Abschlussbericht

Technologien im Klassenzimmer: Ein exploratives Projekt zur Rolle von Lehrpersonen bei der Einführung neuer Unterrichtsmittel

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Produkte: *Forschungsartikel, Folgeantrag*

Anhang: Liste erfasster Akteure, Glossar, eingereichter Forschungsartikel

Dass Lehrpersonen gegenüber neuen Unterrichtstechnologien kritisch eingestellt seien und als Akteursgruppe Widerstand gegen technische Innovationen leisteten, war lange Zeit eine durch die historische Bildungsforschung breit gestützte These. Diese technologiekritische Haltung bei Lehrerpersonen wird allerdings zunehmend durch jüngere Forschung hinterfragt. Der Schwerpunkt bei neueren Untersuchungen liegt immer weniger auf der Frage, inwieweit sich Lehrkräfte gegen neue Unterrichtsmedien gewehrt haben, sondern vielmehr darauf, wie sie diese als Unterrichtsmittel aufgenommen und adaptiert haben oder sogar die treibende Kraft hinter der Entwicklung und Einführung neuer Unterrichtsmittel waren. Das Projekt «Technologien im Klassenzimmer» baute auf dieser Forschung auf und untersuchte, wie sich Lehrpersonen in der zweiten Hälfte des 20. Jahrhunderts gegenüber neuen Bildungsmedien positionierten.

Zu Beginn des Projektes wurden die Bestände der Forschungsbibliothek Pestalozzianum daraufhin befragt, inwieweit sich verschiedene Schweizer Bildungsakteure mit den neuen Unterrichtsmedien auseinandersetzten und welche Rolle audiovisuelle Medien dabei spielten. Besonders ergiebig waren hierbei die Bestände des Wymann-Archivs. Die Mappen 108 (Sprachlabor), 109 (Audiovisuelle Medien), 119 (Mediothek), 120-125 (Audiovisuelle Zentralstelle (AVZ)), 142-145 (Fachstelle programmierter Unterricht (PU)), 146-147 (Fachstelle PU/Informatik), 148 (Informatik Volksschule, Entwicklung), 149 (Informatik Volksschule, Entwicklung Lehrerfortbildung) und 150 (Informatik Volksschule, Lehrerfortbildung) wurden systematisch durchgesehen und ausgewertet.

In einem zweiten Schritt wurde die pädagogische Fachpresse in der Schweiz untersucht, die in der Forschungsbibliothek Pestalozzianum und auf E-Periodica zugänglich ist. Auf diese Weise liessen sich die öffentlich geäusserten Positionen verschiedener Bildungsakteure in der Schweiz erkennen. Zudem konnte dadurch der breitere Kontext der Debatten über die Vor- und Nachteile neuer Bildungsmedien für die Unterrichtspraxis abgebildet werden. Die Schweizerische Lehrerzeitung (SLZ), das (Amtliche) Schulblatt des Kantons Zürich, die Berichte über die Verhandlungen der Zürcherischen Schulsynode, sowie die Schweizer Erziehungs-Rundschau wurden auf unterschiedlichste Stichworte wie «audio-

visuell», «Unterrichtstechnologie», «audiovisuelle Medien», «moderne Unterrichtsmittel», «Lichtbild», «Dia», «Tonband», «Kassette», «Schulfilm» u. v. m. untersucht. Die SLZ war dabei am erkenntnisreichsten. Sie enthält nicht nur den Pädagogischen Beobachter im Kanton Zürich (Organ des Zürcher kantonalen Lehrervereins), sondern auch verschiedene Sonderhefte, wie etwa das Sonderheft «Unterrichtstechnologie und Medienpädagogik», das Sonderheft «Bild und Ton» oder das Sonderheft «Schulpraxis: Unterrichtsmedien».

Während dieser ersten beiden Arbeitsschritte wurde gleichzeitig ein Glossar mit Begriffen rund um audiovisuelle Medien in Form einer Excel-Tabelle erstellt, welches nun als Überblick oder Hilfestellung für weitere Recherchen dienen kann. Das bis hierhin gesammelte Material wurde anschliessend strukturiert, sortiert, analysiert und ausgewertet. Während dieses Prozesses kristallisierten sich mehrere Themenschwerpunkte heraus, die sich für einen im Rahmen des Projekts vorgesehenen Forschungsartikel eigneten. Am ergiebigsten schien es, die Rolle und Positionierung des Schweizerischen Lehrervereins (SLV bzw. LCH) als Repräsentant der Volksschul- und Sekundarschullehrpersonen der gesamten Schweiz zu beleuchten. Aus den Analysen der Bestände der Forschungsbibliothek Pestalozzianum ging hervor, dass dieser sich nämlich unter der Leitung der Kommission für Interkantonale Schulfragen (KOFISCH) in verschiedenen Studiengruppen mit modernen Unterrichtsmitteln beschäftigt hatte. Der SLV stellte somit ein spezifisches Forum dar, in dem Lehrerinnen und Lehrer über neue Unterrichtsmittel diskutierten und Bildungsmedien entwickelten oder umgestalteten, die bisher in der Forschung weniger Beachtung fanden.

Um die Frage nach den internen Verhandlungen zu neuen Bildungsmedien im SLV umfassend beantworten zu können, reichten die in der Forschungsbibliothek Pestalozzianum gelagerten historischen Bestände jedoch nicht aus. Wir haben deshalb, unterstützt durch die Geschäftsführerin der Stiftung Pestalozzianum, Kontakt mit dem Dachverbands Lehrerinnen und Lehrer Schweiz (LCH bzw. SLV) aufgenommen und im Rahmen der Pilotstudie um Zugang zum Archiv gebeten. Nach einer positiven Rückmeldung des LCH auf die Anfrage des Projektteams, das private Vereinsarchiv für einen Forschungsartikel auszuwerten, wurde mit der Untersuchung von ausgewähltem Material gestartet. Durchgeschaut wurden Protokolle des Zentralvorstandes, der Delegiertenversammlung und der Präsidentenkonferenz (Bücher 352, 356-380), Protokolle der KOFISCH (Box 54), Jahresberichte des SLV (Buch 333) und Protokolle und Unterlagen der Studiengruppen Geographielichtbilder, Biologielichtbilder, Transparentfolien und Folienausschuss (Boxen 46, 48, 49 und 55).

Für das Projekt wurde anschliessend ein Forschungsartikel verfasst, der beim *Nordic Journal of Educational History* Ende Juni eingereicht wurde. Der Schwerpunkt liegt darin auf den Studiengruppen, die eigene audiovisuelle Unterrichtsmedien, genauer gesagt Diapositive und Transparentfolien, herausgegeben, erstellt und gefördert haben. Die Aktivitäten der Studiengruppen dienen als historische Fallbeispiele für den Umgang von Lehrpersonen mit modernen Unterrichtsmedien. Mithilfe der verschiedenen Protokolle konnten die zentralen Themen in der Diskussion dieser Medien rekonstruiert werden. Dabei liessen sich nicht nur die Herausforderungen aufzeigen, die sich bei der Einführung und Erstellung neuer Lehrmaterialien ergaben, sondern auch, wie die Lehrkräfte der

verschiedenen Gremien innerhalb des SLV versuchten, damit umzugehen. Die Quellen gaben somit Aufschluss über interne Verhandlungen, Spannungsfelder oder Konflikte und liessen die Entwicklungen innerhalb des Verbandes erkennen. Dadurch konnten schlussendlich auch Rückschlüsse auf die Positionierung des SLV gegenüber audiovisuellen Medien gezogen werden.

Der SLV bemühte sich, neue Lehrmittel möglichst realistisch darzustellen und eine gründliche Bedarfsanalyse durchzuführen, bevor er neue Lehrmittel entwickelte oder förderte. Kritik an audiovisuellen Medien wurde im Rahmen des SLV nur dann geäussert, wenn diese nicht an die Unterrichtspraxis in Schweizer Schulen angepasst waren, sei es, weil ihr Einsatz von kommerziell interessierten Akteuren vorangetrieben wurde oder weil pädagogische Überlegungen vernachlässigt wurden. Die Tatsache, dass der SLV eigene Arbeitsgruppen gründete, die sich mit modernen Lehrmitteln befassten und teilweise auch eine Vorreiterrolle einnehmen wollte, zeigt, dass audiovisuelle Medien von Lehrpersonen nicht nur akzeptiert, sondern auch selbstinitiiert produziert und gefördert wurden.

In der historischen Forschung zu Bildungsmedien muss die Beteiligung von Lehrpersonen bei der Entwicklung, Implementierung und Integration neuer Unterrichtsmittel also vermehrt berücksichtigt werden. Allerdings gilt es dabei zu beachten, dass Lehrpersonen nicht stets einheitliche Interessen vertreten und sich auch nicht in gleicher Weise gegenüber der Vielfalt der verfügbaren neuartigen Unterrichtsmedien positionieren. Die verschiedenen SLV-Mitglieder hatten je nach Art ihrer strukturellen Eingebundenheit unterschiedliche Handlungsmöglichkeiten und mussten deshalb zunächst mit institutionellen und organisatorischen Schwierigkeiten zurechtkommen. Mithilfe des Projektes konnte zudem hervorgehoben werden, dass sich Lehrpersonen in einem Spannungsfeld zwischen politischen oder öffentlichen Erwartungen, kommerziellen Interessen, wissenschaftlichen Debatten und professionellen Selbstverständnissen befinden. Das bedeutet, dass sich Lehrpersonen immer wieder neu positionieren müssen und ihre Rolle keineswegs vorgezeichnet ist.

Im Anschluss an dieses Pilotprojekt entsteht derzeit ein Drittmittelantrag, welcher auf den hier gemachten Erkenntnissen aufbaut und diese erweitern und vertiefen soll. Ausgehend von den Auswertungen der Bestände der Forschungsbibliothek Pestalozzianum und weiterer Schweizer Archive soll dabei die Rolle unterschiedlicher Stakeholder bei der Mitgestaltung der Medienbildung in der Schweiz im 20. Jahrhundert analysiert werden. Von besonderem Interesse ist die Art und Weise, wie Lehrerverbände, private Organisationen, Unternehmen und staatliche Behörden ihre medienpädagogischen Anliegen artikuliert, koordiniert und durchgesetzt haben. Mit anderen Worten steht die Offenlegung von Positionen und Interventionen verschiedener korporativer Akteure, welche an der Produktion, Beschaffung und Nutzung von Unterrichtsmedien in der Schweiz beteiligt waren, im Zentrum des Projekts. Mithilfe von Quellen aus verschiedenen Archiven und öffentlich zugänglichen Datenbanken soll überprüft werden, wie die unterschiedlichen Akteure zu ihren Positionen gelangten, wie sie mit internen Konflikten umgingen oder welche Strategien und Verhandlungsformen sie anwandten, um ihre Vorstellungen umzusetzen. Der Antrag für dieses historische, drittmittelfinanzierte Projekt soll im Frühjahr 2023 eingereicht werden.

Im Verlaufe des Pilotprojektes konnten diverse Akteure identifiziert werden, welche die Entwicklung der Medienbildung in der Schweiz beeinflussten. Die folgende Tabelle bildet diejenigen Interessengruppen ab, die den bisherigen Erkenntnissen zufolge zu den wichtigeren und einflussreicheren zu gehören schienen:

Akteure	**Gründungsjahr**	**Informationen**	**Beteiligung von LP**
AJF: Schweizerische Arbeitsgemeinschaft Jugend und Film; AJM: Schweizerische Arbeitsgemeinschaft Jugend und Massenmedien	1959 1972 (umbenannt)	erhält seit 1963 staatliche Subventionen	
Filmkommission; Kommission für Audiovisuelle Dokumentation; Audiovisuelle Kommission der SEG (*Schweizerische Ethnologische Gesellschaft*) / CAV	1971 1977 (umbenannt)	der Schweizerischen Gesellschaft für Ethnologie angeschlossen	Nein
GLM: Schweizerische Gesellschaft für Lehr- und Lernmethoden	1971		Ja
GRETI: Groupe romand pour l'étude des techniques d'instruction	1965		
KOFU: Zürcher Apparatekommission / Zürcher Kommission für Unterrichtshilfen		vom Erziehungsrat beauftragt	Ja
Pestalozzianum Zürich (AVZ: Audiovisuelle Zentralstelle)	1875	Stiftung	
SAFU: Schweizerische Arbeitsgemeinschaft für Unterrichtskinematographie • Arbeitsgemeinschaft für Lichtbild und Film	1929 1931	Genossenschaft von Zürcher Lehrpersonen etabliert	Ja Ja
SJF: Schweizer Jugend Film	1962	association	
Schweizerische Zentralkommission für Unterrichtsfilm und Filmerziehung; SKAUM: Schweizerische Kommission für audiovisuelle Unterrichtsmittel und Medienpädagogik / COSMA / CIME	 1973 (umbenannt)	Zusammenschluss der AJM, der VESU und des SJF; Ständige Kommission der EDK	
SLV / LCH: Schweizerischer Lehrerverein • KOFISCH: Kommission für interkantonale Schulfragen ➢ Studiengruppen: Geographielichtbilder (Lichtbildkommission), Biologielichtbilder, Transparentfolien • ASB: Arbeitsgruppe Schule und Bildung	1849 1933 1980er		Ja Ja Ja
SSVK: Schweizer Schul- und Volkskino / Film Institut / SFIB / Educa	1920er		
VESU: Vereinigung schweizerischer Unterrichtsfilmstellen	1946?		Ja

Anhang

Glossar

Audiovisuelles Material und Zubehör
AA-Anlage (audio-aktiv-System)
AP-Anlage (audio-passiv-System)
Abhörschaltbrett
Abonnementfernsehen
Arbeitsprojektor
Arbeitstransparente
Bänder
Bildplatte
Bildplattengerät
Bildschirm
Bildschirmtext
Bildwerfer
Computerunterstützter Unterricht (CAI)
Dia
Diapositive
Diaprojektor
Diaserien
Diaskope
Diskettenlaufwerk
Drucker
Electron-Vollabor
Elektron
Epidiaskope
Episkop
Farbdias
Farbfernsehgeräte
Fernsehgerät
Filmapparate
Filmprojektor
Filmstreifen
Filmprojektionsapparate
Folienprojektor
Glaslichtbild
Grossdias
Hellraumprojektoren
Hellraumtransparente
Homecomputer
Kabelrundfunk
Kamera
Kassettengerät
Kassettenprojektor
Kleinbilddiapositive
Kleinbildprojektoren
Laufbild
Leinwand
Lehrersteuerpult
Lichtbild
Lichtbilderapparate
Lichtbildprojektoren
Lichtsignalstab
Mikrofichen

Mikrofilme
Mikrofilmlesegerät
Mikroprojektion
Monitor
Neo-Diafant
Opticart-Geräte
Perlleinwand (fest montiert)
Personalcomputer
Plattenspieler
Projektionsapparate
Projektionswände
Projektor
Radio
Radioapparat
Radiorecorder
Remote-Access-System (Abrufsystem)
Revoxapparat
Satellitenrundfunk
Schallplatten
Schmalfilme
Schreibprojektor
Schülermagnetophon
Sprachlabor
Sprechkassetten
Schallplatten
Schmalfilme
Schulprojektor
Schulwandbild
Schwarz-Weiss-Fernsehgerät
Stehbild
Stehbildprojektor
Stehfilm
Stereokassetten
Stereoschnellkopierer
Stummfilmprojektor
Taschencomputer
Tastatur
Telespiele
Tonbandgeräte
Tonbandkassetten
Tonbildreihen
Tonbildschauen
Tonbildschaugerät
Tonfilme
Tonfilmprojektor
Tonkassetten
Transparente
Transparentfolie
UKW-Radio
Universal-Epidiaskop
VCR
Verdunkelung (fest montiert)
Verdunkelungseinrichtung
Videokassetten

Video-Recorder
Video-Tape-Recorder (= Ton-Bild-Aufzeichungsgerät)
Wandbilder

Educational Devices: Debates and Endeavours within the Swiss Teachers' Association SLV, 1950–1980

Jeannine Erb & Michael Geiss

Abstract • This paper examines how Swiss elementary and lower secondary school teachers positioned themselves towards audio-visual media in the second half of the 20th century. The Swiss Teachers' Association SLV is a specific forum where teachers discussed new educational devices and developed or transformed instructional media that have received less attention in research to date. The new teaching aids had to be interpreted and adapted so that they could be considered educational. The main part of this article entails two historical case studies that show the key issues discussed within the SLV. The educational press and internal minutes show the developments within the association as well as internal conflicts and therefore allow conclusions to be drawn about the positioning of the Swiss Teachers' Association vis-à-vis new educational media. The article ends with a conclusion that outlines the different ways in which Swiss elementary and lower secondary school teachers dealt with new teaching media.

Keywords • teachers, audio-visual media, educational history, interest groups

Introduction

Historical research in education has long supported the idea that teachers have been reluctant and critical of new teaching technologies. According to Larry Cuban, the historical nature of teaching is characterised by a "cautionary attitude toward change"[1], since teachers are not willing to give up teaching routines they have established over a long period of time so quickly. Cuban likewise claims that teachers usually fear for the interpersonal relationships in the classroom, which can be disrupted by technological tools. In addition, they prefer familiar teaching aids such as the textbook because, on the one hand, it is more compact, flexible and durable and, on the other hand, it can answer pedagogical problems more satisfactorily and more specifically than, for instance, film projectors, radio, or school television.[2]

The assumption of a technology-critical attitude of teachers has been challenged by recent research. The focus now is less on how teachers have resisted new teaching media and more on how they have adopted and combined them as educational devices[3] or even been the driving force behind the development and implementation of new teaching tools.[4] The present article builds on this research by examining how teachers positioned themselves towards audio-visual media in the second half of the 20th century. It examines the Swiss Teachers' Association SLV (*Schweizerischer Lehrerverein*) as a specific context in which teachers discussed new teaching tools and developed or transformed instructional media that have received less attention in research to date.

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[1] Larry Cuban, *Teachers and Machines: The Classroom Use of Technology since 1920* (New York, New York: Teachers College Press, 1986), 60.
[2] Cuban (1986).
[3] Katie Day Good, "Making Do with Media: Teachers, Technology, and Tactics of Media Use in American Classrooms, 1919–1946", *Communication and Critical/Cultural Studies* 13, no. 1 (2016), 75–92.
[4] Joy Lisi Rankin, *A people's history of computing in the United States* (Cambridge, Massachusetts: Harvard University Press, 2018).

The SLV is the largest and most influential national interest organisation for elementary and lower secondary teachers[5] in Switzerland. It thus represents different positions that Swiss teachers held towards new media. Regarding the introduction and implementation of new educational devices, the SLV served as an organ of interest articulation and coordination. It mediated different teachers' stances and attempted to transform them into a publicly communicable position. At the same time, the Association had to ensure that its position on new instructional media could be communicated to its professional audience, the teachers in Switzerland's schools and classrooms. New teaching aids had to be interpreted and adapted so that they could be considered educational.

In this paper we show challenges, debates and endeavours within the SLV in relation to specific audio-visual media. Audio-visual educational devices included a whole range of different tools – visual, auditive, or both – that could be used for teaching and that were intensively promoted and discussed in educational publications and the teachers' press. They comprised technologies ranging from simple tape recorders to overhead projectors, room-scale speech laboratories and school television.[6] Audio-visual educational devices were part of what in the second half of the 20th century has been more generally discussed as "multimedia", "a flexible and futuristic descriptor for a range of efforts to make formerly discrete media apparatuses both more ubiquitous and fluidly integrated into various spaces, processes, and sectors of society"[7].

After an overview of the state of research on the history of educational media and a chapter on the methodological approach and the sources used, we first present the SLV and its bodies. Then, we make known two study groups within the SLV that edited, created and promoted their own audio-visual teaching media. These historical case studies highlight not only the challenges that arose in creating and introducing new teaching materials, but also how teachers from the different bodies within the SLV tried to deal with them. Subsequently, we reconstruct the fundamental position of the SLV towards certain audio-visual educational media in the second half of the 20th century. The article ends with a conclusion that outlines the different ways in which Swiss elementary and lower secondary school teachers dealt with new teaching media.

State of the research

Until recently, instructional media and educational technologies had a niche existence in historical research.[8] This has now changed drastically. Meanwhile, numerous monographs are devoted to various aspects of the historical development of educational media, especially in the 20th century, with a particular focus on the United States.[9] Furthermore, other case studies and the transnational

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[5] Upper secondary school teachers are not included here.

[6] Elisabeth Jean-Richard, "Die audio-visuelle Methode im Unterricht", *Schweizerische Lehrerinnen-Zeitung* 72, no. 1–2 (1968), 15–17; Hans Ryf, "Der audiovisuelle Unterricht und seine Kehrseite", *Schweizer Schule* 57, no. 2 (1970), 68–71; Franz Kaufmann, "Die Wirksamkeit audiovisueller und konventioneller Fremdsprachmethoden", *Schweizer Schule* 58, no. 1 (1971), 14–18; Christian Doelker, *Didaktik und Methodik der audiovisuellen Mittel* (Zürich: Orell Füssli, 1971); Hans W. Hunziker, *Audiovision im Unterricht: Handbuch der Lerntechnologie (1981/82)* (Zürich: Transmedia, 1981).

[7] Katie Day Good, "Multimedia: How Educators Made Sense of New Media Multiplicity", in *Digital Roots*, ed. Gabriele Balbi, Nelson Ribeiro, Valérie Schafer and Christian Schwarzenegger (De Gruyter, 2021), 59–76.

[8] Cuban (1986); Larry Cuban, *Oversold and Underused: Computers in the Classroom* (Cambridge, MA: Harvard University Press, 2001); Stephen Petrina, "Sidney Pressey and the Automation of Education, 1924-1934", *Technology and Culture* 45, no. 2 (2004), 305–30.

[9] Victoria Cain, *Schools and Screens: A Watchful History* (Cambridge: The MIT Press, 2021); Bill Ferster, *Teaching Machines: Learning from the Intersection of Education and Technology* (Baltimore: Johns Hopkins University Press, 2014); Katie Day Good, *Bring the World to the Child: Technologies of Global Citizenship in American Education*

dimension of the invention and dissemination of educational technologies are also receiving increasing attention.[10] In 2022, the International Standing Conference for the History of Education (ISCHE) is entirely dedicated to the topic of educational media.[11]

While Cuban's focus was still completely on the relationship between classroom practice and educational technologies, and he ultimately had an ahistorical understanding of the teaching profession,[12] more recent historiography has explicitly addressed the complexities behind the development, discussion and implementation of instructional technologies and educational media. Their story is not just about the extent to which they could fit into established routines of teaching or how teachers reacted to them. Their adaptability to the "grammar of schooling"[13] was only one factor among several concerned with the failure of many innovations. Audrey Watters, for example, points out that the development of novel instructional technologies depended more on how manufacturers and academic psychologists have coped with them. In addition, factors such as high costs, logistical or technical issues, inappropriate content and misunderstandings, or more accessible, alternative teaching tools could also have been reasons for certain technologies failing.[14] Therefore, teachers have sometimes been unfairly scapegoated in historical research, when in fact it was industry and economy that were jointly responsible for slowing down or pushing forward a development.

However, Rankin has recently shown how important teachers or lecturers and students were in the development and spread of early computer assisted instruction systems.[15] Good argues that teachers have not been fundamentally resistant to new teaching media, but rather to a system imposed by external agencies that was oriented towards modernization and mechanization.[16] She suggests that proponents of new technologies focused primarily on the use of expensive and publicity-boosting instructional media such as radio, film and computers. The historiography subsequently ignored the fact that teachers began to use other types of media that were just as novel, albeit less touted, in other words, "unnoticed or invisible, material things"[17]. These teaching aids, some of which were produced or modified by teachers themselves and which were easier to obtain and far more widespread, are therefore completely under-researched in comparison to film and school television.[18]

Caruso draws attention to the fact that before introducing instructional media into schools, it is not only technological issues that need to be considered, but also the impact on notions of

(Cambridge: The MIT Press, 2020); Audrey Watters, *Teaching Machines: The History of Personalized Learning* (Cambridge, Massachusetts: The MIT Press, 2021).

[10] Marcelo Caruso, *Geschichte der Bildung und Erziehung: Medienentwicklung und Medienwandel* (Paderborn: Ferdinand Schöningh, 2019); Rebekka Horlacher, "Bringing Pedagogy in Line: Globalizing Nationally Programmed Instruction, New Math, Film and Media Education", in *World Yearbook of Education 2022*, ed. Daniel Tröhler, Nelli Piattoeva and William F. Pinar (London: Routledge, 2021), 87–102; Barbara Hof, "From Harvard via Moscow to West Berlin: Educational Technology, Programmed Instruction and the Commercialisation of Learning after 1957", *History of Education* 47, no. 4 (2018), 445–65; Maija Runcis and Sandin Bengt, *Neither Fish nor Fowl: Educational Broadcasting in Sweden 1930-2000* (Nordic Academic Press, 2011).

[11] The ISCHE conference 2022 will be held in Milan and will address "Histories of Educational Technologies. Cultural and Social Dimensions of Pedagogical Objects".

[12] Stephen Petrina, "Getting a Purchase on 'The School of Tomorrow' and Its Constituent Commodities: Histories and Historiographies of Technologies", *History of Education Quarterly* 42, no. 1 (2002), 75–111.

[13] David Tyack and William Tobin, "The 'Grammar' of Schooling: Why Has It Been So Hard to Change?", *American Educational Research Journal* 31, no. 3 (1994), 453–79, https://doi.org/10.2307/1163222 (accessed June 16, 2022).

[14] Watters (2021).

[15] Rankin (2018).

[16] Good (2016).

[17] Good (2016), 77.

[18] Good (2020).

learning and teaching.[19] Good traced how teachers in the United States in the first half of the 20th century were exposed to numerous new technologies and then had to see for themselves how to integrate them in a meaningful way. As a result, teachers created an understanding of "multimedia"[20] for themselves. Like Rankin, Good also shows that teachers are not only affected by instructional devices and educational media but have agency themselves. The same can be shown for the early implementation of computer science courses, where teachers and lecturers had a special role as pioneers and promoted the entry of computers into the classroom. [21]

This agency of teachers regarding new teaching media must be kept in view in historical research on educational media. Teachers not only react or resist, but are involved in the development, implementation and integration of new educational devices. In doing so, they find themselves in a field of tension between political or public expectations, commercial interests, scientific debates and professional self-conceptions. For the history of educational media, this means that teachers always have to position themselves and that their role is by no means predetermined. On the contrary, it is to be expected that they neither represent uniform interests nor position themselves in the same way towards the wide array of available new media and teaching aids.

For Switzerland, there are now numerous historical studies on the introduction of new educational media in the 20th century. These studies range from behaviourism and programmed instruction to language laboratories and teaching machines.[22] Horlacher also used the example of the emergence and development of the so-called "audio-visual central office" in Zurich to show how film education in schools was debated in Switzerland in the 1960s and what was expected of it. She also examines how teachers in Zurich were addressed by educational stakeholders and how they reacted to the new educational media. The present article follows on from this research, but places the teachers, their interests and perspectives, at the centre of the historical analysis.[23]

Method and sources

The focus of this historical study is particularly on the role of a large teachers' association in the discussion, development and implementation of educational media. We will thus reconstruct how the most powerful interest organisation of Swiss elementary and lower secondary school

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[19] Caruso (2019).

[20] Good (2016).

[21] Dominique Felder, *L'informytique ou l'invention des idées reçues sur l'ordinateur à l'école* (Genève: Service de la recherche sociologique, 1989); Lennart Rolandsson, "Teacher Pioneers in the Introduction of Computing Technology in the Swedish Upper Secondary School", in *History of Nordic Computing*, ed. John Impagliazzo, Per Lundin and Benkt Wangler (Berlin, Heidelberg: Springer Berlin Heidelberg, 2011), 159–67, https://doi.org/10.1007/978-3-642-23315-9_18 (accessed June 16, 2022).

[22] Andrea De Vincenti and Andreas Hoffmann-Ocon, "Technologische Lenkungsversuche", in *Ambivalenzen des Ökonomischen: Analysen zur "Neuen Steuerung" im Bildungssystem*, ed. Martin Heinrich and Barbara Kohlstock (Wiesbaden: Springer Fachmedien, 2016), 73–96; Anne Bosche and Michael Geiss, "Das Sprachlabor: Steuerung und Sabotage eines Unterrichtsmittels im Kanton Zürich, 1963–1976", in *Deutsche Gesellschaft für Erziehungswissenschaft – Historische K. Jahrbuch für Historische Bildungsforschung,* ed. C. Berg (Bad Heilbrunn: Klinkhardt, 2011), 119–39, https://doi.org/10.5167/UZH-45168 (accessed June 16, 2022); Daniel Deplazes, "'Balance of Mind […] Seems More Necessary than the Promotion of Teaching Machines' – Technology in Swiss Schools in the 1960s", *IJHE Bildungsgeschichte* 10, no. 1 (2020), 42–63; Rebekka Horlacher, "The Implementation of Programmed Learning in Switzerland", in *Trajectories in the Development of Modern School Systems. Between the National and the Global,* ed. Daniel Tröhler and Thomas Lenz (New York: Routledge, 2015), 113–27, https://doi.org/10.4324/9781315696898 (accessed June 16, 2022).

[23] Rebekka Horlacher, "Wie Film und Fernsehen in die Schule kamen. Die 'audiovisuelle Zentralstelle' für die Schulen des Kantons Zürich und deren Weg zur 'Fachstelle für Medienpädagogik'", in *Der Film geht in die Schule: 100 Jahre Schweizer Schul- und Volkskino,* ed. Anita Gertiser, Angela Hauser and John Wäfler (München: kopaed, 2021), 106–21.

teachers took a position on certain new audio-visual media. To be able to consider the "agency" of teachers[24] and to distinguish different positions towards educational media, teachers are conceptualised here as a so-called "interest group" with different factions.[25] The individual teacher voices are always to be located in the respective organ within the SLV and must also be interpreted in this context. We assume that the Association had to mediate internally the different attitudes and interests of the teachers towards new teaching tools so that certain conflicts were not played out on the open stage and thus damaged the position of the Association. Internal debates over professional issues need not threaten the unity of an association; rather, they can indicate the flexibility with which that association is able to create "group cohesion"[26].

Teachers' unions or associations have been the subject of much recent research pointing to their importance in the shaping of public education.[27] They are a central actor in very different political systems and their self-image, and political and educational agendas, can sometimes differ greatly.[28] Where previous research has focused primarily on differences in teachers' unions and associations within and across countries, we take a look at internal debates and endeavours to uncover how the SLV ultimately positioned itself as an overall body. However, this article does not address the struggles and negotiations between state authorities, teacher associations and other interest groups, but focuses on one corporate actor.

For this study, different sources have been analysed, such as annual reports, minutes, the pedagogical trade and association press and other educational journals. In a first step, the holdings of the Pestalozzianum Foundation were evaluated, which documents the historical pedagogical literature in Switzerland and contains archival materials of different Swiss educational stakeholders. The main aim here was to find out to what extent the individual stakeholders were involved with new educational media and what role audio-visual media played in this. In a second step, we examined the Swiss educational press, especially the teachers' journals. In this way, the publicly voiced positions of the educational stakeholders in Switzerland could be investigated and the broader context of debates on the benefits and disadvantages of audio-visual media for educational practice could be mapped. In a third step, the minutes and documents from the private archives of the Swiss Teachers' Association were analysed. This material discloses internal negotiations and highlights the developments within the Association as well as internal conflicts or trouble spots. It therefore allows conclusions to be drawn about the positioning of the SLV vis-à-vis audio-visual media.

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[24] Mark Priestley, Gert J.J. Biesta and Sarah Robinson. "Teacher Agency: What Is It and Why Does It Matter?", in *Flip the System: Changing Education from the Bottom Up,* ed. R. Kneyber and J. Evers (London: Routledge, 2015).

[25] Opfer, Young and Fusarelli (2008); David Knoke, "Associations and Interest Groups", *Annual Review of Sociology* 12 (1986), 1–21.

[26] Ronald L. Akers, "Framework for the Comparative Study of Group Cohesion: The Professions", *The Pacific Sociological Review* 13, no. 2 (1970), 73–85, https://doi.org/10.2307/1388310 (accessed June 16, 2022).

[27] Terry M. Moe, "The Comparative Politics of Education: Teachers Unions and Education Systems Around the World", in *The Comparative Politics of Education: Teachers Unions and Education Systems around the World*, ed. Susanne Wiborg and Terry M. Moe (Cambridge: Cambridge University Press, 2016), 269–324.

[28] Rita Nikolai, Kendra Briken and Dennis Niemann. "Teacher Unionism in Germany: Fragmented Competitor", in *The Comparative Politics of Education: Teachers Unions and Education Systems around the World*, ed. Susanne Wiborg and Terry M. Moe (Cambridge: Cambridge University Press, 2016), 114–43; Susanne Wiborg, "Teachers Unions in the Nordic Countries: Solidarity and the Politics of Self-Interest", in *The Comparative Politics of Education: Teachers Unions and Education Systems around the World*, ed. Susanne Wiborg and Terry M. Moe (Cambridge: Cambridge University Press, 2016), 144–91.

Background: the SLV and its bodies

The Swiss Teachers' Association SLV has become an important player in the Swiss education system, since it is an interlocutor with the federal authorities. It was founded in 1849 by 225 teachers from all parts of Switzerland with the aim of promoting education and teaching, and unifying the Swiss school system. Due to the federal structure of Switzerland, many different teachers' associations already existed in the 26 cantons, but were poorly coordinated or not coordinated at all.[29] To enable and stimulate the exchange of experiences beyond cantonal and national borders, the SLV created its own association journal in 1856, which was later named *Schweizerische Lehrerzeitung* (SLZ). It contained reports on internal developments of the Association and on the educational happenings of the various cantonal teachers' associations, and was intended to connect teachers of all levels and disciplines.[30]

At the beginning, the SLV was only a loose association, but over the course of time it steadily grew in importance through the expansion of its services and through increased cooperation at home and abroad. With the introduction of the Assembly of Delegates (*Delegiertenversammlung*), the creation of a Central Management Board (*Zentralvorstand*) and the formation of cantonal sections and the Governing Committee (*Leitender Ausschuss*) in 1894, the first four organs of the Association were established. Other bodies, such as the Presidents' Conference (*Präsidentenkonferenz*), the Central Secretariat, the Audit Office (*Rechnungsprüfungsstelle*), Business Offices and Committees were added over time (see Figure 1). Furthermore, the SLV maintained various welfare institutions such as the Aid Fund or the Teachers' Orphan Foundation.

The SLV represents a complex actor with a structured association policy and cantonal and inter-cantonal responsibilities. The Association still does a great deal in professional and educational policy today and now bears the abbreviation "LCH". It is in active contact with federal departments and commissions. For this reason, the SLV is a very influential but also relatively inert actor whose negotiation processes turn out to be protracted. Due to its size and complexity, the SLV has an ambivalent role: on the one hand, it must represent the interests of teachers to the outside world; on the other hand, as a political actor in education policy matters, it is bound by certain guidelines and regulations. Institutional or financial dependencies could therefore quickly cause internal disputes.

With regard to educational devices, the special interest of this article lies with the Commission for Inter-cantonal School Issues (KOFISCH), which dealt with various teaching aids. Different study groups of this commission processed and collected, for example, school murals, published original prints for school wall decorations, examined teaching literature, or created history and geography picture atlases. An Apparatus Commission (APKO), which was established in 1950 and consisted of chemistry and physics teachers, was responsible for testing and assessing teaching aids and was concerned with the construction of apparatus for science classes.[31] In cooperation with Swiss companies, the APKO wanted to create practical tools for the school. There has also even existed a working group for records and tape, which, however, was only active for about two years.

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[29] For the history of teachers' associations in Switzerland, see Daniel V. Moser, *Es begann an einem sonnigen Samstag anno 1849: Festschrift 25 Jahre LCH: 140 Jahre Schweizerischer Lehrerverein SLV – 25 Jahre Dachverband Lehrerinnen und Lehrer Schweiz LCH* (Schweiz: Verlag LCH, 2014); K. Hohl, *Die Gründung des Schweizerischen Lehrervereins* (Zürich: Schweizerischer Lehrerverein, 1938); Peter Ziegler, *Zürcher Kantonaler Lehrerverein, 1893 bis 1993* (Zürich: Zürcher Kantonaler Lehrerverein, 1993).

[30] "Die Festversammlungen des Schweiz. Lehrervereins", *Schweizerische Lehrerzeitung* 12, no. 43 (1867), 339–43; "Zum 50. Jahrgang. Ein Rückblick auf die Geschichte der Vereinsorgane des Schweiz. Lehrervereins", *Schweizerische Lehrerzeitung* 50, no. 1 (1905), 6–8.

[31] Annual reports of the SLV, 1951–1989, books 352 and 333, private archives of the SLV/LCH (PALCH), *Dachverband Lehrerinnen und Lehrer Schweiz LCH* (DLLCH).

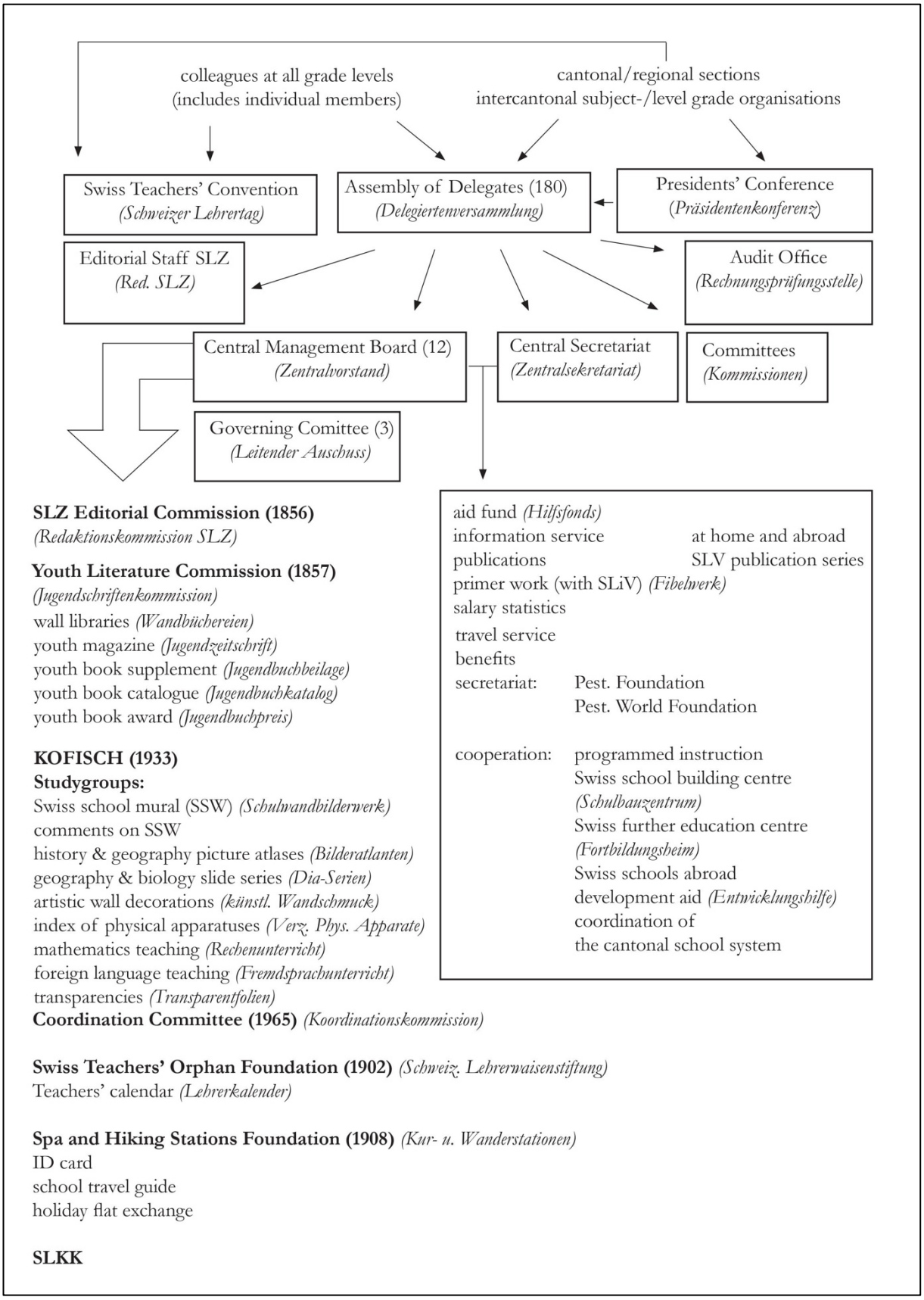

Figure 1: Organisational Chart of the SLV from 1970.

Source: Own illustration, based on the organisational chart in the minutes of the CMB, the Assembly of Delegates (AD) and the President's Conference (PC), book 365, PALCH, DLLCH.

During the research process, two study groups have attracted particular attention because they had been working with audio-visual teaching media for a long time and collaborated with different actors. These are the Commission for Diapositives (*Lichtbildkommission*), alternatively called Study Group for Geography Diapositives, and the Study Group for Transparencies (*Studiengruppe für Transparentfolien*). We will now highlight the activities and aims of these two study groups and show what their members discussed in their meetings to uncover how the SLV positioned itself towards audio-visual media. We point out how teachers within the Association became proactive in creating and promoting audio-visual media.

The production of diapositives

In September 1952, a teacher from KOFISCH approached the SLV Central Management Board and asked for a loan to set up a working group for the "school diapositive" (*Schullichtbild*). The sender of the letter stressed that the demands and requests for good photo material had increased, but that the situation in Switzerland was "shameful"[32]. Not only the country's own schools, but also foreign countries were increasingly asking for new diapositives, but there was a lack of specific Swiss material, the teacher complained. Setting up a study group would therefore help to become independent of foreign countries.

In 1953, the new study group for geography diapositives, also called *Lichtbildkommission* (LK), consisting of half a dozen members, was founded and entrusted with assessing needs, archiving, collecting and exchanging visual material. One SLV member argued that the production of Swiss diapositives – especially for the teaching of Swiss geography – would not only benefit the schools, but would also be an honourable activity for the SLV, as it could achieve the name of a Swiss authority.[33] Another member claimed that such a verification centre, which could also advise schools quickly and expediently on the acquisition of diapositives and projection equipment, had been desired for many years by wide circles of the teaching community.[34]

When examining the colour slides already available in the mid-1950s, the LK found that surprisingly little school-appropriate material was on the market.[35] By publishing its own colour slides, the LK wanted to counteract the "mass feeding of inferior photographs"[36]. The full-time teachers within the study group said themselves that creating the slide series was not a business but required a lot of idealism.[37] Not only did it demand good photographers, who ideally were also teachers, but also the right film, the right equipment, enough time and good weather.[38] In the Association journal, the LK published lists of picture motifs it needed for its diapositives and called on the teaching community to cooperate. Initially, many colleagues were interested in collaborating; in 1959, 200 teachers sent in about 9,000 pictures.[39] However, only 300 of the pictures were assessed by the LK as being of sufficient quality and could thus be used. The study group had very high requirements and applied a strict standard in order to be better than manufacturers and traders. It does not seem

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[32] Letter from F. Gribi to the Central Management Board (CMB) September 21 1952, box 49: study group for geography diapositives (SGGD), PALCH, DLLCH, 3.
[33] "*Das Schullichtbild*": Paper by A. Suter for the meeting of the *Lichtbildkommission* (LK) of 5 February 1955, January 23/30 1955, book 356: minutes of the CMB, the Assembly of Delegates (AD) and the President's Conference (PC), PALCH, DLLCH.
[34] Creation of a central office for *Schullichtbilder* and *Stehlichtbilderstreifen*, letter from Dr. M. Simmen to the CMB, April 29 1952, box 49: SGGD, PALCH, DLLCH.
[35] Paper by Dr. H. Eggenberger at the third Swiss Conference for the School Diapositives (SCSD), annex to the minutes, September 19 1959, box 48: folder "geography diapositives" (GD), PALCH, DLLCH.
[36] Minutes of the first SCSD, June 11 1955, box 48: folder GD, PALCH, DLLCH, 4.
[37] Minutes of the second SCSD, June 9 1956, box 48: folder GD, PALCH, DLLCH.
[38] ibid.
[39] Minutes of the third SCSD, September 19 1959, box 48: folder GD, PALCH, DLLCH.

surprising that the KOFISCH noticed a decline in the cooperation of fellow teachers in 1966. In the publicly available annual reports of the SLV, the work of the study group is portrayed very positively and the initiative of the SLV is praised in the highest terms. It says that the LK is making significant progress and that the success can be seen in the sales of the self-produced series called *Schweizer Schullichtbild* (SSL).[40] However, the production of diapositives did not go as smoothly; many had technical errors and were often delivered too late. The order intake of slides in 1958 was three times as high as their sale.[41] According to the SLV, one of the reasons for this was apparently the backward technology in the field of colour film and print.[42] The members of the Association discussed that waiting for technology to catch up was inadvisable because of foreign competition.[43] Although the SLV did not actually aim to do any business of its own, but primarily to offer inexpensive picture lending for schools, it still wanted to beat the foreign countries that were eager to do business in Switzerland.[44]

In the beginning, the study group was financed by the SLV, as the diapositive, unlike the educational film, was not subsidised. Eventually, however, the LK was dependent on additional financial support and had to contact Swiss companies. This search for a distribution partner led to internal conflicts within the Association. In 1954, the Governing Committee accused a member of the study group of gaining financial benefit from working with the *Lehrmittel AG Basel* and was concerned that this member was making propaganda for this company.[45] It was noticeable in the minutes that the SLV was very worried about its scientific integrity and reputation. Furthermore, the Governing Committee complained that the study group's work was progressing slowly and that no results were forthcoming.[46] Consequently, the LK was no longer entitled to sole or first editing: other institutions, for example, the Swiss Working Group for Educational Cinematography (SAFU), had usurped the study group, which greatly annoyed the Central Management Board. The question arose as to whether or not to enter into a contract with the SAFU. On the one hand, the SLV did not want to participate in any way in the corporate propaganda for the SAFU and help the company gain a monopoly position by signing a contract.[47] It also feared legal entanglements or companies with purely commercial interests. On the other hand, it seemed that the study group was primarily concerned that good, usable material that considered the specific needs of Swiss schools was produced. The SLV finally decided against reluctance and in favour of cooperation and began working with the SAFU in 1957. Together, they created diapositive series for history lessons.

The LK, together with KOFISCH and the SLV, organised annual Swiss Conferences for the School Diapositives, which were also attended by representatives of the cantons and other interested organisations. Participants discussed how best to promote the use of the diapositive in class and wished that, at best, every second classroom should be set up in such a way that it could be converted to projection mode as quickly as possible.[48] They talked about which equipment, which films and which colour slides were suitable for use in schools. For example, a projector should be sturdily built, handy and easy to use. The participants felt that slide projectors were a practical tool that would make lesson preparation and blackboard work much easier for teachers. In addition, they believed that projection helped with the evaluation of texts, with translations, with historical

[40] Annual report of the SLV, 1958, book 333, PALCH, DLLCH.
[41] Minutes of the meeting of the LK of the SLV, June 28 1958, box 49: folder SGGD, PALCH, DLLCH.
[42] Minutes of the third SCSD, September 19 1959, box 48: folder GD, PALCH, DLLCH.
[43] ibid.
[44] Minutes of the second SCSD, June 9 1956, box 48: folder GD, PALCH, DLLCH.
[45] Meeting of the CMB, June 19 1954, book 352: minutes of the CMB, the AD and the PC, PALCH DLLCH.
[46] Meeting of the Commission for inter-cantonal school issues (KOFISCH), June 12 1954, box 54: minutes of the KOFISCH, PALCH, DLLCH.
[47] Meeting of the CMB, September 25 1954, book 352: minutes of the CMB, the AD and the PC, PALCH, DLLCH.
[48] Minutes of the first SCSD, June 11 1955, box 48: folder GD, PALCH, DLLCH.

documents, blackboards, statistics, mathematical tasks, or graphic representations.[49] Diapositives for teaching should not serve entertainment purposes though and should be chosen carefully, following the motto "less is more"[50].

The LK knew that diapositives did not have the same significance for all school subjects and that they were used frequently in geography, history and natural history lessons. In 1960, a study group for biology diapositives was founded alongside the study group for geographical diapositives, but it soon ceased its activities and did not resume until 1965.[51] The study group had to struggle with financial difficulties, as the demand for biological diapositives was not as great as that for geographical ones.[52] However, for image reasons, the SLV wanted to continue the work of the study group in 1975 and continue to meet the needs of Swiss schools with its own series.[53] Yet, in 1980 the frustration was so high and no new members were found, which meant that the study group was dissolved. In 1984, the LK was also facing a turning point, as the diapositive was losing ground to video and computer science.[54]

Despite all this, the five to seven members of the LK tried to educate teachers and promote the use of the diapositives in schools. They considered the specific needs of the Swiss schools and wanted to remedy the conditions in Switzerland to protect themselves from foreign production. During the evaluation of the minutes, it became clear that the SLV attached great importance to its image and would have liked to have a kind of monopoly position in the field of school diapositives. Therefore, the study group was very strict in quality issues, which is, however, one of the reasons why the initial collaboration of teachers died down. Moreover, delivery problems and technical errors made work difficult and internal tensions delayed the progress of production. Despite this, the Commission for Diapositives (LK) was apparently one of the most successful study groups within the SLV with its own SSL series.

The promotion of transparencies and overhead projectors

In 1968 the new overhead projector "Demolux 800" came onto the market, which the company *Lehrmittel AG Basel* advertised in the Association journal SLZ.[55] At a meeting of the Central Management Board in March 1969, the President of KOFISCH suggested that transparencies be created for this projector. Specifically, he submitted a proposal to the Central Management Board to set up a study group that prepares transparency sheets for biology, physics, chemistry, history and geography.[56] This proposal was accepted and a short time later, a call for applications for the study group appeared in the SLZ. In September 1969, the study group for transparencies was officially constituted and consisted of half a dozen full-time teachers from different school levels from the area of Zurich.

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[49] Minutes of the third SCSD, September 19 1959, box 48: folder GD, PALCH, DLLCH.
[50] Minutes of the third SCSD, September 19 1959, box 48: folder GD, PALCH., DLLCH.
[51] Request for dissolution of the study group for biology diapositives, adjunct to the meeting of the CMB, February 12 1983, box 48: folder "biology diapositives" (BD), PALCH, DLLCH.
[52] Minutes of the meeting of the study group for biology diapositives, September 23 1961, box 48: folder BD, PALCH, DLLCH.
[53] Request for dissolution of the study group for biology diapositives, adjunct to the meeting of the CMB, February 12 1983, box 48: folder BD, PALCH, DLLCH.
[54] Minutes of the meeting of the LK of the SLV, January 21 1984, box 48: folder GD, PALCH, DLLCH.
[55] Advertisement, *Schweizerische Lehrerzeitung* 113, no. 11 (1968), 350.
[56] Minutes of the second meeting of the CMB, March 15 1969, book 364: minutes of the CMB, the AD and the PC, PALCH, DLLCH.

One of the main goals of the new study group was also to become independent of foreign production and to promote transparencies that met the specific needs of Swiss schools and teachers, because the supply of poor-quality transparencies was apparently huge at that time. It coordinated and reviewed transparencies and accessories and made technical recommendations to Swiss producers. It drew up standards and guidelines on transparencies in terms of their composition, format and image size, and thus established its own quality mark, the so-called "SLV-Norm" (see Figure 2). The study group also aimed to be a service for teachers and wanted to disseminate the new teaching material as easily and cheaply as possible. To this end, among other things, it published templates for transparencies in the SLZ which teachers were allowed to copy for their own use. The transparencies therefore had to be able to serve as a working tool for as many teachers as possible.[57]

Figure 2: Quality mark for school transparencies.

Source: Quality mark "SLV-Norm" for school transparencies, annex 10 to the original minutes of the meeting of the CMB, Max Chanson, November 30 1971, book 367: minutes of the CMB, the AD and the PD, PALCH, DLLCH, 1.

The publishing house *Kümmerly und Frey* (K+F) in Bern soon asked the SLV if it could cooperate with the newly established study group within KOFISCH and in March 1970, the first draft contract was drawn up. K+F was contractually obliged to achieve the best possible level of quality, as the SLV valued good, precise and careful work.[58] The publisher was allowed to have a say in the choice of topic but should always act in the interest of the teachers. However, the study group for transparencies did not want to be tied to just one publisher and wanted to promote cooperation between different publishers and authors.[59] It quickly found that its competences within the SLV were unclear. As a sub-group of KOFISCH, it did not know how far it could go with its initiatives and therefore proposed to split the study group. In this way, it hoped for more freedom of action and more independent work.[60] Simultaneously, it was discussed in the KOFISCH meetings in 1970 that the commission could no longer oversee all the study groups at the same time and was working very slowly. Due to this sluggishness, teachers were not given enough weight because the results of the study groups always came a little too late. At the beginning of 1973, KOFISCH was dissolved and the original study group for transparencies was split into two independent groups, the "SLV-Foil Committee" *(SLV-Folienausschuss*) and the "SLV-study group transparencies" *(SLV-Studiengruppe Transparentfolien*). The first worked closely with the K+F and monitored compliance with the level of quality according to the "SLV-Norm" guidelines[61]. The second dealt with issues of the use of overhead projectors and classroom transparencies in schools and documented experiences, passed on information, coordinated guidelines, or instructed and advised teachers.[62] From

[57] Memo to the file of the study group for transparencies (SGT), Th. Richner, November 12 1969, box 46: folder "study group *TRSP-Folien*" (SGTF), PALCH, DLLCH.
[58] Regulations of the SGT, annex 18 to the original minutes of the meeting of the CMB, march 1970, book 365: minutes of the CMB, the AD and the PD, PALCH, DLLCH.; Draft contract concerning the publication of the official transparency work of the Swiss Teachers' Association, annex 19 to the original minutes of the meeting of the CMB, 1970, book 365: minutes of the CMB, the AD and the PD, PALCH, DLLCH.
[59] Minutes of the fifth meeting of the SGT, December 10 1969, box 46: folder SGTF, PALCH, DLLCH.
[60] ibid.
[61] Draft: Regulations for the "SLV-Folienausschuss", annex 3 to the original minutes of the meeting of the CMB, March 07 1973, book 368: minutes of the CMB, the AD and the PD, PALCH, DLLCH.
[62] SGT: Regulations, annex 3 to the original minutes of the meeting of the CMB, August 1974, book 369: minutes of the CMB, the AD and the PD, PALCH, DLLCH.

here on, only minutes of the SLV-study group transparencies were evaluated, as these gave more insight into the teachers' points of view.

The study group considered the overhead projector to be a good working tool. It could activate and stimulate students, and also enable a new intensive cooperation and exchange of experiences among teachers.[63] In order to solve methodological and didactic problems with the transparencies, cooperation with teachers within the school levels concerned was essential. For the members, it was also important that the methodological freedom of teaching was not restricted by the new teaching aid.[64] For this reason, the work was oriented towards concrete educational practice and self-production of transparencies was encouraged. Various teachers' associations such as the Secondary Teachers' Conference and the Zurich Middle School Conference actively approached the study group and asked for advice on the production and formal design of transparency sheets.[65] As the study group provided altruistic services to the teaching community and did not pursue commercial interests, it has often faced financial difficulties. To survive, it was reliant on external support, for example, from the K+F. Consequently, it often found itself in a dilemma: on the one hand, it wanted to involve teachers in important decisions, but on the other hand, it had to work as efficiently as possible. Essentially, the study group believed that well-thought-out production on a modest scale was better for the school than a hectic way of working.[66]

In 1973, the Swiss Standards Association (SNV) found that other institutions, such as the Pestalozzianum (a famous training centre for teachers in Zurich), were interested in the standardisation of overhead projectors and in cooperating with the study group.[67] Since self-supply with transparencies was not possible in the long-term, the study group was interested in teacher training centres, as they had the capacity to instruct prospective teachers in the sensible use of overhead projectors in a coordinated manner. The study group therefore wanted to strengthen the Pestalozzianum's reputation as a meeting place for teachers, expand the audio-visual centre (*AV-Zentralstelle*) there and, of course, gratefully accepted any financial support.[68] It had various ideas such as opening a Foliothek or offering workshops and further training courses in the field of working projection. Despite a brief dispute with the Pestalozzianum and disagreements among members, the collaboration with the teacher centre was fruitful. On the premises of the Pestalozzianum, newly equipped with cables and loudspeakers, the study group held a first introductory course in working projection in 1977.[69] Their course report stated that although the 23 participants worked with great zeal, not all of them had the necessary technical skills. Some teachers had difficulties with the copying techniques and the practical work with the thermal and photocopying machines.[70] In the study group meetings, very concrete, technical questions were therefore often negotiated, such as which production or copying processes were most suitable for "average teachers"[71].

The study group recognised as early as 1973 that federalism was delaying the spread of the overhead projector, since both schools with audio-visual media and the level of teacher training

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63 Discussion of the questions from the SGT, Th. Richner, January 14 1971, box 46: folder SGTF, PALCH, DLLCH.
64 Memo to the file of the SGT, Th. Richner, November 12 1969, box 46: folder SGTF, PALCH, DLLCH.
65 Minutes of the meeting of the SGT (*Normenausschuss*), June 19 1970, box 46: folder SGTF, PALCH, DLLCH.
66 Minutes of the meeting of the SGT, March 14 1979, box 46: folder "SG *TRSP-Folien*", PALCH, DLLCH.
67 Letter from Max Chanson to the Technical Standards Committee Phototechnology "photonorm" in the German Standards Committee DNA for the attention of Mr Wolf Grau, August 31 1973, box 46: folder SGTF, PALCH, DLLCH.
68 Minutes of the meeting of the SGT, March 25 1975, box 46: folder SGTF, PALCH, DLLCH.
69 Minutes of the meeting of the SGT, March 01 1977, box 46: folder SGTF, PALCH, DLLCH.
70 Minutes of the meeting of the SGT, February 01 1978, box 46: folder SGTF, PALCH, DLLCH.
71 Ibid., 1.

varied from place to place.[72] In some schools, the overhead projector was already in widespread use in 1971, but in others, the material requirements and financial resources were lacking. Moreover, about three dozen publishers were producing transparencies during this period, which is why the development of general purpose teaching aids had to be carefully planned, according to the study group.[73]

Together with the Zurich Commission for Teaching Aids (KOFU) and the Office for Image and Sound (BBT) of the School Board of the City of Zurich, the study group conducted a test in 1976 to find out which model of overhead projector was most suitable for schools.[74] Furthermore, in order to introduce the tools for designing worksheets and transparencies to teachers, the three organisations ran three special campaigns: they distributed free samples at the education fair "Didacta", sent out discounted introductory packages and spread around 300 promotional circulars to audio-visual offices, media officers and teacher training seminars.[75] The study group attached great importance to the cooperation with other institutions and organisations, both for financial reasons and to avoid possible duplication of work. To receive federal subsidies from the EDK, the study group was interested in joining the Swiss Commission for Audio-visual Teaching Aids and Media Education (SKAUM) in 1974. However, after the EDK had substantially cut subsidies in 1977, the study group described the EDK's subsidy practice as "restrictive"[76]. It apparently placed more emphasis on local and regional audio-visual agencies and saw bottom-up construction as an effective means of involving the teaching community.[77]

In summary, the study group for transparencies made significant efforts to introduce the overhead projector and transparencies to teachers and to use them in the schools. It actively approached teachers and created opportunities for them to become familiar with the new teaching tool. For example, it created and published instructions and guidelines on how to make transparencies themselves or organised practice-oriented courses. The full-time teachers in this study group wanted to promote Swiss publishers, to work as independently as possible and allegedly pioneered the field of overhead projection. In their meetings, they mainly discussed the question of the best possible use of the new teaching aid, both from a technical and a didactic point of view. They tried to promote cooperation between teachers and support the methodological freedom of teaching, even if – or precisely because – they gave advice on the creation and formal design of transparency templates. A 1977 survey by the Research and Development Centre for Objectified Teaching and Learning (FEoLL)[78] found that the working projection for teachers was at the top of the list among all media (film, slide, school radio, school television).[79] This finding might explain the relative success of the study group.

General observations on views of the SLV towards audio-visual media

It has been shown so far that some teachers within the SLV were active in producing diapositives and transparencies and in disseminating them to the teaching community. However, the

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[72] Letter from Max Chanson to the Georg Westermann publishing house and lectorate for audio-visual media for the attention of Mr D. Bode, December 19 1973, box 46: folder SGTF, PALCH, DLLCH.
[73] Minutes of the meeting of the SGT, May 8 1972, box 46: folder SGTF, PALCH, DDLCH.
[74] News from the everyday life of the study group, Max Chanson, September 1976, box 46: folder SGTF, PALCH, DLLCH.
[75] Letter from Max Chanson to SKAUM, request for contribution for the project "Introduction of the tools for the design of worksheet and transparency originals", September 20 1976, box 46: folder SGTF, PALCH, DLLCH.
[76] Minutes of the meeting of the SGT, December 13 1978, box 46: folder SGTF, PALCH, DLLCH, 1.
[77] ibid.
[78] *Forschungs- und Entwicklungszentrum für objektivierte Lehr- und Lernverfahren.*
[79] Minutes of the meeting of the SGT, March 01 1977, box 46: folder SGTF, PALCH, DLLCH.

question remains as to what was the general attitude of the SLV in this regard and what was its attitude towards other audio-visual media. Even though a clear stance of the Association was difficult to elicit because of its complexity and scope, certain parallels could be found in the material studied, that is, similar views held by a wide range of teachers in different institutional bodies. We focus on the main points of several debates on new teaching aids, especially regarding the media promoted by the study groups, but also with regard to school television and educational film.

In a discussion about school television in 1955, the Central Management Board stated that trade and industry believed they could use the school for business purposes.[80] When analysing the minutes of various institutional bodies of the SLV, it stood out that many teachers within the association criticised actors with purely commercial interests. One teacher even spoke of "superficial American advertising crap"[81] in a teacher survey in 1970. The SLV generally feared that audio-visual teaching aids were being touted by certain actors only to sell them and not because they had any real pedagogical value. Furthermore, the debates within the study groups we examined revealed that the SLV did not want to be influenced by mainly profit-oriented actors under any circumstances. The Central Management Board itself said that it neither wanted to represent an advertising agency, nor to make one-sided recommendations, but rather to depict modern teaching methods as realistically and truthfully as possible.[82] Before using new teaching methods in schools, the SLV was further committed to clarifying whether and how a possible introduction of new tools would be at all pedagogically, financially and organisationally responsible.[83] Discussions about the introduction of new audio-visual teaching media accordingly almost always revolved around cost-benefit issues. These findings already indicate that the teachers within the SLV wanted to take a differentiated stance and were not fundamentally for or against the implementation of audio-visual media in the classroom. They merely wanted to avoid any possible industrial or political manipulation and to adopt a neutral and unbiased attitude.

Above all, however, the Association also pursued educational concerns, which will now be demonstrated using the example of school television. While the youth or school film did not seem to pose a major problem for the SLV at first glance, the introduction of school television was fraught with considerably more difficulties. At a delegates' meeting in 1955, three different presentations were given on the question of television. The first speaker criticised the low cultural yield of television and the pedagogical clumsiness of many programmes. The second speaker saw many benefits of school television, such as improving access to education in remote areas, promoting a willingness to talk and exchange ideas among students, or even the possibility of intellectual or cultural higher advancement. The last speaker feared that students would go through mental changes and that education would be paralysed by television. [84] Following these presentations, the Assembly of Delegates recommended that the authorities and colleagues refrain from introducing television into schools. Even though the SLV did not deny the possibility of television to impart interesting and worthwhile knowledge, it mainly shared the view that many programmes would endanger the juvenile psyche because they overstrained the child's receptiveness and because the

[80] Meeting of the Central Management Board, June 18 1955, book 356: minutes of the CMB, the AD and the PC, PALCH, DDLLCH.
[81] Evaluation of the Teacher Survey Sample Fair 1970, book 366: minutes of the CMB, the AD and the PC, PALCH, DLLCH, 2.
[82] Minutes of the third meeting of the CMB, May 3 1969, book 364: minutes of the CMB, the AD and the PC, PALCH, DLLCH.
[83] Short report by Marcel Rychner on the international conference in Berlin on the topic of "Programmed Instruction and Teaching Machines", supplement to agenda item 3, January 18 1964, book 359: minutes of the CMB, the AD and the PC, PALCH, DLLCH.
[84] Ordinary Delegates' Assembly, September 24 1955, book 356: minutes of the CMB, the AD and the PC, PALCH, DLLCH.

ability to concentrate would suffer in the long-term.[85] The needs of the pupils should also be considered in the design of the diapositives and transparencies. There, too, it was important, for example, that the media were not overloaded with too much information, so that on the one hand, teachers still had enough leeway and on the other hand, the students were not confused.[86]

When the Directorate of Television wanted to conduct school television trials in 1958, the Central Management Board considered doing something about it. However, the representatives of the Presidents' Conference realised as early as 1955 that they would not be able to stop school television, even if they wanted to. Despite everything, they agreed that television could also benefit the school, but only if teachers could influence programme design. In other words, when new teaching materials were introduced, it was obviously also crucial that teachers were involved in questions of design and content. Stakeholders from outside the school who tried to impose something "from above" did not seem to be very popular at the SLV. However, the idea of actively involving teachers remained wishful thinking when it came to school television. Horlacher reports on a teacher survey at the end of the 1970s, which revealed that teachers saw many difficulties in school television, such as coordination with the syllabus and the timetable, organisational effort, or basic compatibility with the respective subject.[87] For Switzerland, Horlacher also states that the pedagogical approach to film and television should be understood in the context of a stronger lifeworld orientation of school and teaching. There were certain hopes and expectations associated with film education in schools in the 1960s, which were, however, largely disappointed, as the new medium did not have as much potential for improving society as was initially assumed.[88]

Regarding the educational film, the SLV had few objections, probably because it participated in various responsible bodies relatively early on. In 1952, it became a member of the *Filmbund* (a film union) and, in 1960, of the Working Community for Youth and Film (AJF)[89], with which it organised a joint working conference on the subject of "Education to Film"[90]. Together, they aimed to integrate film education into the lessons as harmoniously as possible. After a survey in 1960, the SLV found that many schools lacked suitable projection equipment and therefore concluded that one of the reasons why film was not disseminated in class was financial. At the same time, it found that most teachers did not know exactly what effects and possibilities educational film could have and felt that an introduction to this "least problematic form of film use"[91] was urgently needed. It seems understandable that schools and teachers did not purchase expensive media on their own initiative if they could not assess their impact on teaching. A teacher for media education and instructional technology wrote in the Association journal that the technical aids had initially entered the classroom in an uncontrolled and unreflective manner, but that it had since been recognised that the pedagogical significance of these new forms of teaching and learning first had to be defined.[92] A didactics and methodology of audio-visual media could only be established through a theory-practice relationship, the teacher stated.

Various members of the SLV emphasised that technical aids are of no use if teachers do not support them or do not know how to use them. This may also explain why the study groups placed

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[85] Resolution of the Assembly of Delegates, September 24 1955, book 365: minutes of the CMB, the AD and the PC, PALCH, DLLCH.

[86] Minutes of the meeting 3/76 of the study group for transparencies, May 26 1976, box 46: folder SGTF, PALCH, DLLCH.

[87] Horlacher (2021).

[88] ibid.

[89] *Arbeitsgemeinschaft für Jugend und Film.*

[90] Minutes of the second meeting of the CMB, February 25 1961, book 357: minutes of the CMB, the AD and the PC, PALCH, DLLCH.

[91] Result of the survey of the SLV concerning film screenings for children and young people, June 17 1960, book 357: minutes of the CMB, the AD and the PC, PALCH, DLLCH, 6.

[92] Ernst Ramseier, "av–bulletin", *Schweizerische Lehrerzeitung* 118, no. 52 (1973), 2173.

so much emphasis on teachers themselves being involved in the production of their teaching materials. For this reason, it was important for the SLV that the new teaching tools were not simply imposed on teachers, but that teachers were taken seriously and considered as the stakeholder group most affected. After all, the SLV had always sought to protect the professional status of teachers since its foundation, under the principle that they were educators and not employees. Furthermore, the Association policy considered reforms to be good only if training opportunities were improved, if the nature of the child was taken into account and if teachers, as experts in practice, had a say.[93] In the discussion of new instructional tools and educational media, these points were therefore raised repeatedly.

Conclusion

This article has shown that audio-visual media were accepted by teachers, who even produced and promoted them themselves. The affirmation of teaching aids led to their elaboration and integration and even to collaborative work processes. The fact that the SLV founded its own study groups that dealt with modern teaching materials and, in some cases, even wanted to take on a pioneering role, revealed that it wanted to strengthen the position of teachers as their representatives. The SLV placed a high value on its reputation, clearly wanted to act as a representative of the teaching community and in no way wished to be involved in propagandistic intentions. It endeavoured to present new teaching materials as realistically as possible and to conduct a thorough needs assessment before developing or promoting new educational devices. In the context of the SLV, criticism of audio-visual media was only voiced when they were not adapted to the teaching practice in Swiss schools, either because their implementation was driven by actors interested in commercial success or because pedagogical considerations were neglected. The different SLV members had different possibilities for action depending on the nature of their structural participation and therefore initially had to cope with institutional and organisational difficulties.

There were a number of key issues for different SLV members regarding the various audio-visual media. For the LK, the backwardness of the technology was one of the biggest problems, as it led to technical errors and delivery delays. However, since the pressure from abroad was very great, the LK decided not to wait for the technology, but to continue working consistently. Another problem was the financial difficulties and the resulting dependence on companies, which caused internal conflicts and trust issues among the SLV members. The study group had to justify itself to the Central Management Board, which began to worry about the reputation of the SLV. The Board would have liked to see faster results and ultimately to be the first or sole processor of Swiss school diapositives. It feared loss of integrity, legal entanglements and propaganda abuse when working with other companies. In the course of the negotiations, it decided to cooperate with certain companies that pursued similar goals, with the argument that this would serve the schools and teachers in the best possible way. That the SLV was concerned about its reputation became also evident in the study group for biology diapositives, which did not want to be abandoned immediately for image reasons. Accordingly, the SLV displayed not only a consistent and precise approach to creating diapositives, but also a competitive and results-oriented attitude.

Similar things can be said about the study group for transparencies, as quality and diligence distinguished their work. Unlike the LK, however, this study group was much more proactive. It provided a service to teachers by publishing transparency templates in the SLZ and encouraged teachers to create slides themselves. Moreover, it promoted further education courses on its own initiative and participated in campaigns or tests. The group focused on the possibilities of collaboration and directed its work towards teaching practice, with constant attention to methodological

[93] Explanations of the individual principles of the association's policy, W. Schott and F. v. Bidder, 1977, book 371: minutes of the CMB, the AD and the PC, PALCH, DLLCH.

freedom. In the meetings, material issues were often discussed with regard to didactic issues. The members of the study group for transparencies struggled less with technical difficulties than with the complexity of the SLV. Late results here were due to an unclear distribution of responsibilities within the association. Consequently, there was a fear that teachers' voices would be given less weight externally because of these delays. The organisational restructuring sought by the study group seemed to have facilitated certain internal association processes. However, financial difficulties were also a problem in this study group and the members had to constantly weigh up whether to involve their teacher colleagues in decision-making processes at the expense of efficiency.

Through the creation of specialised study groups, the SLV showed other stakeholders that teachers can be actively involved in questions of co-designing new teaching materials. It was keen to be at the forefront and to make its work visible to the outside world. Furthermore, its commitment to quality seemed to set the SLV apart from other stakeholders, as the quality of the new teaching materials was not only measured by the material component, but also by the content and didactic design, which aimed to consider the needs of both the pupils and the teachers. The attempts from the first half of the 20th century to avoid being alienated by new media and technologies continued. At least in Switzerland, teachers adopted new technological possibilities, giving them an educational spin.

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