Verlag, 1979), Emil Blenck, *Das Königliche Statistische Bureau im ersten Jahrhundert seines Bestehens 1805 bis 1905* (Berlin: Verlag des Königlichen Statistischen Bureaus, 1905), record keeping and file producing by the school board (the lower administrative level) marks a certain expansion of statistical activities. The increasingly detailed data collections were added to the general scope of the statistics. Several specific queries and surveys were conducted and published in specific articles and “official source books” under the label of “Prussian Statistics”. The earliest of these volumes specifically dealing with the elementary school system was published in 1886 as volume 101. The sources we discuss here are taken from the second and fourth edition of the special survey. These statistical files represent a minor part of the entire provincial school records, which aside from the statistical data contained mostly administrative files on the elementary school system of the province. Additionally, these files contain the written correspondence of the institution as far as they are recorded, showing the intermediary role of the provincial school administration. Similar files are available for other provinces, though the quality and quantity of the files vary due to different administrative and archival traditions. It is to be expected that the file type we examined can be found in more than one archive. Still, the chosen province of Brandenburg is representative for the Prussian case although regional variations cannot be covered by only looking at one region.

48 Alwin Petersilie, *Das Gesamte Niedere Schulwesen im Preußischen Staate – 1901* (1905) (Berlin: Verlag des Königlichen Statistisches Bureaus, 1905).

49 Aloys Fischer, “Entwurf eines Fragebogens zu periodischen Erhebungen über den Fortschritt der Verbesserungen der öffentlichen Volksschulen im Deutschen Reiche,” *Zeitschrift für pädagogische Psychologie und experimentelle Pädagogik* 15 (1914), 454–64.

50 Heinz-Elmar Tenorth, “Das Zentralinstitut für Erziehung und Unterricht. Außeruniversitäre Erziehungswissenschaft zwischen Politik, Pädagogik und Forschung,” in *Außeruniversitäre Erziehungswissenschaft in Deutschland. Versuch einer historischen Bestandsaufnahme*, ed. Ulrich Wiegmann and Gert Geissler (Köln: Böhlau, 1996); Günther Böhme, *Das Zentralinstitut für Erziehung und Unterricht und seine Leiter: Zur Pädagogik zwischen Kaiserreich und Nationalsozialismus* (Neuburgweiler (Karlsruhe): Schindele, 1971).

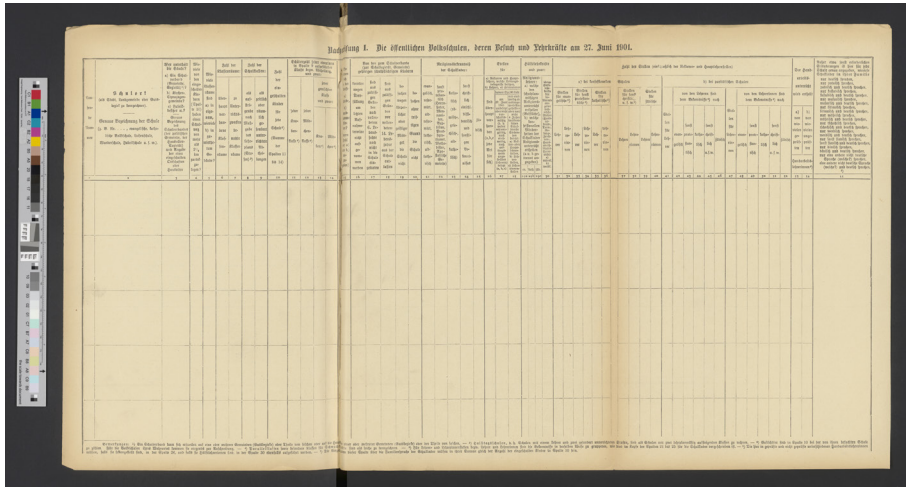
argument in a number of pedagogical debates.⁵¹ This atmosphere of an engaged and affirmative position towards statistical surveys was very vivid until the end of the Weimar Republic in 1933.⁵²

The survey materials' textual and material dimensions

Moving on to the second step we look at the textual and the material dimension of the sources at hand. The context was addressed in the source itself, which becomes apparent through the used terms, the given structure, and the highlighted knowledge interests. We start with some textual points: A first textual specificity is the label elementary school system (*niederes Schulwesen*), which hence is a sign of an underlying, but not debated, differentiation between primary schools for the poor and primary schools for pupils that are expected to move on to the *Gymnasium*. This distinction between lower schools and pre-schools (*Vorschulen*) is also mentioned in the explanatory rules of the survey of 1891. A later survey conducted in 1901 distinguishes between the different primary schools by using different forms for each school type, and only shortly afterwards this distinction was abolished by contextual changes. What the text also shows is the high relevance of language and religious questions, that further accelerates in our short time frame with more language and religious variables coming into focus. Another aspect that we can see is the distinction between supporting (*Hilfslehrer*) and full teachers (*ordentliche Lehrer*), which later becomes a relic of more multi-factored times through a reorganisation of teacher education. Seeing these categories here as columns that need to be filled in speaks volumes about the current status of the system. Similarly, other columns are dedicated to the numbers of ascending classes as well as class frequency and school financing costs. Those highlight current contested themes that require statistical material. On the organisational level we can see the structural function of school organisation since we can observe that the papers are distributed on the district (*Kreis*) level and the relevant administrative figure here is the district school inspector.

51 Johannes Tews, "Klassenorganisation der Volksschule," in *Encyklopädisches Handbuch der Pädagogik*, ed. Wilhelm Rein (Berlin, Langensalza: Beyer, 1906).

52 Otto Boelitz, *Der Aufbau des preußischen Bildungswesens nach der Staatsumwälzung*, 2., durchges. Aufl. (Leipzig: Quelle & Meyer, 1925); Alfred Tschentscher, ed., "Die neuzeitliche deutsche Volksschule": *Bericht über den Kongreß Berlin 1928* (Berlin: Comenius-Verlag, 1928). School reform initiatives used statistical findings to strengthen their cases for reforming certain aspects of the school structures as well, see for example Anton Sickinger, *Der Unterrichtsbetrieb in großen Volksschulkörpern sei nicht schematisch-einheitlich sondern differenziert-einheitlich: Zusammenfass. Darstellung d. Mannheimer Volksschulreform von Dr. A[nton] Sickinger, Stadtschulrat* (Mannheim: J. Bensheimer, 1904).



Survey Form I “Die öffentlichen Volksschulen, etc. 1901“, BLHA, Rep. 34 Nr. 1160.

Moving on to the material dimension of the data there are as well a few things to reflect upon. To collect and gather statistical data, the administrative authorities in charge of the respective areas developed specific survey materials that facilitated an easy form of collecting data. In many cases, blanks represented the material of choice since they offered a structured and focused approach to collecting information. We focus on blanks that were used to gather information for the school statistics survey of 1891.⁵³ The bundle of materials needed to conduct this survey comprises four different documents and forms: (1) the instructions on how to fill in the forms, (2) pre-printed forms I to IV, (3) forms used to collect information on teachers, and (4) a file cover utilised to provide information at a glance regarding the numbers of each collected form in one of the four categories as well as the form on teachers. The instructions describe the time period and scope of the survey. The survey was conducted on May 25, 1891 and set out to collect data concerning the elementary and grammar schools maintained by the Prussian state, the so-called *niederer Schulwesen*. The instructions applied to public schools, private schools that operated under the curricula of public schools, and they also applied to all special schools and institutions such as schools for the blind, the deaf, orphan schools, schools for “feeble-minded” or “imbecile” pupils, and so on, independent of them being maintained by public or private authorities. Only children going to school under compulsory schooling laws were surveyed; kindergarten, technical schools, or continuation schools were excluded. The instructions also defined the authorities receiving and distributing the survey materials and they determined the institutions and officials that were in charge of collecting the statistical information. Afterwards, the gathered data was checked in terms of thoroughness or missing numbers by the examination authority and in a last step, the statistics were then reported to the royal bureau of statistics. Aside from the instructions section, each blank, including the one for the teachers, comes with additional hints on how to fill in the data.

53 Cf. here and the following description: BLHA, Rep. 34 Provinzialschulkollegium Nr. 1160, no pagination.

Our analysis focuses on the pre-printed Form I (*Nachweisung I*) used in the statistical survey of schools from 1891 and 1901. Form I gathered information on public and private schools regarding attendance and the number of teachers. Studying this form and the correspondence in the archival file more closely revealed that it sparked reactions from the officials and authorities entrusted with data collection. Therefore, we specifically selected this form in its two versions for a closer analysis of the form as a means of collecting data and also as an obstacle that produces uncertainty, resistance and non-compliance.

Form I start with a set of detailed instructions which firstly define what types of schools fall under the general category of public and private schools. Secondly, the instructions meticulously elaborate on how specific columns should be filled in and what certain terms and prompts entail. The instructions are followed by the actual form that consists of 52 columns spread over three pages. The sheet of paper is folded in two parts – most likely a result of the transport or binding procedure used to collect survey materials in the official records. In general, we only have access to the blanks and a few filled-in forms, as these are kept in the record of the archives. The form is made of thick, small grain paper and is quite well-preserved, with some breakage along the corners. It contains pre-printed text elements and hand-written entries that were filled in using ink of different colours.

Aside from information on the school's location and the authority in charge of its maintenance, the form asks for information on the number of schoolchildren that need to walk more than 2,5 kilometres to school, if the school is situated in a rented building or if the schoolhouse is owned by the community. Furthermore, the form asks for the total number of classrooms, the number of classrooms used, and the number of grades. Columns 10 to 14 record the number of pupils attending the boys' and girls' grades as well as the pupils that are taught in co-ed grades. If there are any blind or deaf pupils in the different grades, these also need to be indicated. Moreover, the number of children required to go to school according to compulsory school law is polled and the share of children taught by private tutors, the number of children who could not enrol in schools due to overcrowding or who were exempt from compulsory attendance at the age of six or who were allowed to leave school before the age of 14. Also, children who could not attend school due to "physical or mental defects" as well as pupils who did not attend school "without valid reasons" are recorded. The columns (16 to 21) pertaining to the recording of pupils that fall under the community's compulsory school laws are of special interest for this contribution since the requirement to collect information on attendance and truancy (column 21) led to uncertainties on the officials' side that were discussed in formal letters addressed to the statistical authorities. That is why, as mentioned above, we are putting a particular emphasis on these discussions.

The next columns ask for the religious denomination of the pupils, the number of positions for teachers and assistant teachers, of which teachers of religious and other special instruction are to be listed separately. In the next columns the number of positions for male and female teachers needs to be stated and separated by religious denomination (Protestant, Catholic, other Christian denominations, and Jewish teachers). Furthermore, the form asks for the number of (certified and non-certified) teachers that instruct pupils in needlework. The last column records the

share of pupils who speak certain languages at home and in which combination (aside from German, the form suggests Polish, Lithuanian, Lower Sorbian, Slavic, Danish and combinations thereof). Despite differences between the two surveys (1891 and 1901), the used materials remain the same, thick, and durable paper, laid out in larger width that asks for a specifically designed desk for managing the filled-in forms and the aggregation and calculation of the many separate columns. These papers required meticulous handling but allowed for systematic statistical evaluations. Their materiality provided for various purposes: transportation, filling-in and evaluation.

When compared to form I from the survey of 1901, it becomes apparent that three columns were added to the pre-printed form of 1891. The survey was expanded in terms of the number of teaching positions at sectarian and non-sectarian schools (this differentiation is introduced in 1901) and more languages are added to the last column asking for the language(s) spoken in the pupils' families. Here, Kashubian, Masurian, Moravian, and Czech were added. These adjustments most likely relate to the increasing focus on religious and linguistic policies, which gained more attention at the turn of the century.

Regarding the focus of our contribution on the survey of pupils that attend schools in a specific school district, we can observe that the statistical office added notes to the columns that record the attendance and distribution of pupils in schools. These notes span the bottom of the sheet and provide additional details and instructions and followed – as we argue – from feedback.

The usage of forms

To reconstruct the usage of the forms we looked at the instructions, the written correspondence between the different institutions as far as it is archived and at some filled-in forms from the different surveys. Here, we can examine the files and forms that were not sent to the statistical bureau but were kept for documentation in the school board files.

We first describe some impressions from the usages of the forms and then examine the correspondence, highlight one specific instance and use this to show how the forms and the aggregation process were connected.

When looking at the used form at hand, one of the most striking things is that quite a few columns are not filled in but are only marked with a dash (“–”).⁵⁴ For example, the information on the school children is quite surprising as there seem to have been only children from one single religious denomination attending, which out of 198 children in total seems a bit unexpected. Out of the ordinary, there is a high number of assistants that are teaching in the school, probably due to a connection of this school with a teacher education institution. The religious denomination of the teachers is not recorded, but only crossed out with a dash. No comments were added.

Later in the files we see the blank for a second normal school at a teacher seminar that is filled in with more details.⁵⁵ Here we see answers in respect to the

54 Erhebung aus Neuruppin, 1891, Erhebung statistischer Nachrichten über das Volksschulwesen, Band 2, 1891–1906, BLHA, Rep. 34 Provinzialschulkollegium Nr. 1160, no pagination.

55 Erhebung aus Neuzelle, 1891, BLHA, Rep. 34, Nr. 1160, no pagination.

denominations as well as the language abilities of the pupils. Another filled-in form from a school from *Ostprignitz* is preserved, yet only sparsely filled-in.⁵⁶

There seems to be a general tendency towards short answers and sparse information. Though there are no concrete reactions of resistance towards the forms those short answers might be understood as an expression of agency of teachers and school inspectors. They cannot alter the statistics, but they may decide for themselves how detailed they formulate their answers. With our data it is hard to judge whether those practices were accepted or in any way penalised, yet it seems that the cooperation was not always full-hearted from the side of the teachers.

On the institutional level, in this file we can observe the interaction between the school administration and the statistical office. Among the letters that dealt with the ongoing debates on the surveys and that can be classified as solely formal, there is one report that stands out. The report is part of a letter from the Municipal School Deputation to the Royal Provincial School Board dated June 20, 1891:

The number of school-age children between the ages of 6 and 14 could not be precisely determined, since even the municipal statistics office is not able to state the number of this category of children as of August 1 of this year, based on the last census. On May 25 of this year, according to the census we conducted, there were 211,214 pupils between the ages of 6 and 14 in all Berlin schools. (...) According to experience, due to weakness, illness (...) of the children and various other causes, many children are not admitted to schools until they are 7 years old, and a number of them drop out before they have completed compulsory schooling due to the same factors. (...) To determine the number of children even approximately, we lack the means and would have to set an enormous apparatus in motion. For the reasons mentioned above, we were (and are, to our regret, also) not able to fill in columns 16 to 21 of Table I.⁵⁷

Stating that some of the columns asked for could not be filled in, especially in one of the core points of the schooling apparatus relating to how many pupils are in the school system at a certain point in time, is quite surprising. However, this attempt to a limitation of the scope of the survey was not the last part of the story. With the following survey the statistical bureau sent specific hints that seemed to have been based on the reactions of the school administration, using the feedback on difficulties with the fill-in work as a starting point for improving the survey. The statistical bureau addressed the problem in the manual of their upcoming survey of 1901:

Columns 16 to 21 are described as follows:

Columns 19 and 20 do not include children who are absent from school only temporarily (...). The beginning of compulsory schooling is always the age of 6, and the end of compulsory schooling is always the age of 14. Children of compulsory school age who are not in full attendance shall be included in the compulsory school attendance.⁵⁸

⁵⁶ Erhebung aus Ostprignitz, 1891, BLHA, Rep. 34, Nr. 1160, no pagination.

⁵⁷ Letter from the Berlin Municipal School Board to the Royal Provincial School Board, 20.06.1891, BLHA, Rep. 34 Nr. 1160, no pagination. Translation by the authors.

⁵⁸ Allgemeine Vorschriften über die schulstatistische Erhebung am 27. Juni 1901, BLHA, Rep. 34 Provinzialschulkollegium Nr. 1160, no pagination. Translation by the authors.

The aim seemingly is to gain correct data by reacting to the feedback from the Municipal School Board that these numbers could not be provided. With regard to the columns themselves, one new column was added compared to the previous version: it asks for the number of pupils in the school district that are attending private schools, filling a gap that had been left in the 1891 form. We see an attempt to fulfil the statistical aims and to overcome the barriers mentioned in the letter quoted above. But this attempt includes the activities of the supporting instances, the knowledge production here involves the agency of the form.

We end our description of the example here. As we have shown the methodical process can reveal interesting moments of cooperation, confusion and maybe even hindrance in all three dimensions, starting against the background of the necessary contextual prior knowledge.

Discussion and Conclusion

In the obituary for the Prussian statistical office of 1934 its last president Konrad Saenger (1869–1945) highlights the close connection between the statistical overview and the small details of their work:

Practical statistics require a precise understanding of the subject matter to be covered, mastery of statistical techniques, and the highest degree of objectivity and dedication to the task at hand. (...) There is no activity that educates and compels to look at the larger picture like statistics, while paying the greatest attention to the smallest detail.⁵⁹

When we see all described aspects and summarise them, we not only observe such strict binary opposition, but instead multi-layered and complex knowledge production processes involving several administrative units, hundreds of schools and an intricate system of record keeping. The processes are multi-centred but arranged around the exemplarily highlighted small form “table”. Knowledge on what a school was, the criteria for a “good school” as well as how a school was to be managed was disseminated top down through the widespread distribution of the small forms. Filling in the table as such is involved in improving the expanding knowledge on schooling, but we can also observe intentional re-adjustments by the knowledge producing entity. Over time the involved actors, the used categories, the highlighted interests, and allowed exceptions can vary while the data collection process as well as the number of items collected became increasingly more elaborate. Looking at the emergence of knowledge matters as much as comparing the changes within those processes over time. It is not only important to look at the discourses, but to consider as well – as we attempted to do – the changes in administration, the ongoing discussions about the forms and ways in which the statistics were generated and how all this interacted with the discursive developments.

It is this intersection between form, content and specific usage by different actors that we think qualifies to speak of a complex process of knowledge production. The acts of creating the table, sending it to hundreds of schools, having teachers collect the information and filling in the table, ensuring a timely return process, aggregating

⁵⁹ Saenger (1934), 458. Translation by the authors.

the data from the tables, publishing knowledge about schools, rearranging the tables for the next survey etc. all represent highly complex tasks. The form, the content (in which the general discourse is present) and the traces of how the blanks were used all affect what can be known at a certain point and which status this knowledge has. We argue that these complex processes can be captured through the theoretical frame of small forms that is analytically sensitive to different involved sources of agency. In addition, the 3D hermeneutics methodology allows for an interpretation of the sources based on textual, material and usage dimensions.

In our example, the analysis reveals a collision between what the Statistical Bureau deemed important information and the data that could be produced at the local level. We got a glimpse into their interactions and learned about this delicate interplay.

More broadly we think following and elaborating on these methodical considerations offers fruitful future perspectives and a better understanding of knowledge production processes. For further research it seems promising to investigate who, where and how the small forms were transformed into the large volumes of printed statistics, the end to which the blanks catered. That would mean to start looking at the entire process of data collection not from the entry point of the school administration, as we did, but instead from the statistical bureau itself. One can expect further insights, especially on the small forms as objects and the knowledge practices “printed onto” them by following this lead.

Without attention to small forms in education one can easily miss less popular innovations and thoughts that derive from smaller, less researched sources. To quote again Saenger’s thoughts on statistics it is not only the interpretation and not only the numbers and columns that matter, but also the “attention to the drafting of counting papers, tables and instructions for execution.”⁶⁰ It is high time that we take these smaller elements more seriously and apply methodologies that involve their agency and develop appropriate methodical steps that allow us to describe and grasp them. While it must have been rather clear to the involved actors such as Saenger, today one might also think about why and in which way statistics mattered politically, how this significant insignificance actually came into being in the first place. Why do statistics matter that much more than the means of their production? Such questions need closer attention regarding the production of knowledge in its artisanal and smaller form.

⁶⁰ Saenger (1934), 460. Translation by the authors.

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