CONTEMPORARY RESEARCH TOPICS IN ARTS EDUCATION

GERMAN-DUTCH PERSPECTIVES

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Preface

The first German-Dutch Colloquium (GDC) 2017 in Amsterdam initiated a stimulating discussion on the impacts of arts education and, at the same time, caused a strong interest to continue this bilateral research exchange. For this reason, we organized the second GDC which took place on 24 September 2018 in Berlin in the Embassy of the Kingdom of the Netherlands. It was supported by the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF), Fonds voor Culturparticipatie, and Landelijk Kennisinstituut Cultuureducatie en Amateurkunst (LKCA). We would like to thank these partners for making the second GDC possible, especially the BMBF for funding not only the travelling expenses but also this publication.

In terms of content, this time the Colloquium was divided into two parts: It started with lectures on the main topic "Digitalization and Arts Education" and, in the second part of the colloquium, continued with the topic "Research on the Impacts of Arts Education". Both issues are crucial for the contemporary academic discourse on arts education. Especially the question of how digitalization influences arts education and vice versa is a quite new and relevant research field. We consider the international exchange on these current research topics and their results to be very important for advancing arts education research.

Among the following articles, we are glad to be able to present two articles from within our ranks of projects funded by the Research Fund for Arts Education [Forschungsfonds Kulturelle Bildung], which is a project by the Council for Arts Education [Rat für Kulturelle Bildung e. V.], supported by the foundations Stiftung Mercator and Karl Schlecht Stiftung. Namely "TuB" (Nils Neuber, Esther Pürgstaller), which investigates the impacts of dance and physical theater on creativity, and "KuBiK^5" (Nicole Berner, Caroline Jacobi-Theurer, Wida Rogh), a project that focusses on the impacts of arts education on the creativity development in fifth grade. Furthermore, the publication presents three guest contributions: introducing chapter II "Digitalization and Arts Education" by Benjamin Jörissen; introducing chapter III "Research on the Impacts of Arts Education" by Christian Rittelmeyer, and "The Culture of Digitalization and the Digitalization of Culture" by Daniel Martin Feige, who was invited to capture and explain the topic "digitalization" from his own philosophical perspective.

The articles in this publication show once again the extent of the field and the diversity of research as well as the need for international research exchange in the scope of arts education. We are looking forward to further productive collaborations!

WINFRIED KNEIP
Board Member, Council for Arts Education [Rat für Kulturelle Bildung e. V.]

Preface

Arts education is enrichment. It enables people of all ages to examine themselves and their environment in an artistic manner. It supports people in developing their talent and personality. However, arts education measures also strengthen cognitive and non-cognitive skills, such as open-mindedness and team spirit or assertiveness. It has been shown that participation in arts education leads to greater success at school and work. It also strengthens social cohesion since arts education contributes to a common cultural understanding when culture becomes an artistic experience.

Research on arts education is vital to ensure and develop quality and innovation in this field. The Federal Ministry of Education and Research (BMBF) is therefore committed to funding research on arts education. The BMBF is currently funding this research in the context of two funding regulations in the fields of research on arts education and research on digitalization in arts education with a total annual volume of approximately six million euros. Another funding regulation focussing on arts education in rural areas will be launched in autumn 2019. The BMBF funding is to contribute to firmly establishing the field of arts education within educational research. Excellent research is indispensable to achieving this aim.

International networking is of vital importance in this context. Collaborations between scientists from different countries help to increase the quality of research, particularly because the field of arts education is characterized by a high level of heterogeneity and interdisciplinarity. The German-Dutch Colloquium, organized for the first time in 2017 by the Landelijk Kennisinstituut Cultuureducatie en Amateurkunst together with the BMBF, aims to contribute to the internationalization of research in this field. This catalogue demonstrates how the second German-Dutch Colloquium has also successfully contributed towards the long-term strengthening of international exchange between education scientists.

KORNELIA HAUGG
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Federal Ministry of Education and Research [BMBF]

CHAPTER I

INTRODUCTION

Contemporary research in the field of arts education: German-Dutch perspectives

ECKART LIEBAU, SEBASTIAN KONIETZKO, COUNCIL FOR ARTS EDUCATION

Digitalization has become a common part of our daily life and has changed the world essentially. Not only communication and the media were infected by the process of digitalization but also infrastructure, politics, public spaces and (arts) education. The self-image of libraries, for example, has changed in a far-reaching way. Nowadays many libraries are not only spaces where someone can lend or read books but they see themselves in the course of digitalization as a "third place" in which people can get together, acquire knowledge or get in contact with culture. Arts education plays an important role in the transformation process of libraries and other culture institutions like museums because it can create content to use the digital opportunities in a meaningful way.[1] Moreover, the education system in general and arts education in particular, for example, are beginning to change. Today many young people use digital platforms like YouTube to explore the cultural-aesthetic field (music, art, dance, gaming, comedy, etc.) or to repeat and deepen school issues. A new study by the Council for Arts Education [Rat für Kulturelle Bildung] shows that YouTube has become a key medium for young people and stimulates their cultural activities.[2] This has consequences for the educational system as such: digital platforms like YouTube cannot be denied anymore in the field of (arts) education and they should be used in an appropriate way.

These two examples confirm the thesis that digitalization should not only be seen as a technical phenomenon but as a cultural process.[3] Human beings have created digitalization and as a part of human culture, it opens up new spaces for cultural-aesthetic perception, activities and forms. With this in mind, there is a strong need for research to illustrate the exact meaning of digitalization as a cultural process, to investigate how arts education changes in the course of digitalization or to discuss advantages and disadvantages of digital tools in the field of (arts) education.

The second German-Dutch Colloquium (GDC), which took place in the Embassy of the Kingdom of the Netherlands in Berlin on 24 September 2018, was a perfect opportunity to discuss, on the one hand, these new and important issues and, on the other hand, to continue the stimulating discussion on the impacts of arts education which evolved during the first GDC in Amsterdam 2017.[4]

This time, the GDC was organized by the council for arts education [Rat für Kulturelle Bildung e. V.] in cooperation with the European Network of Observatories in the Field of Arts and Cultural Education [ENO NL], the National Centre of Expertise for Cultural Education and Amateur Arts [LKCA] and the Embassy of the Kingdom of the Netherlands, supported by the Federal Ministry for Education and Research [BMBF] and the Fonds voor Cultuurparticipatie. The Embassy of the Kingdom of the Netherlands in Berlin was an excellent place to perpetuate the idea of a bilateral scientific exchange between German and Dutch researchers. Especially at a time of globalization, increasing nationalism and populism, there is a strong need for mutual understanding and exchange. In this regard, arts education plays a very important role because it helps us to understand and reflect not only our own and but also other cultures.

ABOUT THE ARTICLES

Analogue to the structure of the GDC in Berlin, this publication is divided into two parts: chapter II gives an insight into the topic “Digitalization and Arts Education” whereas chapter III focusses on the topic “Research on the impacts of Arts Education”. Both issues are important for the contemporary research discourse in the field of arts education.

Starting with an introduction by Benjamin Jörissen, chapter II illustrates different research perspectives on digitalization. We are being introduced into the big collaborative project “Digitalization in Arts and Cultural Education” funded by the BMBF (Benjamin Jörissen, Friederike Schmiedl, Elke Möller, Lisa Unterberg, Matthias Krebs, Verena Weidner) and we learn more about how digital tools can help music teachers (Benno Spieker), how the Learning Management System (LMS) is conductive to artistic learning and teaching (Jaco van den Dool, Wander van Baalen), and how interactive media can enhance the pedagogical goals of museums (Bernadette Schrandt). Finally, Daniel Feige draws a philosophical perspective on the subject by reflecting the explicit and implicit power-structures in the digital realm.

In chapter III, the topic changes. The articles in this chapter give an insight into the contemporary research discourse on the impacts of arts education. After the introduction by Christian Rittelmeyer, two research projects on the impacts of dance (Nils Neuber, Esther Pürgstaller) and arts education in the fifth grade on creativity (Nicole Berner, Wida Rogh, Caroline Jacobi-Theurer) discuss their findings. The researchers were part of the Research Fund for Arts Education [Forschungsfonds Kulturelle Bildung] which is a project by the Council for Arts Education [Rat für Kulturelle Bildung e. V.], funded by the Stiftung Mercator and the Karl Schlecht Stiftung.[5] The fund exists since 2015 and will focus, in the next years (2018-2021), on the quality of educational opportunities in the field of arts education.[6] The following article by Edwin van Meerkerk focusses on the economic, political and administrative framework of arts education and emphasizes that research on the outcomes of arts education should be aware of the many-layered character of the policy process. Finally, Teunis IJdens critically discusses “advocatory” legitimation patterns of impact research and stresses that the discourse should be shifted towards real civic and political engagement and transformative practice in education and culture. In chapter IV, the last chapter, Zoë Zernitz and Jan Jaap Knol summarize the studies and their results to highlight the importance of these studies for politics, arts education practice and research. In addition, they discuss the extent to which digitalization and creativity are dependent processes and, in this context, their significance for society and education.

Research in the fields of arts education in general remains an open field with numerous open questions. It is evident that this is even more the case in the widely unknown area of arts education in times of digitalization. The GDC was meant to bring forward the scientific discourse. It opened the horizon and has led to new perspectives. But it is as always – more research is needed: the more you know, the less you know.

CHAPTER II

DIGITALIZATION AND ARTS EDUCATION

Introduction

BENJAMIN JÖRISSEN,
COUNCIL FOR ARTS EDUCATION

Over the past two decades, research has shown in many ways that digitalization, from the emergence of genuinely digital (sub)cultures and scenes in the eighties and nineties to the digitalisation of nearly everyone's everyday life today, is primarily a cultural process that goes far beyond mere technical and computational perspectives. Digitalization hits the different realms and practices of arts and cultural education

a as a *challenge*, enforced by public and political expectations (What is the contribution of arts and cultural education towards a sensible and pedagogically meaningful "digitalisation" of education?),
b as a *chance* for the further enhancement and development of arts education (How can arts and cultural education make use of digital tools, creative and learning technologies?), and finally
c as a *subject matter*, in that digital transformation changes culture as well as the life worlds of our target groups, and thus has to be included and reflected into arts education's activities and curricula (How should arts education react to the post-digital discourses and transformations of arts as well as of generational media cultures?).

Where (digital) cultural transformation is concerned, an arts and cultural education is required which does justice to this transformation and which can thus make the mostly overlooked yet central moments of digitalization accessible in pedagogical terms: because digitalization not only changes the use of our senses, but also brings its own aesthetics, spaces, and materialities into play. On YouTube, Instagram, Snapchat & Co., we've been observing enormously increased forms of self-presentation within a few years; we observe in astonishment how ever more refined digital media technologies are combined with ever simpler retro-aesthetics, and we also discover new opportunities for cultural participation in collaborative artistic forms as well as in remix and mash-up practices. We are therefore constantly surrounded by new, low-threshold invocations to turn ourselves into "users" of apps and gadgets whose highly complex structure we have long since lost sight of (not least because our everyday lives and communication worlds are now based almost entirely on company non-disclosed patents and data).

To strive for this requires a capacity for judgement which, for example, computer science lessons at school – which do not start with cultural theory but with technical theory – can only convey in a very limited way. However, the concrete practice of "artistic" activity – meaning not only the established arts and culture as high culture, but any form of reflexive aesthetic practice – offers numerous educational potentials with regard to digitality.

WHY IS ARTS AND CULTURAL EDUCATION PARTICULARLY IMPORTANT FOR DIGITAL EDUCATION? THREE REASONS.

1 *Firstly, because digital access to the world, especially in youth culture, is a highly aesthetic and emotionally charged affair that* is linked to questions of identity and values (and the negotiation of values). From the unconscious

data track to the selfie, from the YouTube channel to the "quantified self", which shapes its self-relationship as a numerical ratio and measures recognition in likes, these moments of the digital, the aesthetic and identity combine. This is where cultural education comes in: in performance and expressiveness, in questions of identity and recognition. It opens up access to the aesthetic judgement of digital everyday life and thus to possibilities of positioning.

2 *Because aesthetic processes bring with them a high degree of commitment.* They motivate through positive, sensual experiences, they challenge the ability to judge, they finally set learning processes in motion - on the one hand in direct relation to the respective aesthetic practice itself, but also beyond that. Anyone who intensively explores or even designs visual worlds, film, video, comics, sounds, music, dance, theatre, literature, poetry, games, performances, design, fashion, culinary arts, etc., acquires knowledge about their respective aesthetic principles and meaning, but also about their contexts and conditions. Where aesthetic practices in the post-digital age combine with digital culture and technology, they become an important aspect of education in the digitized world. Digitality plays a role not only in artistic (indie) game design, in maker scenes and in practices of cultural hacking, but in all aesthetic areas – not only as technology, but due to the new forms of communication and sociality (networking), self-representation (performance, staging), recognition (clicks, likes, friends in the digital "star system"), aestheticization and "gamification". This not least also because ...

3 ... *the discourses of the arts take up changes faster than other areas of society,* process them aesthetically and make them accessible. Because arts always play with tensions between aesthetics and mediality, they are particularly capable of registering and reflecting changes in mediality and media culture. While, for example, digitalization is (unfortunately) only recently being discovered socially and politically in Germany, the discourse about "Post Internet Art", leading to today's insights about "post-digitality", had its peak somewhere between 2008 and 2015.[7] For decades, the arts and aesthetic processes have dealt very intensively with digitality in all its forms, exploring, adapting, criticizing, deconstructing, and rewriting it. This artistic knowledge is (potentially) made pedagogically fruitful through cultural education.

THE CONTRIBUTIONS OF THIS SECTION

The following contributions cover a broad area of perspectives on digitality and arts education. *Friederike Schmiedl* provides an overview of the thirteen research projects gathered together in a major special research area *"Digitalization in Arts and Cultural Education"* funded by the German Federal Ministry of Education and Research (2017-2022). The research approaches and first results she presents are part of a meta-project which monitors outcomes of the thirteen projects in order to a) gain overarching theoretical as well as

methodological frameworks for research in arts education (Subproject 1, led by Benjamin Jörissen) and b) identify hot spots and possible connections to international (quantitative and qualitative-empirical) educational research (Subproject 2, lead by Stephan Kröner, both Univ. of Erlangen-Nuremberg). *Verena Weidner* and *Matthias Krebs*, representing the Research Group "MuBiTec" present one of the projects of this special research area. MuBiTec is a collaborative research project that asks about the special educational potential that results from the mediamorphosis of artistic-musical practice in the context of digital mobile technologies. Its three subprojects are able to exemplarily demonstrate the complexity of digitalization-related research in the field of cultural education: The subproject LINKED examines musical educational processes under the conditions of digitally networked mobile technologies. The starting point is the Ableton Link technology, with which any mobile technology can be integrated into non-hierarchical WLAN networks. The subproject LEA – Learning Processes and Aesthetic Experiences in App Music Practice examines in a three-year longitudinal study learning processes and aesthetic possibilities of judgement and experience in the musical use of digital smart technologies. Finally, the subproject AppKOM examines the effects of digital media technologies in the context of non-formal musical education on the development of individual music-related competences and competence-relevant constructs (e. g. motivation, experiencing competences). *Benno Spieker* reports on a doctoral research project that focuses a practice-related perspective on digitalization in music education. In many countries, music education, especially in primary education, faces the problem of a very heterogeneous musical professional education of the teachers. The inclusion of digital technologies, especially of audio-visual teaching aides, can help, but by introducing a second, high-level "on-screen" music teacher, the role, position and responsibilities of the "off-screen" teacher in class is challenged and has to be reconfigured. A structurally similar question, although in a completely different field and context, is raised by *Bernadette Schrandt* in her report on research related to the introduction of digital technologies in museums. In an age of a generalized edutainment orientation of our "event societies", the educational and inspirational goals a museum has to fulfill could possibly be enhanced by digital technologies. The proposed working concept of the exhibition site as "experience scape" opens up, as Schrandt shows, for a design-based approach that includes educational as well as experiential elements. *Jaco van den Dool* and *Wander van Baalen* ask on a more general level how the (already existing) learning management systems (LMS) may contribute to performing arts education in particular. With regard to categories like engagement, flexibilisation, and peer-feedback, they explore and discuss the chances and limits of LMS-related teaching in comparison to classical teaching methods.

As these following contributions demonstrate, the discourses of arts and cultural education are – rightly – quite busy raising questions that mostly react to either the political challenges and/or the pedagogical chances of digitalization. The final contribution of this section features a more critical stance towards the optimism involved in such explorations. Daniel Martin Feige provides a reflective view upon processes of digitalization, referring to the explicit

and implicit power-structures in the digital realm. He locates the explicit (and well-known) power structures in an economic interest of control and standardization, while the implicit (lesser known) power structures are due to the rigid and law-like nature of code and algorithms themselves. His plea for aesthetic (and educational) strategies that undermine the control paradigms in favour of the imponderable and anti-utilitarian digital practices may serve as a valuable orientation for future developments in digitalization in arts and cultural education.

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Digitalization and arts education – New empirical approaches

Research Group DiKuBi-Meta (Subproject 1)
BENJAMIN JÖRISSEN, FRIEDERIKE SCHMIEDL, ELKE MÖLLER, LISA UNTERBERG

Research Group MuBiTec:
MARC GODAU, LINUS EUSTERBROCK, DANIEL FIEDLER, MATTHIAS HAENISCH, JOHANNES HASSELHORN, JENS KNIGGE, MATTHIAS KREBS, MELANIE NAGEL, CHRISTIAN ROLLE, MAURICE STENZEL, VERENA WEIDNER

Line of funding:
RESEARCH ON DIGITALIZATION IN ARTS AND CULTURAL EDUCATION

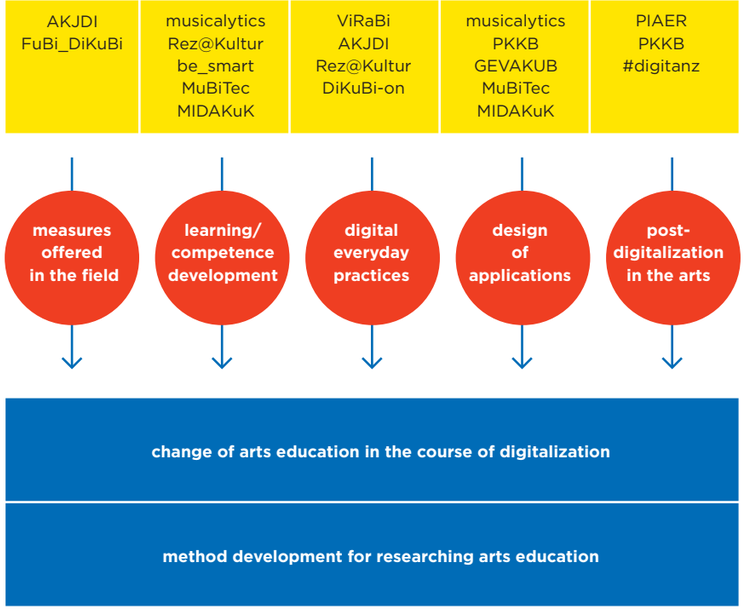
→ Do the artistic-aesthetic contents of arts education change in the course of digitalization?

→ How have aesthetic patterns and processes of perception and reception changed as a result of digital technology; and what opportunities and challenges do they present for arts education?

Digitalization has gained an undeniable influence on almost all areas of life. The changes and effects of digitalization on arts education have so far been largely unexplored. To comply with this desideratum, the German Federal Ministry of Education and Research (BMBF) is funding interdisciplinary research projects on digitalization in arts education over a period of four years. With 25 participating universities and research institutions at 23 locations in Germany and beyond, the funding priority is currently one of the largest funding lines of its kind in Germany. Since October 2017, researchers have been investigating the effects of digital change on arts education in 14 collaborative and individual projects, including research in the fields of music, literature, dance and performance. The projects are characterized by an interdisciplinary research

approach based on educational science and anchored in the discourses of arts education. The effects of digital change on arts education will be explored using qualitative as well as quantitative social science methods. This line of funding features a wide variety of perspectives: in addition to pedagogues and educationalists, music, literature and sports scientists, human geographers and computer scientists are also involved in the research.

Two central concerns connect the individual projects of the funding line: all projects investigate the change of arts education in the course of digitalization and for most of them, the question of developing methods for researching arts education arise anew in the context of digitalization.



In an attempt to systematize the projects and their research foci, we were able to identify first cross-connections. For example, three of the projects, PKKB (Post-digital Art Practices in Cultural Education – Aesthetic Encounters Between Acquisition, Production and Communication), PIAER (Post-Internet Arts Education Research: Phenomenology and Methodology of Arts Education in Post-Digital Culture) and #digitanz (Digitality and Dance in Cultural Education), inquire post-digitalization in the arts. Other projects deal with measures offered in the field, learning and competence development, digital everyday practices or the design of applications. Researching potentials and challenges of music apps in securing and expanding cultural participation for young people and young adults with severe and complex disabilities is being carried out by be smart, for instance, while reviewing literature and visual arts online is being analysed as a process of cultural education by Rez@Kultur.[8]

DIGITALIZATION IN ARTS AND CULTURAL EDUCATION – A META-PROJECT

Within the framework of the BMBF funding line “Research on Digitalization in Arts and Cultural Education”, a meta-research project in the field of arts education has been initialized for the first time. It supports the individual projects in the areas of research, monitoring and transfer. The project DiKuBi-Meta is located at the Friedrich-Alexander-University Erlangen-Nürnberg and combines two subprojects: Subproject 1, led by Prof. Benjamin Jörissen, Chairholder of the Chair of Education with a Focus on Culture and Aesthetics in Erlangen and subproject 2, led by Prof. Stephan Kröner, Chairholder of the Chair of Empirical Educational Research in Nuremberg.

The meta-project aims at **a)** developing an overarching perspective on the issues of digitalization in arts education within an educational-theoretical framework, and **b)** advancing comparative metatheoretical and evidence-based research synthesis. In the close interlocking of qualitative and quantitative metamethodological approaches, the research project, for the first time, enables a systematic linking of research goals, perspectives, methodologies, and results of the research projects from the funding line and beyond.

The project also supports the networking of the funded researchers among each other and with thematically related projects in Germany and abroad. To this purpose, workshops and symposia are regularly organised at scientific conferences. Within the framework of the empirical surveys, synergy effects should be achieved through coordinated data collection. The meta-project also supports the individual projects by providing further training in research data management. Furthermore, a continuous monitoring of the developments and project results takes place. With the findings from this and other research areas as well as in consideration of current developments in the educational system and in society, perspectives for further research will be developed and presented. Especially for young scientists, the meta-project offers opportunities for networking, as well as opportunities for further training in cross-project content and methodological questions.

Through practice-oriented publications, the transfer of the results of the meta-project will be promoted to the public and organized events will also disseminate the findings to a broader specialist public. With regular meetings, the meta-project stays in exchange with similar projects from the framework programme. This includes the discussion of overarching topics, such as social challenges, promotion of young researchers, research data management and transfer.

PROJECT MUBITEC

To provide an exemplary insight into the specific work of the research projects in the line of funding, the project MuBiTec presents its research related to the educational potential arising from the changes in musical practices in the context of the development of mobile music technologies in the following.

The spread of mobile digital technologies such as smartphones, tablets or laptops has led to massive changes in musical practices in recent years. As a result, central traditional concepts of musical instruments, musicians and musical forms of expression have changed radically.[9] As never before in the history of music, a broad spectrum of technologies (e.g. apps) has been made available to amateurs or non-professionals. In addition, technologies such as apps were integrated into professional music practices. The pocket instrument technologies are said to have a high intuitivity, low threshold, inherent autodidactic learnability as well as a potential for democratization.

This seems to be a promising topic for questions about the potential of apps for the goals of arts education in various contexts. Accordingly, in recent years the scientific interest in mobile music technologies in general and apps that make music in particular has increased. The joint research project »MuBiTec - Musical Education with Mobile Digital Technologies« deals with different questions of musical education with mobile devices in three subprojects. These include consequences for musical development, forms of aesthetic experience, and the transformation of self-world relations through participation in communities of musical practice.

The following remarks are intended to give an overview of the three subprojects.

MUSICAL COMPETENCIES - APPKOM

→ What do you learn when you make music with digital mobile technologies?

→ Which skills and competencies are required?

→ And are there differences between learning music with apps and learning music with the help of band instruments?

The majority of research concerning apps that make music in pedagogical and educational settings is focused on songwriting.[10] Empirical qualitative as well as quantitative studies have pointed out that the use of different technologies in learning processes has a decisive impact on musical literacy[11], motivation[12] and the inclusion of students' extracurricular musical environment[13]. But a differentiation has remained open so far.

Against this background, the subproject AppKOM examines the effects of non-formal music learning (e.g. in the afternoon school environment) on various factors of musical development of students in secondary education schools. With the help of a quasi-experimental research design three different groups are compared: **1.** songwriting with 'usual' popular musical instruments (e.g. guitar, bass, keyboards, and drum set), **2.** songwriting with apps on tablets, and **3.** writing theatre-sketches in a drama group (control group, no use of any musical apps or instruments). In order to analyse the effects of the use of different technologies on the factors of musical development, data were collected with the help of a pre- (MTP1), post- (MTP2), and follow-up (MTP3) design. Thereby, the time intervals between MTP1 and MTP2 are 5-6 months, between MTP2 and MTP3 are 2-3 months. The online-based questionnaire assesses different factors of musical competences[14] as well as competence-related and competence-relevant constructs such as musical self-concept[15], musical sophistication[16], competence beliefs[17], and motivation of music-related action[18].

In addition, the individual lessons are filmed in order to work out the learning processes using qualitative methods and, above all, the special features of human-technology relations.[19]

Data collection is still ongoing and results are expected for autumn 2020.

INFORMAL LEARNING AND AESTHETIC EXPERIENCES – LEA

→ How do people learn to make music with apps?

→ What specific experiences can mobile music making provide?

Handheld devices are sometimes regarded as new folk instruments.[20] Studies on learning music with apps have mainly been limited to contexts such as schools and extracurricular workshops.[21] Little research has been done on informal learning[22] with music apps. Furthermore, it is not yet clear which kind of experiences and criteria for aesthetic judgement come with improvising or producing music on mobile devices.

These issues are addressed by MuBiTec's subproject »LEA – Learning processes and aesthetic experiences in app music practices«. LEA accompanies 16 musicians conducting in-depth interviews and employing videography to investigate characteristic learning strategies and aesthetic perceptions.

One observation from LEA's preliminary findings is that the specific quality of physical interaction with digital devices is an important topic for the participants. Bodily sensations and emotions seem to be crucial for the musical process and experience. This is of particular interest because it questions the common stereotype of digital music being "disembodied". The specific corporeality of making music with smartphones and tablets has to be further investigated.

Another finding concerns the mobility of making music with smartphones and tablets. The participants make music in different situations: at home, on the tram or outdoors. These surroundings affect how they perceive and produce music, e.g. when perceiving the atmosphere of a place becomes part of the musical experience. The mobility of making music with apps shows the importance of the environment for the music produced. Even mobile music is tied to places. How mobile devices—in opening up new spaces for music production—offer new possibilities for music is an interesting issue for further research.

PARTICIPATING IN COMMUNITIES OF (POST)DIGITAL MUSICAL PRACTICE – LINKED

→ How do you actually become someone who connects to mobile digital technologies in wireless networks in order to make music with others?

→ In other words, how do you become a subject of digital musical practice?

→ And finally, who is this digital music-making subject?

Anyone who deals with these questions will notice that people and technologies can no longer be separated from each other. The LINKED project investigates this mixing and merging of humans, software and hardware in music making communities and the consequences of this regarding the processes of education and learning.

Starting point is the technology Ableton Link[23], which synchronizes tempo information between various music applications via a shared WLAN. The integration of Ableton Link in various music apps has been constantly growing since its advent at the end of 2015. There are now 183 apps (as of March 2019) available for the iOS and Android platforms, with developers constantly working on adapting and integrating additional apps into the pool of usable programmes. Initiated by the company Ableton, more and more self-running music events appeared worldwide. At these so-called Link Sessions, participants jam together in a Link network. The regularity of the sessions differs highly between the respected sites, organizers, and the embedding in broader event formats.

The subproject "LINKED – Musical Education in Postdigital Communities" investigates community building processes in connection with Ableton Link. The study focuses in particular on the specific musical practices and the relationship between subject and technology, which are observed both in the online- and offline-context of Ableton Link. It analyses data from participant observations and videography of Link Sessions in various cities across Europe such as Berlin, Basel, and London, interviews with participants and developers as well as topic-related online data, such as blogs and Facebook groups.

First findings based on the analysis of online communication showed central patterns within the social construction of the Link technology.[24] They include the distinction from the competitive technology MIDI as well as the promise that Link will overcome social isolation in digital music-making and re-enable collective music making like it has been in traditional bands.

In the end, the results of the three sub-studies shall be brought together in order to contribute to a theory of making music with mobile devices from the perspective of music education.[25]

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This thing called “Handelingsverlegenheid”.

Teachers’ lack of confidence in teaching music in Dutch primary schools: a problem that could be overcome by applying supportive technology?

BENNO SPIEKER

INTRODUCTION

In Dutch primary education, music education is part of the compulsory subject Creative Expression, which focusses on how to express oneself and communicate through the arts: i.e. visual arts (for instance drawing and handicrafts), dance, theatre, and music. Creative Expressions also focusses on how to reflect on one’s own work and on that of others. Furthermore, the subject aims at gaining some knowledge in children about aspects of cultural heritage as well as gaining appreciation in children towards cultural heritage. Although the Dutch curriculum is currently being redesigned[26], these three focus points currently form the general aims of arts education in Dutch primary education and still seem to be part of it in the new curriculum. To accomplish these general aims, music education focusses on teaching musical building blocks through singing, moving and dancing, listening, reading and notating music, composing, whether or not through improvisation. This is further detailed in learning pathways.[27] To stimulate coherency with the other arts, in the design of music lessons, the five phases of a creative process[28]—orientate, explore, do, evaluate, and reflect—should be considered.

In most primary schools, the primary school teacher is responsible for teaching music to the children. Sometimes an external music teacher is being involved in the music teaching. These external music teachers come in all sorts. Some of them are professional music teachers who are trained at conservatories, although not all of them are specialized in teaching music in primary education. Other external music teachers are amateur musicians from a local orchestra or enthusiastic parents and pop band musicians. There is also an increasing number of teachers who develop themselves professionally through a course at a teacher academy to become a specialist who teaches music to all groups of their primary school. However, the focus in this article is on the generalist teacher in primary education who is no expert in teaching music.

THIS THING CALLED HANDELINGSVERLEGENHEID

At their teacher academies, the vast majority of the current primary school teachers only received little training in teaching music.[29] Furthermore, during their own school years, many received poor music education themselves. With so little experience and training in music education it is no surprise and totally understandable that many teachers feel unconfident in teaching music.[30] In the public debate, this is sometimes denoted by the term handelingsverlegenheid (action shyness).

The handelingsverlegenheid of teachers is a problem, because it could easily result in teachers skipping music lessons from the weekly lesson schedule, which, according to informal conversations with pre-school teachers doing their internships, and teachers themselves, seems to be common practice in current primary education. Additionally, due to the little training in teaching music, the brave attempts to actually teach music have a substantial risk of failing, which in turn could also feed handelingsverlegenheid, making it an even bigger problem.

HOW TO OVERCOME HANDELINGSVERLEGENHEID? CURRENT APPROACHES

On the opposite side of handelingsverlegenheid lies self-efficacy,[31] in other words, the sense of confidence in being able to achieve what you plan to achieve. Improving teachers' self-efficacy with regard to teaching music could possibly result in teachers who actually teach music. Providing additional training is a logical approach for improving teachers' self-efficacy, for instance by training on the job or co-teaching with experienced music teachers. Professional development was a key element of a series of subsidy programmes by the Dutch national government. Since 2013, primary schools could get funding to professionalize teachers by means of the (already closed) Quality Cultural Education programme.[32] Through this funding programme the Dutch government was stimulating the quality and sustainability of arts education. Since 2015, the additional funding programme Impulse Music Education has provided even further opportunities for professional development in music education. Furthermore, the foundation Méér Muziek in de Klas (more music in the classroom) was established. Together with queen Maxima and other ambassadors, this foundation promotes music education in primary education on a national scale. This also led to another funding to better prepare pre-service teachers for teaching music themselves. Since 2018, teacher academies can apply for this funding programme, named Professionalization Music education at Teacher academies. All teacher academies have indeed applied for this funding programme. As part of the proposals for this funding programme, many teacher academies plan to explore and investigate new approaches in overcoming handelingsverlegenheid. These funding programmes are planned to end in 2020.

Another approach to improve teachers' self-efficacy is to provide learning materials that support the teacher. The use of music methods is a common practice for supporting teachers in teaching music. For a few years, almost all Dutch learning methods for music education in primary education (e.g. www.123zing.nl and www.eigenwijs-digitaal.nl) have been digitally available for use with a digital schoolboard. The potential of digital learning methods for music education seem evident. Digital learning methods are a convenient way to present audiovisual learning materials, such as video, audio, scores, and lyrics. To support the teacher even further, some learning methods present an on-screen-music teacher. But there is a pitfall with this approach.

THE NEED FOR OTHER APPROACHES

The on-screen music teachers in digital music learning methods give instructions directly to the pupils. This can be seen as a form of co-teaching, whereby the level of collaboration between the teacher and the on-screen music teacher could be considered as sequential teaching.[33] Each 'teacher' is responsible for a different phase of the lesson. In informal conversations, music education experts point at a side-effect of this approach. Because the on-screen music teacher is strongly taking over a part of teaching, teachers may place themselves to the sideline, feeling superfluous and forgetting the many different interaction roles the teacher has in teaching.[34] Besides the role of providing instructions—the role that the on-screen music teacher is taking—, providing feedback on pupils' actions is also part of a teacher's pedagogical interaction with a group of children. An optimal interaction loop in education when doing group exercises follows a path in which the teacher gives an instruction to the pupils or sets a goal to which the pupils respond with some kind of behavior. This behavior triggers a response from the teacher in the form of some kind of feedback. Based on the provided feedback, the pupils modify their former behavior, which results in a modified action on which the teacher again could respond with some kind of modified feedback that could trigger another modified action by the pupils, and so on. The current digital learning methods don't facilitate such interaction loops and leave all but the first part of the interaction loop to the teacher. So, by placing the teacher to the sideline, they may improve the part of teaching that they take over, but at the same time they undermine the central role that the teacher has in teaching.

But even when teachers don't place themselves to the sideline, we can't expect teachers to act on the high level of expertise that is required for some of the other interaction roles, especially with regard to some parts of the music education curriculum. For instance, joint music making by singing together or by playing instruments together, is a highly demanding task for the leader of such activities. It not only requires him to lead the group and to be the director, but it also requires him to give quality feedback on the music making. The latter requires both musical knowledge, listening skills, and decision-making skills on what can be improved in the total of sounds. Personalized learning and similar forms of learning require even further knowledge and higher-level skills. For instance, adapting feedback to the pupils' individual development requires skills in zooming in on the music making of the individuals as well as knowledge of the musical development of those individuals. Furthermore, each individual feedback should be correct and be given pedagogically appropriate, therefore the teacher needs to combine the roles of a director, pedagogue, developmental psychologist, and music analyst, to name a few. This is even challenging, if not impossible, for an experienced specialized music teacher, so it is no wonder that the teacher feels handelingsverlegenheid. Despite the support of digital learning methods for a small part of teaching, extensive training of teachers, involvement of a music teacher in the music lessons, or other approaches are still needed.

DOCTORAL RESEARCH PROJECT

At Ghent University and the University of Twente such an alternative approach is being developed and researched in cooperation with the conservatoire of ArtEZ University of the arts in Enschede. The research project must lead to a doctoral dissertation and is aimed at technology enhanced learning in primary

education. It focusses on understanding the (musical) interaction between teacher, student/pupil, and technology when enhancing joint music playing in general music education with interactive technology. The research project aims at achieving an optimal design of an educational interactive music system in general music education to children (4-12 years). Playing rhythms together is a typical class activity that in this research project will serve as a use case. In future, the system might be expanded to other musical activities. The system should be able to provide quality feedback to both the pupils and the teacher. Through this research project, extension of the body of knowledge regarding the application of such technologies and with regard to how (musical) interaction with such technologies works is expected. Furthermore, improvement of teaching regarding joint music making and digital didactics is expected. In the end, it is expected that both music education in primary education and (music) teacher education will benefit from the findings. For instance, our approach could help teachers to overcome their handelingsverlegenheid.

DISCUSSION

Yet, enhancing the learning with supportive digital technology might introduce another form of handelingsverlegenheid. Although the general use of technology in Dutch primary education is growing,[35] this does not necessarily mean that all teachers are willing to apply new technological applications in music education. Some may find it unnecessary or even inappropriate where others may find digital tools too complex or intimidating and may experience handelingsverlegenheid towards the use of technology. In that case, solving one form of handelingsverlegenheid introduces another form of handelingsverlegenheid.

To help teachers who experience handelingsverlegenheid towards the use of technology overcome their handelingsverlegenheid towards teaching music, dealing with the former handelingsverlegenheid is required. This means that our research project should deal with a possible handelingsverlegenheid towards our interactive music system. As avoiding the technology won't solve the problem of handelingsverlegenheid towards teaching music, it is important to understand what both forms of handelingsverlegenheid characterizes, how they influence one another and what role each form plays in the interaction with the system. Handelingsverlegenheid towards the use of our system could be overcome by training, as this leads to greater user acceptance and a more successful system.[36] Furthermore, the technology should not introduce extra barriers with respect to usability or an unsatisfying user experience.

A final remark. The goal of our doctoral research project is to come up with a working solution for supporting the teacher in teaching music, without placing the teacher on the sideline. If this goes well, our approach could serve as an example of how to overcome both handelingsverlegenheid towards teaching and handelingsverlegenheid towards the use of technology. Furthermore, to what extend the theories on handelingsverlegenheid towards the use of technology are applicable to handelingsverlegenheid towards teaching music and vice versa, could be an interesting subject for future research.

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Researching the experiential value of interactive media exhibits

BERNADETTE SCHRANDT

EXPERIENTIAL VALUE OF MUSEUMS

Over the four years 2013 to 2017, museum visits in the Netherlands increased by 30%[37], thereby showing that museums are meeting the condition of being accessible to a growing audience.[38] However, it turns out that museums with the highest number of visitors are not automatically the ones that are most highly valued, according to Kammer & Van Lent (2014).[39] 'Experiential' museums are rated significantly higher by an audience than, for example, traditional art museums. This suggests that focusing on the number of museum visits does not necessarily guarantee the achievement of two other museum goals: 1) to educate visitors and 2) to inspire and emotionally touch visitors.[40] In 2014, the Dutch Cultural Heritage Agency decided to strategize this 'experiential value' of museums while stating: "Our second ambition is to increase the experiential value for the visitor and thus to strengthen the museums' impact".[41]

THE PROMISE OF MULTIMEDIA

The agency believes that "new technologies and the usage of (interactive) media installations seem to offer unlimited opportunities to create experiences".[42] Interactive multimedia exhibits have indeed become an important tool for museums to share cultural-historical stories with their visitors.[43] However, while a lot of literature exists on the opportunities offered by these new technologies, little is known how, and to what extent, interactive media experiences can positively influence the experience of museum visitors and whether it leads to, for example, a higher satisfaction rate or more knowledgeable or inspired visitors.[44] In addition, designers also wonder if the exhibits they design fulfil their planned purpose.[45]

THE EXHIBITION DESIGNER OF THE 21ST CENTURY

Together with ten Dutch museums and four design agencies, the Amsterdam University of Applied Sciences led the practice-based research called The Exhibition Designer of the 21st Century (2017-2019), which was funded by Regieorgaan SIA. Researching the effect of intentionally designed museum experiences, the project focused on how four design strategies (participatory practices, storytelling techniques, atmospherics and interactive media) affected visitors' level of inspiration, the degree they were emotionally touched and to what extent they felt they had learned valuable information. In this article, the case study of one Dutch museum will be discussed to 1) address the methodology used in our project to research the effect of designers' intentions and 2) present results from our research concerning six interactive media installations used in two exhibitions at this museum. The goal of the project is to develop an instrument that will allow museums to research their own expectations when developing new exhibitions.

EXHIBITION SITE AS EXPERIENCESCAPE

In our research, we approached exhibitions as so-called 'experiencescapes'[46], which allows researchers to examine the exhibition as a site intentionally designed by the museum to create a certain experience. It's here that the visitor and the museum meet one another, and visitors are able to cognitively, emotionally and physiologically respond to the museum's built environment. As this article focuses on the results of our research, we will not discuss the theoretical background but rather refer readers to Van Vliet, Schrandt & Groot (2016) and Schrandt & Van Vliet (in press).[47]

CASE STUDY: DUTCH SCIENCE MUSEUM

To explain our method and outcomes in this article, we selected one museum that focuses on science communication. Two recently renewed exhibitions were chosen to examine the expectations around the museum's 'experiential' goals (to transfer valuable information to visitors, as well as inspire and emotionally touch them). The first exhibition dealt with scientific discoveries of the 17th Century; the second exhibition discussed medical history. Although all four themes were addressed in the case study[48], we will only focus on the theme regarding interactive media installations. For this, six interactive installations were selected based on their role in the exhibitions. For an overview of these installations, see table 1.

METHODOLOGY

This research is divided into two phases: the development phase and the exhibition phase. Although we will not discuss in depth the results from the research performed during the development phase, it is important to note that we performed document analysis and interviews to better understand the intentions of the designers.[49] During the exhibition phase, we carried out visitor research from February to May 2018 using three different methods to capture visitors responses to the different exhibitions:

1. On-site exit survey: After visiting one of the exhibitions, visitors were asked to voluntarily fill out a 10-minute survey that measured the following items: motivation, frequency, sex, age, satisfaction[50], immersion, empathy, sympathy, involvement[51], learning, inspiration and emotional response[52]. In total, 427 surveys were collected (208 for 17th Century; 219 for medical history). Variables were mostly measured on an interval and ratio scale, so the dataset would allow for an AN(C)OVA and regression analysis using SPSS.

2. Non-participatory systematic observation: Actual behaviour (routing, behaviour, duration) was measured using an observation sheet. A total of 65 observations were gathered; Excel was used to calculate frequencies, averages and walking routes.

3. Focus groups: Motivations and feelings where discussed in four two-hour focus groups (with a visit), which had four to six participants each. A total of 21 participants were recruited either via the museum's social media channels or on-site.

RESULTS

Interactive media were included for the following main reasons:

- → To make the museum visit more fun and lively.
- → To encourage a learning experience, since it was expected that interactive elements would stimulate visitor curiosity, and since interactive installations were sometimes better suited for the type of content (for example, since visitors are not allowed to scroll through ancient books, digitizing these books seemed an effective solution).
- → To better serve their audience. For example, it was expected that interactive installations that focused on knowledge transfer would better suit the needs of visitors with a motivation to learn more about the exhibition's theme, and that interactive installations that were more designed for entertainment would better fit the needs of families.
- → To be able to include more personal stories.
- → To motivate visitors, and thereby making the visit more attractive and increase the involvement of the visitor.

From the interviews with several exhibition designers involved in this case study, it became clear that the interactive installations were seen as a tool (and not a goal) to better address specific cultural-historical content and/or to stimulate learning, inspiration and emotional connection within the environment.

LEARNING VALUABLE INFORMATION AND FEELING INSPIRED

Visitors who filled out the survey thought the interactive media installations mainly contributed to the experiential value of "having learned valuable information", rather than that of feeling inspired or emotionally touched (both exhibitions: 23%). However, visitors to the 17th Century exhibit also thought that the interactive installations contributed 21% to the experiential value of "feeling inspired". Participants in the focus groups confirmed that the use of multimodal exhibits that addressed them in different ways, including interactive media installations, were appreciated and made the exhibition sites livelier.

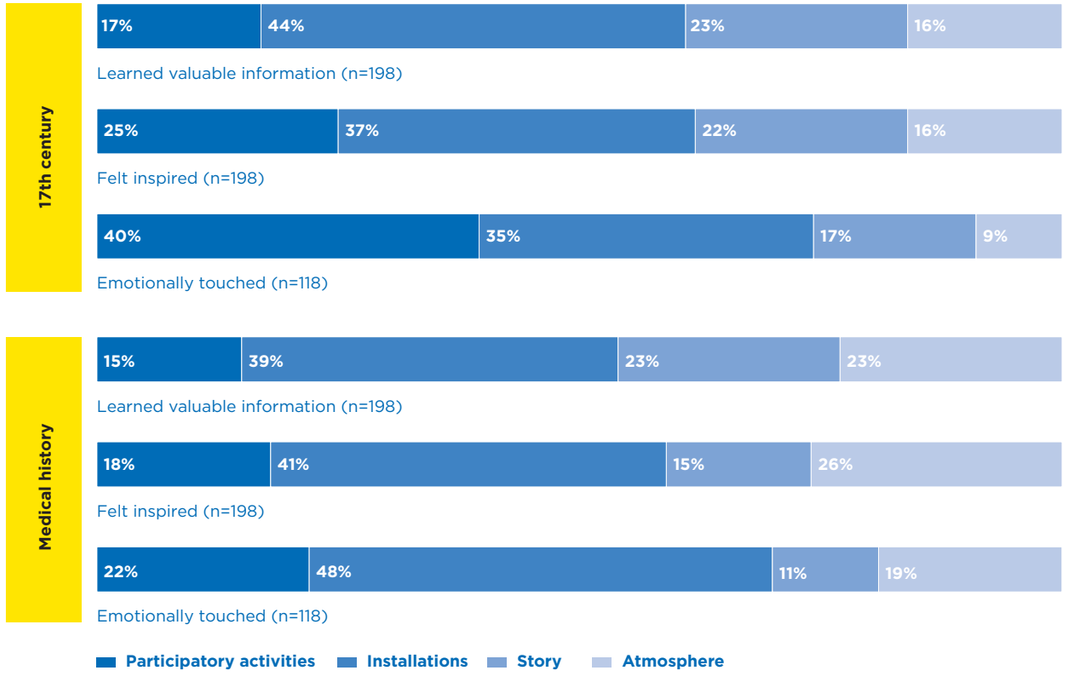

Figure 1: scores of the different design strategies on the three experiential values

USAGE

On most occasions, the interactives were used together (range 23-57%). The dataset from the survey allowed us to create three groups: visitors who 1) did not use any of the three selected interactive media (12%), 2) used one or two of the selected media (52%) and 3) used all the selected media (37%). When comparing the groups, our results showed that men used all three interactive installations more often than women in the medical history exhibition (Fisher's Exact, $p < 0,01$) and that visitors from the age group 61-75 stated more often that they had used all three interactives (#1: F=12.855, df=2, p<0,001, #2: F=13.605, df=2, p<0,001).

EFFECTS ON EXPERIENTIAL VALUES

The following table shows the results of the visitor research regarding the six interactive media installations that were selected for this case study (C = 17th Century; M = medical history). For these results, two groups were created: visitors who did use the installations (V) and visitors who did not use the installations (N).

Digital installation	C#1: Interactive screens	C#1: Book on herbs	C#1: Medication	M#2: Interactive screens	M#2: Bodyscan	M#2: Dilemmas
Description	Informative installation	Browsing book (Kinect)	Interactive game	Informative installation	Interactive installation (Kinect)	Reflective installation; visitors reflect upon science developments
# in exhibition	3	1	1	9	1	5
% visited (observation)	43% (range: 41-47%)	66%	69%	44% (range: 26-65%)	88%	25% (range: 15-33%)
% visited (survey)	46%	55%	55%	71%	69.5%	71,5%
N visited (V)	93	111	113	155	151	155
N not visited (N)	110	92	92	62	66	62
Learning						
I learned valuable information in this exhibition	V: m=4.0, sd=0.65 N: m=3.8, sd=0.63 t=2.56, df=200, p<0,05				V: m=4.0, sd=0.69 N: m=4.2, sd=0.53 t=-2.68, df=215, p<0,01	
The content in this exhibition is of good quality						
I expected to be more challenged by this exhibition					V: m=2.6, sd=0.84 N: m=2.3, sd=084 t=2.23, df=215, p<0,05	
Inspiration						
I felt inspired by this exhibition						
I now think differently about the topic discussed in this exhibition	V: m=3.2, sd=0.87 N: m=2.8, sd=0.95 t=3.34, df=200, p<0,01					
I would like to participate in other activities relating to this theme						V: m=3.4, sd=0.90 N: m=2.9, sd=1.01 t=3.42, df=215, p<0,01
I will look up more information about this topic		V: m=3.2, sd=0.80 N: m=2.9, sd=0.85 t=2.26, df=200, p<0,05		V: m=2.9, sd=0.88 N: m=2.5, sd=0.78 t=2.51, df=215, p<0,05		V: m=2.9, sd=0.85 N: m=2.6, sd=0.88 t=2.33, df=215, p<0,05
Touched emotionally						
I was emotionally touched by this exhibition	V: m=2.8 sd=0.83 N: m=2.45, sd=0.82 t=2.90, df=200, p<0,01					V: m=3.3, sd=0.82 N: m=3.0, sd=0.87 t=2.78, df=215, p<0,01
Empathy: I could identify with the characters used in this exhibition	V: m=3.4, sd=0.72 N: m=3.1, sd=0.82 t=2.77, df=201, p<0,01	V: m=3.4, sd=0.75 N: m=2.95, sd=0,77 t=4.38, df=201, p<0,001				
Sympathy: I felt sympathetic for the characters used in this exhibition	V: m=3.6, sd=0.57 N: m=3.1, sd=0.73 t=4.90, df=201, p<0,001	V: m=3.6, sd=0.64 N: m=3.1, sd=0.67 t=5.30, df=201, p<0,001				
Immersion 1: I felt immersed in the experience	V: m=3.5, sd=0.70 N: m=3.3, sd=0.81 t=2.31, df=201, p<0,05	V: m=3.6, sd=0.73 N: m=3.2, sd=0.75 t=4.03, df=201, p<0,001				
Immersion 2: I felt immersed in the story		V: m=3.45, sd=0.71 N: m=3.1, sd=0.74 t=3.45, df=201, p<0,01				

Table 1: comparison of the scores of respondents who visited vs not visited the interactive media exhibits

EXPERIENTIAL VALUES: LEARNING, INSPIRATION AND EMOTIONALLY TOUCHING

The results from both the survey and the focus groups show that there are no major differences in the emotions expressed and the words used to describe the interactive installations. Participants from the survey thought the digital interactives have a clear storyline and a clear goal, as well as being easy to use, fun and easy to keep the attention. The participants also felt "wonder" and "in control".

Learning. The results show that visitors who used the interactive screens in the 17th Century exhibition had a slightly higher score on "learned valuable information" as opposed to visitors who did not. In addition, we see that visitors who used the bodyscan in the medical history exhibition stated more often that they expected a more challenging exhibition.

Inspiration. Four of the six installations showed slightly higher scores on one of the inspiration items, with the dilemmas installation being the only one that scored higher on two items ("I would like to participate in other activities" and "I will look up more information").

Emotionally touching. Two installations from the 17th Century exhibition scored the highest on "emotionally touching" installations: the interactive screens and the book on herbs. We also saw that visitors who did use the book on herbs scored significantly higher on all the items related to an emotional response.

CONCLUSION

The primary goal of this research was to see whether the interactive screens used in these two exhibitions contributed to heightening a visitor's sense of the exhibition being a valuable learning experience, inspirational and emotionally touching. We can see that the interactive screens, dilemmas, and the book on herbs positively contributed to a learning, inspiring and emotional experience, respectively. The bodyscan seemed to have a (small) negative effect on the visitor experience. The other two installations were appreciated, but there was no noticeable effect in our variables.

It must be noted, however, that no experiment was conducted to measure the exact effect, and that the differences between the two groups were small. Secondly, since the interactive installations were only a part of the research, these outcomes should be seen as a first indicator and therefore needs verification. Nevertheless, these results show a promising perspective in the debate on how to measure the effectiveness of multimedia installations.

The secondary research goal was to develop a better instrument to measure the visitor experience related to digital exhibitions. In this regard, it's interesting to point out that while similar interactive screens were used in both exhibitions, visitors' responses seemed different. Our data does not provide a clear explanation for this, but we do want to express some considerations related to

1) the environment of the exhibitions and 2) relevance. First, the medical history exhibition included more interactive screens than the 17th Century exhibition, and this could lead visitors to focus on other parts of the exhibition that are less present. Second, some participants from the focus groups felt uncomfortable with some of the topics discussed in medical history and that the lighting made the room feel like a hospital; whereas the 17th Century exhibition felt more like a discovery (although it was quite dark). Lastly, the concept of 'relevance' might play a role here: visitors of the 17th Century exhibition mentioned more often that the discussed topics were personally relevant for them, whereas visitors of the medical history exhibition said more often that it was relevant for society as a whole. Hence, we suggest that any further research should include these items in the experiment to learn more about their respective roles.

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Technology and Artistic Learning: the Role of a Learning Management System in Performing Arts Education

JACO VAN DEN DOOL, WANDER VAN BAALEN

INTRODUCTION

The technological transformation in the availability of technological devices for educational purposes has brought online knowledge sharing to the attention of numerous learners and teachers around the globe. Contingent on the rapid expansion of communication technologies, teachers, students, and educational policy advisors reconsidered traditional forms of teaching and learning. The combination of technology and learning, marketed as blended learning, online learning or e-learning, continues to advance[53]. An example of the merging of learning and technology of particular interest for this study are Learning Management Systems (LMSs). In the 90's LMSs emerged in formal education to provide learning and teaching platforms for users to share and store information, schedule courses, manage courses, and facilitate communication between learners and teachers. Above all, this self-contained web page aims at engaging students in their learning process.[54] As the world around us is permeated with technology, performing arts institutes are carefully touching the water of LMS usage to support artistic learning and teaching.

To date, little is known about the use of a LMS to facilitate artistic learning processes in particular. Other than academic education, which is predominantly geared towards cognitive knowledge acquisition[55], artistic learning is anchored in bodily learning processes[56] and focuses on individual skill development and artistic growth. Above all, artistic learning equips students with tools to communicate intangible knowledge and skills[57], to express feelings and emotions,[58] and to developed cultural self-awareness.[59] Technology might play an indispensable role in artistic skills building and artistic expression. Technology is ubiquitous, it is here to stay and we only scarcely explored possible ramifications for artistic learning in the 21st century. We believe that the field of arts education is in dire need of educational guidelines in regard to technology implementation and artistic learning.

In this article, we summarize the findings of a larger study we conducted into how a learning management system is conducive to artistic learning and teaching at a University of the Arts institute in the Netherlands.[60] We strive at unfolding how the use of a LMS facilitates essential elements of artistic learning in the 21st century. More specifically, we study how LMS implementation offers possibilities for flexibilisation in arts education, technology engagement, and (peer)-feedback in artistic learning.

Even though the use of LMS in education by now has taken flight in higher education, performing arts education seems miles behind. Where other universities use LMSs to facilitate the learning process,[61] conservatories in the Netherlands make little to no use of LMSs. In addition to analysing the possibilities and constraints of LMS use in arts education, we aim to transfer our findings within the context of the arts to the broader spectrum of education and call for an approach which recognizes idiosyncrasies of educational contexts in which the LMS is used.

THEORETICAL FRAMEWORK

Essential elements of artistic learning in the 21st century

The ubiquitous presence of technology advances in society and the adoption of technology by individual users has implications for how we teach and learn. We selected three technology related concepts that render possible impact on artistic learning. Premised on this assumption we claim: engagement of users in relation to the role of digital tools in arts education is crucial for technology adoption; technology offers possibilities for flexibilisation of arts education; technology enables learners to give and receive online feedback which is conducive to artistic learning. Engagement, flexibilisation, and (peer)-feedback are essential to learning in general. Some elements, however, are unique to artistic learning and warrant further inquiry.

Engagement

In this study, we are (among other things) interested to what degree students and teachers are engaged with the digital learning technologies at hand. Engagement has been of key interest to educational researchers for many years. The existing literature indicates that (student) engagement has a positive relationship with quality learning and learning achievement.[62] Gunuc and Kuzu[63] argue that it is difficult to imagine how lacking student engagements can lead to positive learning outcomes. The same seems to hold true for the effective implementation and successful adoption of learning technologies within an educational setting; without engaged users it is unlikely that a LMS can live up to its potential.

Flexibilisation of education

Teachers and students no longer solely depend on formal education to share learning content. Instead, they can learn and teach through online platforms such as Khan Academy, Udemy, and Coursera or sign up for a MOOC. In this way learners can choose when, where, and at which pace they learn, thus increasing the autonomy of learners.[64] Flexibilisation of education can be best described as a process in which we no longer associate education with physical spaces. Technology enables the teachers and learners to disconnect education from time and space restrictions. Moreover, learning is seen as a social process that is facilitated by interaction, collaboration, and communication via technology as a constituent factor of flexible learning.[65]

Peer-feedback

The final lens through which we study LMS use in performing arts education is (peer)-feedback. Artistic development hinges on a high degree of emotional involvement. This level of engagement between the self and the work fosters artistic growth. At the same time, students tend to be involved in their artistic development with every fiber of their being, which exposes them to vulnerability. The work students produce is to a high degree personal, they are what they study. Consequently, feedback can cause anxiety because it threatens artistic self-esteem, which might be detrimental to learning.[66] Active collection of feedback from peers and teachers is generally a powerful educational intervention, but only under the condition that teachers are informed about different types of feedback to support learning.[67]

METHODOLOGY

We conducted a case study at a University of the Arts institute in the Netherlands to generate an in-depth, multi-faceted understanding of LMS usage in performing arts education within a real-life context with thirteen teacher and their students. At a University of the Arts students can study performing arts courses including music, musical theater, dance, musics of the world, and circus to become professional performers. The teachers developed digital educational material under the guidance of an LMS expert. In February 2018, eleven courses went live. During this period, we send out a quantitative survey focusing on technology engagement, (peer)-feedback, and flexibilisation to all the participating teachers and the students following their courses. We concluded the second case study with a series of individual interviews. The interviews all took place at the premises of the university concerned. The interviews were conducted a month after their educational obligations had ended as to provide them with the opportunity to reflect and look back on their experiences.

RESULTS

In this case study we attempt to mark out possible implications of LMS use for artistic learning in the 21st century. Below we unfold how the use of a LMS facilitates technology engagement, flexibilisation in arts education and (peer)-feedback in artistic learning. First, we analyse the data through the lens of engagement.

Engagement with technology

Engagement refers to participation and use of digital tools. We measured ways of use and intensity of use by looking at the resourcefulness of teachers in problem solving. Five out of 12 interviewees explicitly mentioned various ways of problem solving during course designing. The teachers demonstrate a high level of engagement with technology.

Attitude of users in relation to the role of digital tools in education is crucial in understanding the level of engagement.[68] We measured engagement of teachers and students with different items in the survey. The data gives firm support to the fact that LMS learning is highly relational. Rather than embarking on an individual LMS quest, the students engage in online communication with co-students and teachers. 42,3% of the students claim that they discuss constraints and problems during LMS use.

Another form of engagement manifests in the way users describe potential benefits of the LMS. This suggests that students and teachers can look beyond the constraints. This attitude is an essential factor for LMS acceptance and LMS implementation. The majority of users intend to use the LMS when implemented. A minority of students, however, is less engaged in digital learning. 11,5% of the students express a negative attitude towards LMS use. This level of resistance to change is in line with previous research on LMS acceptance.[69] Since artistic learning is highly self-managed by nature, caution is required when negative attitude numbers exceed double digits.

LMS engagement allude to the way the use of digital tools can affect educational design and investment of energy in learning.[70] Consequently, the implementation and use of a LMS affects education design and lesson preparation. We found that teachers experience lesson design and lesson preparation in the LMS as very time consuming. Teachers who spend time in LMS course design and who critically consider the transfer of offline teaching to online teaching are labeled as cognitively engaged. More than half of the interviewees unequivocally stressed the importance of arts related support. Although they positively evaluated the role of support during the pilot, support related to performing arts course design was lacking. To be more precise, teachers were in dire need of specific support for online lesson design furthering the learning process of intangible skills and knowledge, which are unique to artistic learning. Due to the embodied nature of artistic learning, support to understand applications which facilitate the moving body (hearing, seeing, and feeling) are pivotal to successful digital artistic learning and teaching.

FLEXIBILISATION

In higher education, the term flexibilisation of learning is being used with increased frequency to blur the lines between traditional, highly organized and inflexible learning on the one side and, on the other side, flexible learning independent of time and space.[71] Walls of institutes become more permeable and learning trajectories of students more flexible and more accessible, is the common perception. Technology is ubiquitous and offers ample opportunities to support flexible learning.

Teachers have the opportunity to make material available outside scheduled face-to-face education. Consequently, students can plan their own learning pace and learning trajectory. Unique to arts education is that the separation of time and space is already build into the curriculum. To exemplify, teachers often have their own private teaching practice or travel abroad for performances. Hence, the possibility for flexibilisation in time, space, and student collaboration a LMS might offer is pivotal for the continuation of learning and teaching at performing arts institutes. One option to facilitate flexibilisation is the LMS app. We asked teachers and students if the app facilitated flexible learning and teaching. We found some interesting differences between students and teachers. Teachers unanimously agree (100%) that the LMS app renders education

more accessible. In contrast, students prefer using the LMS in the web browser (50%). Over a quarter (27,3%) of the students are neutral and only 13,6% prefers the LMS app over the web browser. This is a surprising outcome as other studies show an increased use of mobile learning in education.[72] A possible explanation for this incongruence might be that the app did not include grade registration, scheduling and had data storage constraints. The latter is detrimental to artistic learning, as video sharing and video communication (learning from embodied material) is essential for artistic education.

Mobile learning might play an indispensable role in flexibilisation of education. By the same token we should avoid the treacherously thin ice of technocratic ideas about the effects of mobile technology on learning. When we start with technology as the basis of flexibilisation, and change is slower than expected, teachers and students might succumb to cynicism about technology in education.[73]

(PEER)-FEEDBACK

In the first case study, teachers considered feedback an essential aspect of the artistic learning process. This was the main reason to analyse feedback options in a LMS context. Surprisingly, feedback options were marginally used by students and teachers. Only 7 students made use of feedback-applications. Upon asking about the value of feedback applications students are, however, 100% positive of the possibilities of online feedback. This suggests that students acknowledge the value of feedback, but at the same time admit that online feedback is in its infancy at the institute.

A possible explanation for students' and teachers' apprehensive attitude in relation to feedback technology manifests in the way one teacher explains that giving feedback is an intuitive process. They just do feedback. Teachers consider online feedback as very challenging and sometimes even scary. Online feedback is considered as more definitive, more people can look over your shoulder, and the reception of feedback is not visible, which is different with face-to-face education. Limited use of feedback-applications in this case study suggests that teachers tap into implicit knowledge of feedback rather than explicitly base feedback on informed knowledge on learning and teaching.

Understanding of feedback processes in artistic contexts is complicated as artistic learning is highly personal; students are what they study.[74] This vulnerability of students requires affective goals in the feedback process laid out by the teacher: understanding one's own qualities, understanding that feedback is not the end but a new start, dealing with contradictions, and being able to communicate about intangible processes. This study suggests that offering proper training for teachers and students to provide feedback on artistic learning processes is a prerequisite before they can embark on this online journey.

DISCUSSION

The purpose of this research was to explore through a case study how a LMS is conducive to artistic learning and teaching in the 21st century. We studied how students and teachers use a LMS to foster flexibilisation in arts education, technology engagement, and (peer-) feedback. In this article we demonstrated that, due to the embodied nature of artistic learning, tailored artistic training and support in LMS use is essential to span the gap between artistic face-to-face learning and artistic online learning. The data tells us how to improve LMS training to meet expectations in an artistic school setting: not only technical support (clicking buttons), but a diversified portfolio of training topics ranging from general online didactical skills to artistic online learning. In line with Dahlstrom[75] we also advise to provide a confluence of training possibilities with an emphasis on didactical design, rather than technically driven training.

The rise of LMS in education provided various platforms to learning and teaching for users to organize education, to communicate, and, most importantly, to support and engage students during learning.[76] Despite the ubiquitous presence of technology in higher education, LMSs have not yet gained a foothold in performing arts education. After four decades of advocacy associated with the possibilities that technology offers to transform learning and teaching, it appears that the confluence of technology and learning proved itself to be an effective instrument for educational institutes. Therefore we call for a necessary next step in the LMS debate. Rather than speaking in universalistic terms about LMS usage and education, we should move towards a contingency approach. An approach which recognizes the uniqueness and particularities of a social institutional context in which the LMS is used. It is clear that each social learning context, and in particular artistic education, demands a tailored approach. Certainly, there are challenges ahead, but we believe that (a) engagement is a facilitator to induce technology adoption, that (b) technology provides the means for flexible learning (anywhere and anytime), and (c) that technology offers possibilities for enriching artistic learning through online (peer)-feedback.

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The Culture of Digitalization and the Digitalization of Culture

DANIEL MARTIN FEIGE

Digitalization is the hot topic both in politics and in society. One has to say, though, with just a hint of simplification, that most of the contributions to this debate have, in an inscrutable way, strong messianic characteristics: Digitalization is understood as an unstoppable power that will fall upon us. Our influence, if any, can only be to accompany this development in order to soften its general impact. Discourses that argue in this way ignore that the digitalization in progress is based on cultural achievements and technologies. It is not some sort of force of nature. The truth that lies beneath such discourses can be identified when listening to the debates of many a tech enterprise in and around Silicon Valley: It's the market that drives digitalization. Facebook, for instance, sells its smart business model as a network for connecting people, whereas, in reality, its only goal is the accumulation of capital.

As can be easily seen from my introductory comments, I am sceptical with respect to prematurely defending the transformation of cultural contexts in the light of media and practices of digitalization. Often enough these are nothing more than a blind nodding through of unintelligent economic usability of divers cultural objects. In the long run, digitalization is the objective of standardizing and controlling each and every phenomenon in society and culture: the reason for replacing human beings with machines is not to protect them from inhuman labour. They are replaced because they lack efficiency. The ultimate goal of data processing and accumulation in social media is not necessarily the prevention of unauthorized access: instead, nowadays, these data are a valuable tradeable good. Digitalization produces objects and events that are nothing but the mere essence of what is defined in their code. And, whenever aleatory methods are involved and big amounts of data are being analysed, based on algorithm and calculability, the underlying paradigm is still present.

The grammar of digitalization can, in my opinion, be analysed by means of the basic ideas of Theodor W. Adorno and Max Horkheimer as outlined in Dialectic of Enlightenment. If enlightenment is the emancipation of humanity from traditional claims to power as well as the unmasking of normatively unfounded social orders, the central enlightenment project to dominate nature is unthinkable without calculability and controllability. Adorno and Horkheimer stress that dominating nature is both the condition of the possibility of freedom and the condition of the impossibility of freedom. On the one hand, without criticizing the myth, where natural powers have the status of quasi-agents, there is no enlightenment. On the other hand, by universalizing the domination of nature, the human being itself is subject to the principle of controllability and calculability. Not only appears the myth as proto-enlightenment: the magic rituals incorporate a first try to master the powers of nature. Rather, the myth continues to be effective in enlightenment with control and calculation developing into an all-encompassing fetish: subjectivity, work, and life will be reduced to their calculable and controllable aspects.

If you take this dialectic analysis, which I think to be basically correct, as starting point, it is not difficult to develop a critique of digitalization: Just like mathematical science theoretically eliminates the questioned objects by reducing them to mere and interchangeable examples of the general principle defined by them, digitalization completes this project from the practical point

of view: The question now is, how this calculability can be put into praxis in society. If digitalization claims to represent objects and events purely in digital code, then digitalization is a mere instrumental reason that does not only regulate our handling of the objects in this world, but one that incorporates the phantasm of eliminating everything inaccessible in these objects. Digitalization is the creation—turned algorithmic—of the material itself; a caricature of Platon's Demiurge. In short, digitalization is the radicalization of instrumental reason and hence of a reason that only asks about the cost and not about the value for our lives beyond this use.

Of course, such a critical evaluation of the cultural value of digitalization, where digitalization is seen only as ideological extension of the instrumental logic of the market, is one-sided. Still, before diving deeper into the dialectic of digitalization, I'd like to note the following: Relevant cultural practices of digitalization are practices that rather make use of market logics in an incalculable and undefined way not submitting themselves to an instrumental logic of usability, than being instrumental in increasing the efficiency of existing market logics. This said, it is important to note that the practices and media of digitalization should not be understood as being neutral or fit for use for any purpose, to begin with. They should be understood in such a way that the conditions of calculability and controllability always create practices that move against the aforementioned calculability and controllability.

The approach outlined here is characteristic of the arts in that they use the media and practices of digitalization. Successful art is always the realization of a momentum resilient to social reality by developing and using autonomous forms. Like a double of social reality, the arts descend on reality and show by means of their form in a negative way, what still needs to be realized and thought through in reality. Anyone who expects the arts to be entertaining and to present their beauty silently has not even understood the role of arts in those times, where it might have made sense to understand arts from the angle of beauty. The enjoyment of arts is of mental ("geistig") nature in those cases, where they present themselves with playful lightness with their interpretation and perception not having the characteristics of interruption or nuisance. The arts allow those who comprehend their works a reflected thematisation, in the medium of their unorthodox forms, also of what lies beyond the latter and what they continue to live on: Social Reality. That's the reason why, simply by showing themselves, powerful works of art always reveal something about us and about the social situation which we are in and which we are part of just like the situation is part of us. This social situation is not only characterized by the discourses of digitalization, which—with the colourful Elon Musk serving here as paradigmatic example—often enough follow a phantasmatic politic of the market in a naive way. Those discourses also include existing digitalization practices and media, that the arts take up, question, incorporate and reverse. Of course, such a questioning can also be made by analogue media and means, if they use for instance structures and methods of digital media and means in a reflective way (such as the introduction of computer game logic into modern theatre). Most often, it can and will consist of igniting media and means on themselves in a reflexive manner. This also means: Under the conditions of

digitalization, the sense of art is transformed. Those who continue to operate with traditional materials and media such as paint, canvas, voice and sound may not be necessarily of anachronistic nature. However, the artist, willingly or not, does something different than under the conditions of pre-digitalization. If discourse and practices of digitalization at large have to be interpreted as a radicalization of instrumental reason, art under the conditions of digitalization evolves into counter-digitalization. An aesthetic digitalization would therefore be of such kind that it thematises and redefines the interruptions, disruptions and failures in code, social practice, and discourse each in an autonomous way, whereas in ideological interpretations of digitalization these would need to be ignored.

I would like to finish with a few notes on the concept "Kultur" (culture) used in this article. When I said those practices that use the project of counter-digitalization in the sense of usability logic of instrumental reason are culturally relevant, this means that the concept of culture used in this article is a normative concept of culture. Traditionally, the concept of culture has been juxtaposed to the concept of nature. Often, using a layer cake model as example, culture has been understood as being the other part of nature, an addition to nature or as culture moderating and softening the desires, that we have in common with other, non-human beings. Such understandings of culture are doomed, not least because of presuming an incorrect concept of human nature. Human nature cannot be understood in terms of a biological reconstruction. Not only because each and every biological research requires itself methods and principles that cannot be described itself sufficiently with biological concepts. With reference to the philosophical anthropology and recent debates in Anglo-American philosophy, it can be said: The human being has culture by nature. Culture should not be understood as an empiric collection of things human beings do (non-human beings do many different things, too). Rather, it should be understood as an essential part of human beings. Essential for human beings — other than for non-human animals — is their reason, which is the way in which a human is a self-conscious being: That I am a reasonable being means that I am a living being that is responsive to reasons as the reasons they are. Hence, I am aware of knowing what is important for my thinking and acting. The fact that I am acting sometimes for bad reasons or that I can misunderstand the true reasons for my acting, does not contradict this thesis: Only a reasonable being can act in an unreasonable way. It does not make sense to blame a non-human animal for its acting in a way illustrating the poor quality of its acting reasons.A concept of self-consciousness like this one implicates the capability of being able to correct oneself in the light of better reasons. A normative concept of culture would claim that promoting this capability of criticism in the sense of a differentiated and correctable perception of our selves satisfies in an excellent way the concept of what it means to live a human life. Traditionally, such processes would be given the name of Bildung: Bildung does not mean anything like aquiring skills that are usable knowledge and the capability to survive in the market. Instead, it means perfecting our capabilities in a way that has no other aim than in itself.

What does follow from this normative cultural concept of what it means to lead a human life with regard to the question of the dialectics of digitalization? On the one hand, digitalization appears as alienated reason especially in popular discourses. Hence as something, which shows itself as mere habit, whereas, in truth, it would be the product of negotiation processes. On the other hand, practices and media of digitalization form a new social reality, the reactions of which—like they manifest themselves in art—should be considered, in a productive sense, a processes that we call Bildung.

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CHAPTER III

RESEARCH ON THE IMPACTS OF ARTS EDUCATION

Introduction

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What is the impact of Arts Education? In view of this question, the article by Teunis IJdens opens new perspectives in many respects. The author's doubts with regards to certain "advocatory" legitimation patterns of impact research summarize an important discourse of this research field.[77] Representing the relativization of such doubts by confronting them with different interpretation and legitimation patterns within the framework of international congresses reveals the sense of such intercultural research discourses to achieve a deeper understanding of Arts Education. And lastly: The insight that research strategies and their legitimations must be evaluated following the general conditions of society seems to indicate the need for new research paradigms. It is a research and practice approach of civil society that investigates and promotes artistic education in the view of its individual contribution to the development of society.

Sure, this is a selective view of the text. Further reading is useful, and my focussing on the question of indications for new research questions instead of focussing on presenting of what has been achieved shall not influence these other ways of reading.[78] This is true for the following multi-faceted articles, too. The considerations presented by Edwin van Meerkerk cover aspects of arts education in the matter of education policy and institution theories. To date, these aspects have seldom been the focus of research: however, they are likely to play an important role in understanding the more or less impressive impacts of arts education. Complementary to the isolated view of artistic activities and their effects, a research design that takes into consideration the economic and administrative framework in matters of education policy and their potential effects on the results of impact research could gain in importance. There is, for instance, the intriguing question, whether the different interests – economic or aesthetic – of school administration, teaching staff and vendors from the free cultural scene lead to different objectives and values which paralyse one another in regards to the impacts of Arts Education. On the local level, searching for some common orientation of the actors in matter of education policy would have a lot to commend to it. This orientation should provide an instrumental-rational basis of action for offerings and didactic arrangements in school. Definitely, empirical evaluation studies in this field would be useful.

The article by Nicole Berner, Caroline Jacobi-Theurer, and Wida Rogh, too, suggests an interesting question incorporating institutional critique. To date, research on the effects of art class on creativity has been done assuming that such effects could be proven for certain. The authors' comments on the "slumps and bumbs" in the development of creativity, however, hint at the possibility of inverse effects: A decreasing performance in creativity despite of or exactly because of art class. Even though the effect was weak, such a regression phenomenon was observed at several of the participant schools. This reminds us of the research studies on decreasing empathy in American college students and in medical students over time.[79] When the authors point at the fact that for identifying the reasons for this decreasing creativity, we'll need a more precise analysis of the respective teaching methods, this also outlines potential future research tasks. Within a theoretical framework at least, one could imagine considering the ideas of our Dutch partners when observing classes –

with the question in mind whether positive, negative or missing effects of art class, and their teaching didactics, might be partly conditioned by social prerequisites and a disparate orientation of the actors involved.

In their study of the effects of dance and physical theatre on motor creativity, Esther Pürgstaller and Nils Neuber stress the importance of further researching these teaching methods. It seems that the creative physical performance is especially stimulated by teachers that allow the students to develop their own ideas and bodily expressions by means of group activities, improvisation, etc. It is the Embodied Cognition Research that could enrich further research projects, as demanded by the research team, in order to answer the question in detail, whether dance and theatre transform into multi-faceted and creative bodily forms of expression. The term of Embodied Cognition Research designates the scientific discovery that the roots of all of our identification processes, even of very abstract thoughts, can be found in elementary bodily processes also outside of our brain.[80] The embodiment research may help us understand why current theatrical elements of class and their use even in scientific classes become the focus of research. This seems to be motivated by the fact that bodily forms of expression help us gain a deeper and more thorough understanding even of abstract matter.[81]

The request underlined by the two latter reports that future research on Arts Education should also pay special attention to the teaching methods used allows in my opinion for a thought provoking view of all four contributions. I have the impression that it might be helpful for teaching practice as well as for researching this practice to use the educational didactic theory (bildungstheoretische Didaktik) established by the German educationalist Wolfgang Klafki.[82] His didactic theory is not a mere educational technology nor a teaching strategy for building special competencies, but an educational concept, i.e. the art of teaching committed to build a thorough general education, which includes explicitly the formulation of educational objectives. By formulating the so-called key competencies such as solidarity, intercultural communication or elementary capabilities of civil society, this didactic theory has also a socio-political component: It opens the perspective of relating objectives of the macro-level (Teunis IJdens) in the matter of educational policies to pedagogical-administrative tasks of the meso-level (Edwin van Meerkerk) and to the micro-social processes of everyday teaching practice (Nicole Berner et al., Esther Pürgstaller and Nils Neuber) in the shape of an actionable, holistic concept. Here, new insights into the complex processes of arts education should be taken into consideration, too: Such as the discovery of indirect effects of theatre on cognitive—e.g. mathematical—capabilities by strengthening the self-confidence that itself motivates the performance in other subjects.[83] Or the insight into mutual effects of artistic and non-artistic experiences: Reading belletristic literature promotes empathic capabilities and those capabilities allows to understand what has been read. Musical experiences further attentiveness and self-control in thinking. However, less developed executive functions of this kind also lead to a lower capability of perceiving musical forms of expression. On the one hand, theatre promotes the intellectual openness for phenomena of the world we live in. On the other, this openness favours our willingness to actually go to the theatre.[84] Such motives of educational-theoretical didactics, backup up by research, could be an incentive for developing a flexible or undogmatic methodological consciousness, the elements of which are in the focus of the different articles of this publication.

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Measuring the impact of creative dance and physical theatre?! The quest for effects on motor creativity

ESTHER PÜRGSTALLER, NILS NEUBER

INTRODUCTION

Even though arts education is marginalised and discriminated against in schools, dance and physical theatre grow in importance in the educational context. Never before have there been as many projects and programmes implemented in schools as nowadays[85]. With this development, assumptions arise suggesting arts education and especially dance and physical theatre have a positive impact on the personal development of adolescents. However, those claims are mostly supported by very little or no empirical evidence.

THEORETICAL BACKGROUND

Creative dance and physical theatre

Creative dance and physical theatre are artistic-aesthetic forms of presentation and expression through the body. Both body-bound activities are based on the artistic-pedagogical[86] approach which aims at experiencing individual movement and expression possibilities. During lessons, children are provided with different interaction possibilities in order to exchange ideas, to look at problems from different perspectives and to delve into individual work. Besides the methods of composition, imitation, training and reflection, the focus lies on the methods of improvisation. This method encourages children to experiment with body and movement possibilities, to alienate, manipulate and un-codify movement routines. Thus, pupils are confronted with a balanced product and process-orientated teaching, by being given instructions with just one “correct” solution (e.g. imitating movements) and stimulations, which encourage them to find several unique solutions (e.g. exploring movements). All in all, this artistic-pedagogical approach aims at fostering children’s motor creativity.

Motor creativity

In this study, creativity is understood as an ability that every individual is born with. Often it is conceptualized as a cognitive ability to think differently from the norm, which can lead to unique solutions to problems and innovative products.[87] However, children express their creativity not only on a cognitive level. They use their body as a means to express their ideas and thoughts. Therefore, creativity is not limited only to thinking processes but can also take on a body-bound form, called motor creativity.[88] While it is suggested that motor creativity is an ability that enables us to create divergent movement, which can lead to unique movement and movement patterns[89] or to express an idea or emotion through the body[90], in this study it is defined as an ability to generate a quantity (productivity) of different (problem-solving) and unconventional, divergent (originality) movement patterns.[91]

Influence factors on the development of creativity

The development of creativity depends on its nurture as well as on internal and external factors that can influence the process. Several empirical studies

point to a discontinuous course, indicating that the development can take on a progressive and continuous course as well as a regressive one. A considerable slump in creative performance is observed at the start of the school career, the beginning of adolescence and if a change from one school to another one occurs. Therefore, it is suggested that the adjustment to social circumstances and the focus on cognitive learning can have a negative influence on the development of creativity.[92]

On the contrary, besides an array of standardized creativity techniques and training programmes (e.g. brainstorming), pedagogical teaching concepts that anchor creativity as a principle, emerge to have a positive effect on the development of creativity[93]. The authors of those concepts provide valuable recommendations, but mostly frame them in a general manner such as to be humorous or provide an open atmosphere. Thus, they forego to draft concrete strategies and methodical-didactical procedures for practical application. Nevertheless, four concrete methodical-didactical procedures were identified by several authors to be significant for creativity: (1) time, (2) possibilities for interaction as well as individual work, (3) specific teaching methods such as improvisation and (4) a semi-open degree of freedom in the tasks.[94]

STATE OF RESEARCH

There is considerable debate that one way to foster (motor) creativity is through participation in creative dance and physical theatre, as numerous dance and theatre projects are carried out with the aim of providing creative experiences. A limited number of studies confirmed those suggestions. For example, in one study Minton[95] compared (pre-post and follow up) a group of 15 year-old dancers' scores with a group of non-dancers' scores, using five control groups. The results showed that the dancers scored significantly higher on the creativity test TTCT[96] in the facets of originality and abstractness of title. Another study conducted by Neuber[97] confirms that children who were taught in physical theatre scored significantly higher on the MKT 9-11 motor creativity test than children not attending those classes. Furthermore, Bournelli and Mountakis'[98] study demonstrated not only that creative dance can improve the ability to generate different movement possibilities but indicates that the level of motor creativity continues to improve, even nine years later. Besides this, there is evidence that additional internal and external factors influence the development of (motor) creativity, such as the way in which dance and theatre are taught. For example, studies reported that students need time to emerge into creative thinking and moving[99]. Their motor creativity improves more when they improvise rather than imitate[100]. They show movements with a higher variety when confronted with process-product-orientated, semi-open tasks that neither narrow (instructions) nor overstrain (stimulation) pupils but rather confront them with a problem, encouraging pupils to come up with different and individual solutions[101].

However, those studies provide only first indications. What is notable among the above mentioned, is that there is a huge research gap regarding dance-specific studies that evaluate the longitudinal influence of creative dance and physical theatre on children's motor creativity. Most of the studies used domaingeneral instruments (i.e. TCCT) even though it is suggested that by using domainspecific instruments an 'even more pronounced benefit'[102] might be observed. What's more, studies failed to describe the programme, especially the content and the way in which dance is taught, although findings demonstrate that methodological-didactical procedures have an effect on students' creativity. To date, the few studies investigating the impact of methodical-didactical procedures only focused on one single procedure (e.g. the effect of the method of improvisation) without considering the interaction of several.

PURPOSE

Thus, the aim of this study was to investigate whether a school-based dance project, based on the artistic-pedagogical approach, enhances children's motor creativity development sustainably beyond the development typically found among primary school children in that age group. The second goal was to analyse several methodical-didactical procedures in order to examine whether teaching has an influence on children's motor creativity development.

STUDY DESIGN

For the following study, a product-process-orientated approach was chosen. Firstly, embedded in the project "Dance and physical theatre – an artistic-pedagogical project in arts education in all-day primary schools"[103], this study focused on the effects of dance on children's motor creativity[104]. It followed a pre-, post- and follow up-design with an experimental and an untreated control group. During the summer school term of 2015/2016 138 primary school children participated in a three month long dance and movement theatre project (1 x 90 min. a week) in ten primary schools. During that time 88 children from the same year group and school, who attended regular afternoon classes on non-academic topics such as football, cooking, etc., were recruited as comparison groups. Motor creativity tests were performed with all 226 students before the project started (February), straight afterwards (June/July) and three months after the project was completed (September). Thus, differences between the groups could be attributed to the project.

Secondly, besides the project, further data was gathered focusing on the teacher's methodical-didactical procedures. Therefore, once a month during the project (March–June 2016) one class per teacher was videotaped, followed by subsequent analyses of the videos using a developed domainspecific category system.

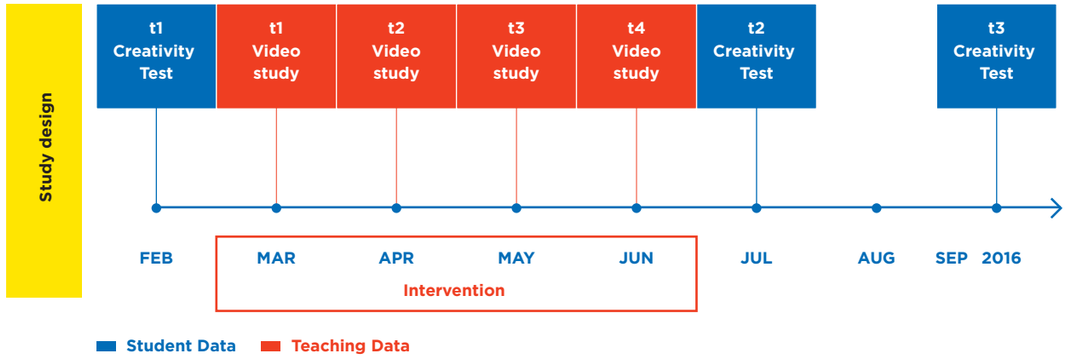

Figure 1: Study Design (t=measurement points)

METHOD

Participants/Subjects

A total of 226 third and fourth grade primary school children[105] from ten schools in Mainz and the area of Mainz, Germany, participated in this study. The 138 pupils in the experimental group and 88 pupils in the control group, with an average age of 8.3 years, did not differ significantly in terms of their age, their prior and contemporary dance or theatre experience. As expected however, there was a significant difference concerning the gender: Whereas the experimental group consisted of 70.5% girls, the gender balance in the control group was almost equal. This might be due to the fact that pupils could enrol freely in the dance and movement-theatre project as an afternoon subject and girls, as studies have already shown[106], proved more interest in dance than boys.

For the second part of the study, one male and three female teachers with approximately 19 years of teaching experience, aged between 37 and 53 years, agreed on videotaping four of their classes. The sixteen classes that were taped, lasting around 92.2 minutes, focused on four different topics that the teachers could choose from (everyday movement, form/picture, relationship and material).

Intervention programme

The classes, taught by professional dance and movement theatre teachers, were based on a methodological-didactical guide, developed by the project-team. Even though the teachers were free to choose and to adapt the content of the programme concerning the needs of their groups, the guide provided them with information about aims, themes and teaching methods. The main goal was to promote dance and movement theatre to children from privileged and underprivileged educational backgrounds. The focus thereby was less on enhancing their dance capabilities than on fostering their expression

and movement possibilities with and throughout their bodies. Therefore the classes should emphasize particularly on movement exploration, improvisation and composition. As initial points, the teachers could choose between everyday movement, picture or form, relationship and material (such as chairs, papers), and themes that can widen children's scope of movement possibilities. At the end of the term, all teachers organized a performance or showed a work in progress, created by the students during class time.

Instruments

In order to evaluate the motor creativity development, children were tested in productivity, problem solving and originality by using the MKT (9-11) motor creativity test[107]. The test is the only instrument available in Germany, which is statistically supported as a test of motor fluency, problem solving and originality. It consists of four motoric tasks: The first task, aiming at productivity, requires the subject to alienate an object (glass) and measures the versatile use. The second task, aiming at problem solving, requests alternative forms of mobility (figure 2). Central to the third and fourth tasks, both aiming at originality, is the representation of a term ('banana') as well as the development and presentation of a "totally crazy" story about a 'banana' with the body. The motor creativity test was given to one person at a time to avoid an exchange or the copying of ideas. Subjects were given 90 seconds to find solutions on the first and second task, whereas there was no time limit on the last two tasks.

> Imagine you are a secret agent and here is your training camp. They always have to solve difficult problems, right? Here is your task: Bring as many parts of your equipment as possible from one box to the other. To do this, you have got 90 seconds. However, your feet are not allowed to touch the floor. If it happens, you must start again from the beginning. That's the rule. You can try out everything you can think of, ok? Ready? Go!

Figure 2: Example of the problem-solving task in the motor creativity test MKT 9-11[108]

The analysis of the videos was performed on the basis of a developed low-inference, domainspecific observation instrument[109] using the software program 'INTERACT'. The instrument, consisting of five category systems and 28 categories, is meant to capture the duration of domainspecific methodological-didactical procedures in creative dance and physical theatre lessons, that on a theoretical and empirical basis turned out to be relevant for creativity development: (1) the length of the lesson, (2) social forms, (3) teaching methods, (4) degree of freedom in tasks and (5) the type of task.

RESULTS

The major purpose of this study, the comparison of the motor-creative development between the experimental and the control group, was analysed with a repeated measure ANOVA. The results shows that the productivity of children in the experimental group improved marginally significant more from the pretest to the posttest ($p = .057$, $\eta^2_p = .019$) as well as from the pretest to the follow-up ($p = .091$, $\eta^2_p = .019$) compared to the control group (figure 3). With regard to problem solving and originality, there were differences between the experimental and control group. However, none of those differences were statistically significant ($p > .05$).

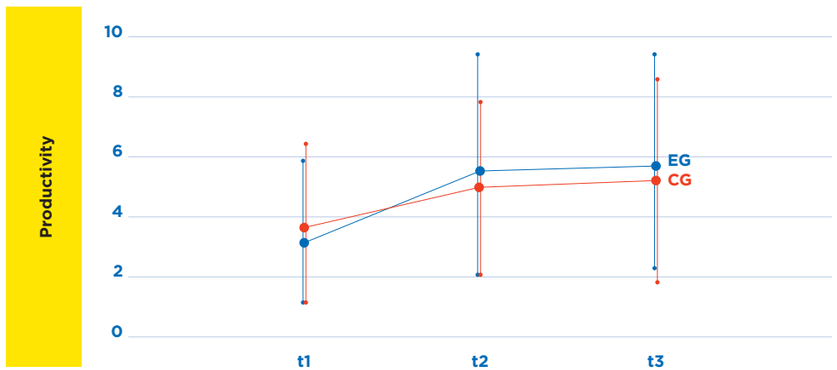

Figure 3: Development of the experimental group (EG) and control group (CG) in the facet of productivity over all three measure points (t)

The results of the video analyses showed that pupils were provided with an array of social forms. However, the teaching was mainly teacher-centred, leaving little room for pupil-centred social forms such as work in small groups, as a couple or as an individual. In addition, a balance between imitative (e.g. imitation) and creative methods (e.g. improvisation) as well as process- and product-orientated tasks was detected. At the same time a relatively high amount of time spent on organizational phases and teacher talk as well as little time on tasks, aiming explicitly at enhancing creativity, could be observed.

Even though the teachers were trained equally, their use of methodical-didactical procedures varied significantly in terms of the time spent on social forms, methods and creativity enhancing tasks. Especially one teacher gave pupils significantly more time to improvise, compose, reflect and train than the other teachers. This result is interesting in connection with the findings that the children, who attended those classes, improved significantly more in problem-solving in comparison to the children taught by the other teachers. The data indicates that there is a clear correlation between the motor creativity development of the children and the time teachers used for methodical-didactical procedures.

DISCUSSION

The study supports previous research[110] by confirming a sustained impact of dance and physical theatre on children's ability to produce a quantity of ideas. However, in contrary to earlier findings, the study did not detect evidence of an impact on originality and problem solving. Thus, it challenges the presumption of high correlations between the single facets of creativity. A possible explanation might be that dance and physical theatre might not foster the overall construct creativity but rather encourage only the development of specific facets. Another explanation could be the short intervention time (three months) or the instrument used. The MKT 9-11 aims at capturing motor creativity, but its tasks are not dance-specific.

In regards to the analysis of the teaching, the video study confirms the results of prior research in terms of the teacher-centred alignment and large percentage of organisational phases in the lessons[111]. However, caution must be applied when comparing the results of this study to others, as so far no studies exist that have investigated several methodical-didactical procedures using a domainspecific instrument. Furthermore, the study delivers indications that not one single methodical-didactical procedure seems to have an effect on children's creativity development, but rather the interplay of several procedures together. Therefore, in future research, the complexity of teaching should be considered while renouncing the establishment of correlations between single methodical-didactical procedures and the development of creativity.

More research on the impact of creative dance and physical theatre on the longitudinal development of motor creativity needs to be carried out. In the light of the weaknesses of this study and obvious research gap, it is sensible for further research to continue the combination of a process-product-orientated approach, to combine qualitative as well as quantitative methods and to incorporate further impact factors such as the teaching quality. Another recommendation is the use of a dance-specific instrument to capture creativity as well as to analyse the teaching[112]. The teaching-analysis instrument could be used in teacher training to developed awareness of routines and to reflect features of their teaching. Further education about creativity enhancing methodological-didactical procedures could help reduce the feeling of incompetence and rejection that often comes with teaching dance and physical theatre in schools when unfamiliar to this field.

All in all, this study shows the importance that arts education, especially dance and physical theatre, have on the sustainable development of adolescents: An encounter with creative dance and physical theatre in childhood can leave a lasting mark.

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On the impact of productive and perceptive activities in art classes on creativity development in fifth grade

NICOLE BERNER, CAROLINE JACOBI-THEURER, WIDA ROGH

INTRODUCTION

Creativity is a key competence of artistic processes. Therefore fostering students' creativity is an objective of art classes.[113] Productive and perceptive parts of class have specific potentials in this process.[114] Productive activities support the development and realisation of independent ideas. Perceptive activities include speaking about images and works of art, discovering potential meaning, and examining and discussing the various possibilities of expression in art. Productive as well as perceptive activities are assumed to contribute to the development of creativity in art classes.[115] This article investigates this concept in further detail using data from the research project "Impact of arts education on creativity development in fifth grade" (in German: "Wirkung Kultureller Bildung auf die Kreativität im fünften Schuljahr", KuBiK^5, 2015-2018).

THEORETICAL BACKGROUND

Creativity development

A number of studies to date have identified a discontinuous pattern of creativity development.[116] Hence, creativity does not develop increasingly but rather shows various slumps and bumps among individuals. However, the findings are not consistent and a number of different models for creative development have been proposed.[117] Results on creativity development differ according to the measurement and the creative aspects considered in the research studies.

Often, the slumps and bumps in creative development, especially over the course of the school years, are associated with periods of upheaval and insecurity for children and adolescents.[118] For example, slumps in the first year of school are often attributed to starting school and associated adjustments.[119] Declines in the fourth year ("fourth grade slump") are based in part on peer pressure and a stronger orientation to real rather than creative solutions.[120] Declines in the sixth year ("sixth grade slump") are attributed to the development of logical reasoning ability, as well as the onset of puberty and social assimilation with its inherent conflicts between conformity and individuality.[121] Additional possible explanations are related to the adjustment to secondary school, social challenges associated with new class compositions, codes of conduct and increasing pressures to perform.[122]

Fostering Creativity in Art Classes

Although art and art classes are often attributed excellent potential for fostering creativity[123], it does not promote creativity per se.[124] Highly conventional and step-by-step definition of tasks can also suppress creativity in art classes. In contrast, less structured assignments may allow students to develop their own ideas and make independent decisions and thus better foster creativity. Productive activities can foster creativity if complex problem solving is required by the art making processes and students are challenged to try

new things, to experiment and develop ideas.[125] Perceptive activities can also contribute to developing creativity in art classes. When individual meanings of images are worked out and a class reflects on a art making processes, this way may help students develop their own approaches to problem solving and hence increases creative potential.[126]

Moreover, there are few studies on the promotion of creativity in art classes; however, these are primarily based on special interventions and programmes in teaching art.[127] Overall, it appears that interventions implemented in art instruction may help foster creativity. However, these interventions largely relate to productive rather than to perceptive activities. To the best of our knowledge, there are no empirical studies to date that address the extent to which regular art classes can contribute to creativity development without implementing a specific intervention. The facts that art instruction can be realised using a highly variable range of approaches and that moreover, creativity depends on various determinants may be two reasons for the lack of research in this area.

RESEARCH QUESTIONS

Overall, research into the development of creativity indicates that the course of development is discontinuous. Frequently, slumps or temporary declines in creativity are explained in terms of developmental or adjustment issues. The transition from primary to secondary school appears to be a sensitive phase for creativity development (see also Section 1.1). The KuBiK[5] research project investigates creativity over the course of the fifth grade. The following question was formulated:

→ How does a student's creativity develop over the course of the fifth grade?

From the current state of research, it can be further concluded that specific conditions relating to the lesson may support creativity, while it is not art class itself that fosters creativity but rather the way in which it is realised. Art classes feature both productive activities (e.g. drawing or painting, spatial design, sculpting, performing aspects) as well as perceptive activities (perceiving and discussing art, image analysis, critiquing student work). It is assumed that both productive and perceptive activities have their own potentials for supporting creativity in art classes (see also Section 1.2).[128] The following question was thus also formulated:

→ How do productive and perceptive activities in art class affect creativity development in fifth grade?

RESEARCH METHODS

Design and data basis

The questions were approached using data from the study "Impact of arts education on creativity development in fifth grade". This study is supported by the research fund for arts education of the Council for Arts Education financed through the Mercator Foundation in Germany. It is a longitudinal study involving 54 classes at 15 schools. At the time of the first measurement, students (N = 908) were at the beginning of fifth grade and had an average age of 10 years and 3 months. Male and female students were approximately equally represented (N_{girls} = 49%, N_{boys} = 51%).

Instruments

Creativity

At both measurement points, student creativity was assessed using the "Test for Creative Thinking - Drawing Production" (TCT-DP) developed by Urban and Jellen (1995). The TCT-DP is a drawing process and offers an estimate of a person's creative potential. The standardised test involves six fragments drawn inside and outside of a frame on a test sheet that are to be completed by drawing and a title is to be given to the work (Figure 1). Evaluation yields a total possible score of 72.[129]

All of the resultant drawings were evaluated by three individuals using 14 standardised categories.[130] At each measurement point, 20% of the sample was evaluated by all three raters, while 80% was evaluated by just one. In order to demonstrate that the raters were evaluating in the same way, independent of each other (i.e. the data are independent of assessor), a pairwise interrater reliability test was calculated, using a generalizability coefficient.[131] Overall, there was good interrater reliability among the raters (T1: $0.94 \leq g_{relativ} \leq 0.99$, T2: $0.92 \leq g_{relativ} \leq 0.99$).

Figure 1: TCT-DP results of one student at the first (left) and second (right) assessment points

General cognitive ability

General cognitive ability was recorded as a controlling variable at the time of the first assessment using a non-verbal subtest of the cognitive abilities test (KFT-4-12+R; Heller & Perleth, 2000; M = 17.36; SD = 8.32).[132]

Productive and perceptive activities in art classes

At the second measurement point, students were asked, among other questions, about their use of educational opportunities in art education in fifth grade. The analyses used the students' reports of their own assessments of art classes. The frequency of productive and perceptive activities in art classes was queried (1 = never, 2 = once, 3 = a few times, 4 = often, 5 = very often). The students' responses were aggregated to achieve a representation of the average for each class. Table 1 shows the productive and perceptive activities and characteristic statistics at the level of the class.

	N	*MIN*	*MAX*	*M*	*SD*
«How often have you done this activity in last year's art class?»					
paint	54	3.10	4.95	4.42	0.34
draw	54	3.00	4.75	4.12	0.38
sculpture	54	1.33	3.86	2.35	0.54
«How often have you done this activity in last year's art class?»					
talk about artworks	54	1.80	3.90	2.97	0.59
describe images	54	1.65	4.00	2.98	0.52
discuss own works / works of classmates	54	1.53	3.78	2.75	0.57

Table 1: Productive and perceptive activities in art class in the fifth grade

Analysis Methods

The data are hierarchical in nature because students are grouped by class and school and the activities in art instruction are related by class; hence intraclass correlations (ICC) were used in the analyses.[133] For the dependent variable «creativity at the beginning of the sixth grade» it shows an intraclass correlation of eighteen percent, which is a medium impact of class. Therefore, multilevel analysis with HLM 7.03 (SSI., 1996-2013) were used in order to answer the research questions.

RESULTS

How does student creativity develop over the course of the fifth grade?

First, student creativity was assessed at both measurement points (Figure 2). Creativity significantly decreased by 1.4 points (F (1;1012) = 20.346, p = 0.000). However, the effect was weak at f = 0.15.[134] The development varied widely among the different school classes. For example, while some classes showed lower mean creativity at the second measurement point, other showed a significant increase in creativity from the first to the second measurement point (Figure 3).

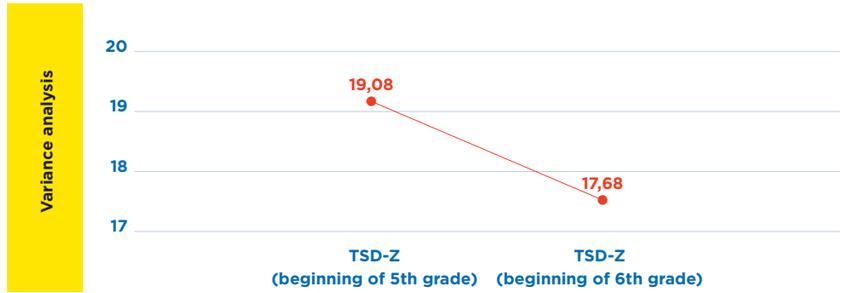

Figure 2: Single factor variance analysis with repeated measurements

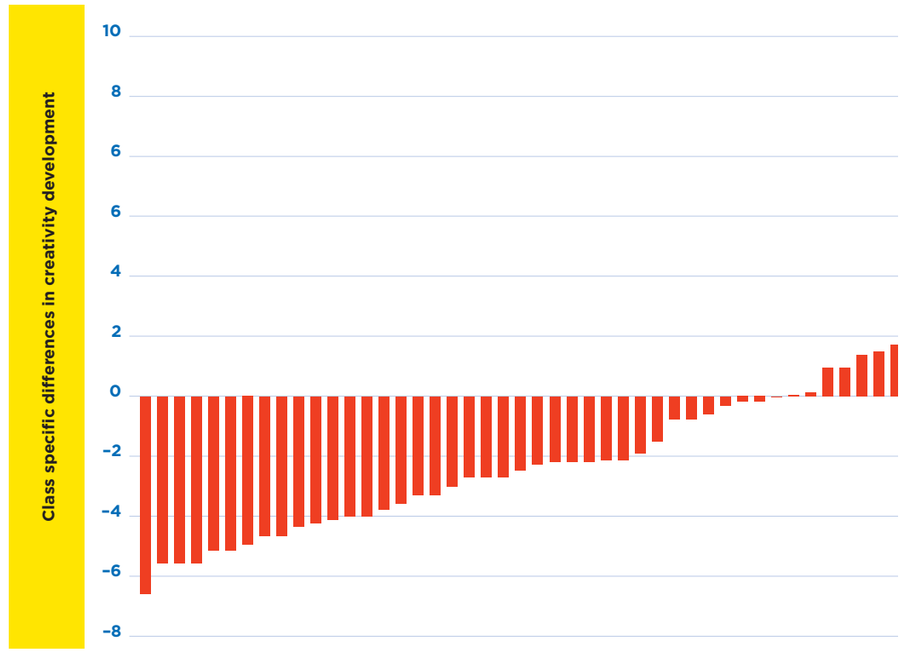

Figure 3: Class-specific differences in creativity development using class-specific difference values

How do productive and perceptive activities in art class affect creativity development in the fifth grade?

The control variables were first included in the multilevel analysis (Model 1, Table 2). The creativity development was modelled at student level using TCT-DP on first measurement point. As expected, individual creativity at the beginning of the fifth grade has a small effect on student creativity at the beginning of the sixth grade. Cognitive ability also has a minor effect. In addition, the mean class creativity at the first measurement point has an effect.

In each of the Models 2 and 3, productive and perceptive activities are incorporated separately. Consequently, only the frequency at which painting is included in art class showed a significant, however negative effect. The control variables remained stable and significant (Model 2).

If both productive and perceptive activities are considered in addition to the control variables (Model 4), the negative effect of "frequency of painting in art class" on creativity at the beginning of the sixth grade remains. This effect is also present if only the variable "frequency of drawing in art class" is considered (Model 5).

Nstudents = 908 (Nclass = 54)		**AV: Student creativity (TCT-DP at the beg. of 6th grade)**									
		Model 1		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Predictors	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE
Class level	Class creativity (TCT-DP at the beg. of 5th grade)	0.33**	0.10	0.28**	0.09	0.35**	0.10	0.32***	0.08	0.32***	0.08
	Art class: painting			-0.29**	0.11			-0.26*	0.12	-0.29*	0.11
	Art class: drawing			-0.08ns	0.13			-0.08ns	0.11		
	Art class: sculpting/ building			0.03ns	0.15			0.09ns	0.20		
	Art class: discussing artists' works					-0.02ns	0.13	-0.02ns	0.11		
	Art class: Describing pictures					0.17ns	0.13	0.03ns	0.14		
	Art class: Discussing other students' work					-0.21ns	0.14	-0.12ns	0.12		
Student level	Student creativity (TCT-DP at the beg. of 5th grade)	0.26***	0.04	0.27***	0.04	0.26***	0.04	0.26***	0.04	0.26***	0.04
	Cognitive ability (KFT at the beg. of 5th grade)	0.13***	0.03	0.14***	0.03	0.14***	0.03	0.13***	0.03	0.13***	0.03

Table 2: Comparison of the levels of influence of the independent and control variables;
Note: Beta = z-standardised regression coefficient; SE = standard error; *** = p < 0.001, ** p < 0.01, * p < 0.05

DISCUSSION

This study identified a weak but significant decline in the average creativity of students from the first to second measurement point (Question 1). Moreover, creativity at the beginning of the sixth grade is more similar among students within a class than between classes. These differences in development may be attributed to different features of the classes and teaching; for example, the instruction within the classes may differ or experiences within the class may vary (e.g. museum visits or class trips). Class-specific differences in creativity may also be based on methodology. The tests were conducted and evaluated in the classroom.[135]

The decline in average creative performance is consistent with findings of development discontinuity (sixth grade slump). Hence, various performance and adjustment issues associated with changing schools (e.g. new class composition, code of conduct, greater pressure to perform) lead to a decline in creativity (see also Section 1.1).

Another explanation for the decline in creativity measured using the TCT-DP value may be related to development in drawing. Drawings were evaluated using the 14 categories described in the TCT-DP manual. According to the manual, drawing skills should not impact the evaluation of creative potential; however, categories such as "perspective" or "humour/expressiveness of the drawing" do not entirely exclude drawing skills.[136] Despite inconsistent findings, a number of empirical studies of the u-curve model for graphic development suggest that drawings show a decline in assessed expressivity during the transition to late childhood (approx. 11-14 years of age).[137] This effect may also have an impact on the assessments of the TCT-DP drawings and hence on the test results. It may be relevant to revise the TCT-DP to exclude a focus on graphic creativity and facilitate differentiated conclusions about a potential relationship with drawing skills.

In terms of the effects of productive and perceptive activities in art class in the fifth grade on creativity at the beginning of the sixth grade (Question 2), there was a weak, negative effect of the frequency of painting ($\beta = -0.29$, $p = 0.012$). This result seems unexpected at first, since it is assumed that productive and perceptive activities each have their own potential for promoting creativity.[138] The result should be interpreted with caution because the observed effect was weak. Considering the descriptive information, it also appears that there is a ceiling effect for the "frequency of painting in the fifth grade", since on an aggregated class level, painting took place often to very often. These results indicate that the more painting is a part of art class, the lower the creativity value at the second measurement point.

It is reasonable to assume that painting (too) often does not contribute to fostering creative behaviour in students. This assumption can be explained in the lack of diversity in artistic approaches. Because of the study design of the KuBiK[5] project, no further conclusions can be made about the content and artistic techniques used in art classes with painting activities. Trends in the discourse on art education may nevertheless provide hints. Seen the education plans of the past few decades, it appears that traditional teaching methods in

schools are poorly suited to fostering creativity as they typically involve water colour sets and at best DIN A3 paper. This may be because of a lack of didactic approaches in painting.[139] If drawing techniques are also applied to painting assignments, this may result in severely limited opportunities for art making and hence restrict creativity. Consequently, didactic methods in painting are important in art classes to support a child's artistic development (e.g. including painting qualities, encouraging colour perception). It can therefore be assumed that tasks placed poorly for painting as well as those that are based on concepts with step-by-step instructions or assigned too openly can negatively affect creativity. This indicates that in itself painting as a productive activity does not foster creativity; far more important is how painting assignments are used and realised in art class and whether principles of creativity in education are considered.

One methodological limitation of the study is clearly the very narrow view of the activities in fifth grade art classes. Various teaching activities in the art classes were considered but there were no further details about specific content and methods. Furthermore, productive and perceptive activities in art class were evaluated from the students' perspectives. In particular, the ability to recall the previous school year and individual perception of the activities queried may result in biases.

Hence, further study is needed; research should focus explicitly on art classes and on the relative proportions of productive and perceptive activities therein. In order to further address this for the data in this study, we performed additional latent class analyses; these identified various types of art classes and can be considered in the multilevel analyses.[140]

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Intended Outcomes and Values of Arts and Cultural Education

Researching Arts education Policy Goals in the Light of 21st Century Skills

EDWIN VAN MEERKERK

The number of music teachers working individually as private tutors, by far exceeds the number of music teachers employed in schools.[141] When we speak of arts and cultural education, however, we generally ignore the teachers working in their attics or garages. An important consequence of this implicit choice is that when we study arts and cultural education, we are investigating a policy instrument. Arts education is the outcome of a process of political decision making, of the weighing of interests, that has led to the decision that it is a good idea to subsidise, make mandatory, or otherwise promote arts education in school. In this chapter, I will look at the intended outcomes of arts and cultural education, the values underlying those intentions, and the explanations that may be given for the translation of these values into the arts education policy from which it is the result.

This chapter takes three angles: policy as a rational process, policy as the outcome of competing interests, and policy as a reflection of values. This triptych is an amendment to the approach by Deborah Stone (1988), whose classic The Policy Paradox distinguishes two sides of the political coin: the rational discourse, and the worldviews underlying this discourse. The former Stone terms the 'market model', the latter the 'polis model'. Politics as a market, to Stone, revolves around individual interests, sees competition as a process generating intended outcomes, and views information as something rational and knowable. This type of political discourse is easily associated with a classical economic view of human behaviour and society.

Policy as a polis, on the other hand, puts the (potential) conflict between personal and collective interests at its heart, and, viewing information as ambiguous and debatable, revolves around persuasion and alliances. This is in line with other models of policy analysis. Policy is often described as a process driven by 'advocacy coalitions'[142] and as an ideational construct.[143] In cultural policy studies, this view is widely held.[144]

An important notion in this respect is public (or cultural) value, coined as an alternative to 'shareholder value'.[145] In practice, however, the term value has become nearly synonymous with the notions of outcome and impact. The latter two have an economic, almost tangible connotation, in contrast to the more ideational character of the term value.[146] While a political focus on more concrete and measurable outcomes is quite understandable, it is often overlooked that practical outcomes and quantitative impacts also have underlying values. The question is, then, which values underlie the explicit goals of arts education policy.

ARTS EDUCATION POLICY GOALS

The goals of policy instruments regarding arts education tend to be ambitious, something that is best illustrated by the notion of 'every child' in various policy initiatives, from the German 'Jedem Kind ein Instrument' to the American 'Every Child Succeeds Act'. In a literal sense, such goals are unachievable – there will always be at least one child that does not succeed or will not

play an instrument. Still, there is a strong common sense among policy makers regarding the intended outcomes of arts and cultural education, most of which are described along similar lines.

Individual measures and subsidy programmes tend to be less ambitious. In most cases, the actual assessment process can be divided into three components. The first is a demonstrable achievement or product that is in line with the instrument's goals: an assessment instrument. Such concrete outcomes are often qualified for their transferability, although this is mostly hard to prove and will not likely result in some kind of penalty. The second element of the assessment is the accountability of the project in financial terms. It is important that all the funds have been spent on the activities they were intended for, independent of the actual outcomes. The final aspect of the assessment is what the world of commercial entrepreneurship would call 'customer satisfaction', the degree in which participants and beneficiaries are content with the process and outcomes of a project.

ARTS EDUCATION POLICY AS A RATIONAL PROCESS

The rationality of any policy process is reflected in the scope of its intended outcomes. The wider the scope, the stronger the assumption that the processes, institutions, and individuals implied in the policy are comparable. An all-encompassing policy implies that all children can be assessed along the same criteria. On a more detailed level, one finds that many if not most policy instruments are incentive-based. In other words, policy measures rely on financial stimuli to achieve their aims.

The Dutch Quality Cultural Education programme (QCE), which I will take as my example in this chapter, aims to improve the quality of arts education in primary schools. It focuses on what is being taught – by stimulating curriculum development and assessment tools – and on how and by whom it is being taught – by stimulating professional development and institutional collaboration. The programme seeks to better all of primary education for every child (!). It might have done so by imposing a standard curriculum for the arts or by significantly enlarging the amount of time spent on the arts in teacher academies, to name but two of the most obvious means. In fact, however, the QCE programme consists of an open subsidy programme, into which schools are only indirectly involved, and that on a voluntary basis. The underlying logic of the programme is that the mere existence of a funding programme will seduce all parties involved: local government, arts centres, and of course schools, to engage in it.

This approach is typical for Stone's market model of policymaking. It assumes a completely free and accessible flow of information, pure rational decision making on behalf of all parties involved, and a hierarchy in arguments, in which economic impulses will overrule practical, cultural, or other arguments and incentives. Even though the programme is a success in terms of the vast number of children who are reached, the fact remains that many schools in fact

do not participate. Among the schools that do, moreover, there will certainly be a number that are in it for the money, so to speak, thus threatening the long-term effects the QCE programme is aiming for.

ARTS EDUCATION POLICY AS A FIELD OF INTERESTS

Schools only very rarely employ professional arts teachers, and generalist teachers are not equipped with the skills and knowledge to teach the arts. At the same time, there is a political demand to incorporate the arts in the curriculum, for a variety of social, economic, cultural, and political reasons. Arts educators are looking for contract partners, i.e. schools, for their sustenance, arts centres and music schools are subsidised by municipal authorities with the express task to be involved in arts education in school, and need subsidies like the QCE programme to stay afloat. Other cultural institutions, museums, theatres, and concert halls, are increasingly pressed by their sponsoring governments to deliver educational programmes.

These interests might ideally converge in an arts curriculum in school, in which all parties are satisfied, but the reality is that the available funding does not add up to the total sum of interests, and probably never will. That means that the reality of arts education is at least as much the result of the outcome of this conflict of interests as it is the intended outcome of rational policy making. Significantly, this conflict is not determined by any visible struggle, but rather by a discursive battle in which institutional status, hierarchy between the arts, and public support are put into play to decide the outcomes.[147]

ARTS EDUCATION POLICY AND ITS UNDERLYING VALUES

When analysing arts education policy, one cannot solely rely on the discourse of rational decision-making. Discarding this aspect, however, is also quite unsatisfactory. What is more, explaining arts education practice as the outcome of conflicting interests in itself does not explain anything either. In order to overcome this dichotomy, then, I will complement the market and polis perspectives with an analysis of the underlying values of arts education policy. Values, in this paper, are the shared assumptions on the validity of arguments and actions. Values are the kind of explanations that do not need to be given for their self-evidence. They are considered common sense.

In the Quality Cultural Education programme, we can discern three implicit aspects of quality among the policy goals. These three domains, the relational, the institutional, and the objective, I take to correspond to three value domains.[148] I will first sketch the three domains before exploring the implications of this exploration of policy values.

The first value domain concerns the aspect of quality concerning the relations between the parties involved. Much of the effort of arts education policy

has focused on strengthening the relations between schools and cultural institutions. Consolidating, anchoring, and securing have been prime objectives in Dutch arts education policy nearly as long as it has been around. Building lasting relationships is an important goal of arts education policy. This implies that shared values are preferred above individual interests, that a community sharing a similar view on the arts and on arts education is a desired outcome of the policy programme.

Beside this first domain, there is an operational quality to be found in the policy goals. Much attention is paid to assessing the improvement of professional skills of teachers and artists. The trust placed in the trained and competent professional is an important value underlying arts education policy. Qualifications, certificates, and formal training are deemed necessary for the intended outcomes of the policy programme.

The final kind of quality has to do with the object of policy: the arts and arts education. The quality referred to in the name Quality Cultural Education is related to both the quality of teaching and the quality of what is being taught. The programme thus responds to criticism voiced by Folkert Haanstra (2001) among others, who accused arts education practice of not offering a meaningful programme, both in relation to the relevance of the art towards the artistic domain, and the relevance of arts education for society and the life of the students. In response to this criticism of 'school art', the QCE programme puts the quality first, without, however, defining the nature of this quality. Other, related, policy documents suggest that the quality is mainly to be found in creativity and innovation, thus relating to values that are shared in an economic and neoliberal discourse.

If we assume that arts education policy results from these three value domains, then the extent to which these values are shared must determine which goals are set, which parties are involved, and which outcomes are judged satisfactory. Regarding the relational values, it is indeed clear that collaboration as such is seen as an important aspect of the QCE programme. There are no assessment criteria for the nature of the collaboration, nor standards for the nature of parties that may be involved in a collaboration. Institutions engaged in partnerships with schools in the QCE programme do seem to share the value set underlying the relational quality put forward by the policy programme. The vast majority are institutions that function as local or regional networks, most significantly arts centres and music schools, rather than as relatively closed organisations, such as museums. The operational quality in the QCE programme is clearly visible in the programme's goals, but is curiously absent in the assessment criteria. Projects are not validated for the number of diplomas or other qualifications. This may partly be explained by the lack of involvement of official training institutions in the programme. The art teachers engaged in the training of generalist teachers are not certified to issue formal qualifications.

The objective quality and its underlying values, finally, is only implicitly present in both the goals and in the assessment criteria. Interestingly, though, all parties involved place high stakes on improving the content of the arts and cultural education. In the interviews I have held with generalist teachers, school

directors, and arts teachers involved in the QCE programme, there are great differences between the kinds of content that are endorsed. Roughly put, school directors endorse an economist discourse, whereas generalist teachers engage in the QCE programme out of a belief in the importance of a well-rounded education. Arts teachers, finally, understandably focus on artistic creativity as the foundation of a good arts and cultural education.

CONCLUSIONS

I started out by focusing on arts education as the outcome of a political process, claiming that to understand the practice of arts education necessitates understanding the underlying politics. This led me to focusing on three aspects of policymaking: policy as a rational process, policy as a field of interests, and policy as the result of shared values. The most significant insight gained when reviewing Dutch arts education as the result of a rational policy process is the difference between the overall goals of the programme, and its practical organisation. The QCE programme, the main example in this paper, clearly relies on the logic of the market in its design, trusting on financial incentives to achieve its goals.

The practice of arts education in the QCE programme, however, closely resembles the polis model proposed by Deborah Stone. All parties involved in the programme serve their own interests, and are pawns in a force field of a discursive struggle between cultural institutions, politics, and celebrities. When looking at the underlying values of arts education, it becomes clear that the QCE programme relies on the assumption of a shared set of values regarding the benefits of collaboration, but that the nature of such collaborations is implicit. The same is true for the value attached to the idea of the professional. The only values that can be ascertained in more detail are related to the content. Here, however, the differences in perspective between the people and institutions involved are great.

In conclusion, it can be said that the intended outcomes of arts education policy as seen in the case of the Quality Cultural Education programme are presented as rational policy goals, to be achieved in a transparent and open process. Behind this rational surface however, there is a field of conflicting interests in which a struggle over limited funds determines the choices that are made. While the official policy goals present a unified vision of arts education, the values underlying the programme favour traditional values like institutional collaboration and professionalism and actually present a far more differentiated picture with regard to the object-related values of the programme. From the point of view of the assessment of impact, it is clear that the first two elements, product delivery and financial accountability, are no neutral results of a rational process, but rather the outcome of a struggle over interests. The third assessment criterion, 'customer satisfaction', is fully dependent on the degree in which values are recognised and shared between the fields of politics and arts education practitioners.

Reflecting, finally, on the amended model of analysis, adding the value perspective to the dichotomous view of policy making proposed by Stone, we can see that in fact the rationality of the market model is echoed in the values underlying the programme, probably even adding coherence and stability to a system in which conflicting interests are likely to coincide with differing values on the level of the content of arts and cultural education. In research on the outcomes of arts and cultural education, we must therefore be mindful of the many-layered character of the policy process of which it is the result.

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Arts Education: What is it good for?[149]

TEUNIS IJDENS

BENEFITS OF ARTS EDUCATION: A SURVEY

Arts education experts around the world generally tend to find many different items highly relevant for assessing the impact, benefits or outcomes of arts education. In the MONAES project, a survey conducted in 2016, they were asked to rate the relevance – in their personal opinion – of 50 items for assessing the benefits of arts education, from very low (1) to very high (5).[150] The total average rating over all items was at 4.1 (rather high), many items were rated 4.5 and higher, and none lower than the middle value 3.0 (neither high nor low).

Another observation from the survey data concerns the hierarchy of benefits. The highest rated items, from "critical thinking" on top (4.7) to "dialogue among cultures" (4.4), refer to arts, aesthetic and cultural competences, to cultural participation, to meta-cognitive skills, to appreciation of cultural diversity, and to creativity and innovation in education. The middle range varies from "innovation in education" (4.3) to "mental health" (3.9), and includes items such as "happiness", "social cohesion" and "health and well-being" but also political benefits such as "citizenship", "democratic attitude" and "social justice". Finally, the lower range – with ratings well below the total average runs from "civility" (3.8) down to "physical health" (3.3), "national awareness" (3.3) and "economic growth" (3.2), and also includes several other non-arts benefits such as "achievement in school", "reconstruction in post-conflict situations" and "relief in post-disaster situations", "young people's employability" and reducing "school absenteeism" and "school drop-out rates". Factor analysis revealed five distinct but not mutually exclusive types of benefits: 1. arts and aesthetics benefits; 2. cultural diversity and intercultural benefits; 3. benefits for creativity and innovation; 4. political benefits, including democratic attitude, citizenship, political awareness, and social justice; 5. various other non-arts benefits. Respondents valued the first three types of benefits equally high (4.4). Items referring to political benefits were also valued rather highly (4.1). Other non-arts benefits were valued least (3.6).

The average ratings are largely determined by the number of experts from European and Anglophone countries who took part in the survey. These countries were represented comparatively well, against Latin American and African countries that were represented rather poorly. This may obscure divergent assessments by experts from poorly represented regions. To avoid biased conclusions about a seemingly global consensus, average ratings need to be compared across regions or countries.

First one may assume that experts' opinions will vary across levels of development of their countries. The Human Development Report of the United Nations Development Programme (UNDP) distinguishes between four levels: very high, high, medium, and low Human Development (HD).[151] Countries in the medium and low HD categories were seriously underrepresented in the survey. Therefore we took these countries together in our descriptive comparisons. Experts from the very high HD countries rated "other non-arts benefits" nearly a half point lower than their colleagues from the high and the medium/low HD countries, but apart from this average ratings and hierarchies of the types were very similar. The level of Human Development as such hardly affects

the opinions of the arts education experts in our sample about the relevance of different types of benefits.

Each category of Human Development consists of countries that are quite different in cultural, linguistic or political respect. Therefore our second assumption was that such differences may affect the experts' opinions about relevant arts education benefits more strongly. We distinguished six cultural, linguistic and political regions: Western Europe (including the United Kingdom), Eastern Europe, predominantly Anglophone non-European countries, non-Anglophone Asian countries, African countries, and Latin American countries. Comparative analysis resulted in moderate but statistically significant differences in the ratings of creativity and innovation benefits, with Latin American and non-Anglophone Asian experts rating these higher than especially European (Western and Eastern) experts. From the available data we cannot infer what respondents from Latin American and non-Anglophone Asian countries mean by creativity and innovation, but one can imagine that these concepts have different meanings in these regions. There were also moderate but statistically significant differences in the ratings of other non-arts benefits, especially between experts from Latin America on the one hand, who rated these fairly high, and from Western Europe on the other, who rated them lower than average. Latin American experts generally seem to have fairly high expectations regarding various social and political benefits of arts education, while especially Western European experts clearly rate the arts and aesthetic benefits higher than various non-arts benefits.[152]

Quite another kind of comparison can be made between the experts' *personal* ratings of potential benefits and their perception of the value placed on the same benefits in public and professional discourse *in their countries.* The ranking of separate items according to their value in the experts' countries was not very different from the ranking of the same items in the experts' personal ratings, but the personal ratings were generally higher than the country ratings. The biggest differences occurred with regard to creativity and innovation in education, and to political benefits such as democracy, global citizenship, and social change. Experts personally valued these considerably higher than they perceived them to be valued in their countries. Experts also rated dialogue among cultures considerably higher in their personal opinion. Remarkably, national awareness is the only potential benefit of arts education that was rated lower by the experts personally than they perceived it to be valued in their countries.[153]

These findings from the MONAES project, taken together, firstly suggest that there is an international community of arts education experts who share many ideas about arts education – what it is, and what it is good for – despite regional and national differences. Second, there is a considerable gap between their personal ratings of many benefits and their perceptions of the value attached to the same benefits in their countries.

IMPACT RESEARCH

Arts education professionals and institutions may feel that claiming further reaching benefits beyond arts and aesthetic skills will help lift the status of their field, and that research should establish the evidence for such benefits.

Research into the impact of arts education can serve several purposes. First, it can provide practitioners and institutions in the field with insights into the effects of arts pedagogies and teaching methods, in order to improve and innovate practice. Second, impact research can be primarily theory-driven, academic inquiry, for instance searching for qualities of learning in the arts compared to learning in other domains, in order to understand what 'arts learning' means.[154]Administrative accountability and arts education advocacy are two other, and quite different drivers of impact or evaluation research. Advocacy is "the act of pleading or arguing in favor of something: a cause, an idea or a policy"[155], in this case pleading for the importance of arts education. By administrative accountability I mean the obligation of organizations that receive public or private funding for arts education activities to give an account of their actions and results to the funding government or to private foundations.

Since I became closely involved with arts education policy and research at the Netherlands Center of Expertise for Cultural Education in 2008, I have adopted a critical position toward advocacy-driven research. In my view, advocacy and administrative accountability are two sides of one and the same coin: the subordination of research to a logic of justification. A lot of impact research, at least in the Anglophone world and in Western Europe, has its origin in the urge to justify arts education as part of the school curriculum or as an out-of-school activity that deserves public and private funding. In the last three decades, impact research has increasingly focused on individual and societal benefits beyond arts and cultural education's unique qualities, assuming that the acquisition of arts and aesthetic skills and knowledge in itself is not enough to convince politicians, private donors and the public of the value of arts education.[156]

I found support in Art for Art's Sake? The OECD review study of research into the impact of arts education.[157] One of its conclusions was that: "Research has not yet demonstrated that arts education is a means of promoting innovation, creativity or success in non-arts, academic subjects" and that "most of the research on this topic has been poorly designed" (p. 7). One important and recurring methodological critique concerns the often lacking distinction between correlations and causal relations between an arts education activity (e.g. music classes) and its supposed impact (e.g. cognitive achievements in other subjects). Apart from basic methodological requirements, conceptual clarity and explicit theory are equally or even more important: What is the nature of the phenomena under study, and through which processes and mechanisms is an impact supposed to be produced.[158]

In my perception, advocacy-driven impact research usually tends to wag the dog by the tail. By this I mean that arts education is mostly the starting point of the research, instead of the non-arts benefits it is supposed to promote. Take for example the problem of early school leaving. In advocacy-driven

research the typical research question will be “Can greater investment in high school arts education be an intervention that works?”[159] In research that is intended to understand and to help prevent early school leaving, the research question will be: “what causes early school leaving, and how can it be prevented?”, and arts education is not mentioned at all in the theoretical framework.[160] To say it bluntly, in advocacy-driven research the real issue is the weak or endangered status of arts education itself, not the non-arts issues it is supposed to address.

REFRAMING THE ARTS EDUCATION BENEFITS DISCOURSE

This could be where the argument ends. However, I started to feel a bit uneasy when I compared my own ratings of the relevance of various benefits with those of the Latin American experts, of the Western European experts, and of the experts from the Netherlands. It appeared that I was even more skeptical than my slightly skeptical Dutch colleagues about the relevance of benefits beyond arts, aesthetic and intercultural benefits, who were the most skeptic among the Western European experts, and that my ratings were much lower than those of the Latin American colleagues for all benefits except the arts and aesthetic benefits.

This urged me to reconsider my position. Did my aversion toward the advocacy-dominated benefits discourse lead me to acclaim the professional autonomy of specialist arts educators, thereby supporting the status of arts education “for its own sake”? In other words: was the professional status of arts education my primary concern as well, just like the arts education advocates I criticized, albeit from a different perspective? The survey findings made me more aware of the importance of context. Although advocacy-driven impact research is a widespread phenomenon, most impact research is actually conducted in Anglophone countries and in Western Europe. I think that this context is characterized by a structural nexus between public and private funding, arts education professionalism, and administrative accountability and advocacy.

Two encounters in particular helped me to reconsider. In March 2018 at a conference of ENO, the European Network of Observatories in the Field of Arts and Cultural Education, in Krakow, Poland, cultural heritage education in Poland was discussed in its current highly antagonistic political context. Especially museums have become the target of the government’s national-conservative ‘memory politics’. Cultural institutions, artists and arts educators are affected by this and have to relate to this, whether they like it or not. Some will prefer to resist interference by the current government and to protect and shield their programmes and work from it. Others will take part in building and strengthening the critical cultural movement in open opposition to the government. And at the conference Aesthetics of Transformation in Nuremberg, in May 2018, a Colombian colleague presented the project “Artistic Identities of FARC ex-combatants”, that aims to contribute to the peace-building process in her country. She visits ex-combatants of the guerilla in the Espacios Territoriales de Capacitación y Reincorporación (ETCR) to explore arts projects

with them and to talk about this, to support them in their desire for a new, peaceful life and to explore other strategies of reincorporation.

Yes, arts and cultural education under these circumstances have bigger fish to fry than specialist professional issues. I sympathize strongly with the engagement of my Polish and Colombian colleagues. These encounters made me think about a broader and deeper approach to arts education that puts it in the frame of the politics of culture and education.[161] This affects the role of arts education practitioners in their professional environment: as arts educators in schools, museums and other settings. It involves them not only as professionals, but as citizens, as political subjects. This applies not only to Poland and Colombia but also to Western Europe. Think for instance of the current political antagonisms concerning ethno-cultural diversity, migration and national identity, and the so-called “crisis of liberal democracy”. Arts education’s relevance for cultural diversity, national identity, and democracy is not a merely professional matter, to be decided by professional criteria. It is a deeply political issue that matters to arts education professionals as responsible citizens who take part in political struggles about contemporary education and society. Reframing the arts education benefits discourse from this perspective means moving away from advocacy-driven impact research and from monitoring and evaluation for administrative accountability towards the primacy of civic and political engagement in education and culture.

SUMMARY AND CONCLUSION

Arts education experts around the world are not very discriminate about the benefits associated with arts education: they find many different benefits highly relevant. They are much less certain about the value that is placed on these benefits in their countries. This gap may urge professional arts education practitioners and institutions to call for research that provides evidence for the value of arts education, assuming that this will raise the status of their field in the eyes of politicians and the general public.

In my view, advocacy-driven research into the impact of arts education tends to serve the interests of the arts education field instead of investigating the social and cultural challenges that arts education is supposed to address. However, I came to realise that this critique may be particularly valid in a Western European and Anglophone context with its well-developed professional and funding infrastructure for arts education, where there are – or were – no deep social and political conflicts that spill over into education and culture. In my aversion to advocacy-driven research, I lost sight of the fact that there are greater challenges for education and culture than purely professional issues – certainly in other regions, but increasingly in Western Europe as well. The value of education, culture, and arts education cannot be measured by professional standards alone. It should be subject to public and political debate as well about big social, economic and cultural challenges, about the kind of society we want, and about strategies to achieve this.

When education and culture become political battlefields, or, quite the opposite, when they become areas of national reconciliation and peace building, arts education is naturally part of the game. The arts education benefits discourse – and impact research – needs to be shifted away from advocacy and administrative accountability, toward real civic and political engagement and transformative practice in education and culture. There is nothing wrong with trying to change and improve education, arts education, and society, even if there is no scientific guarantee for success. Scientific and applied research, including impact research, can help to understand and clarify the issues at stake, and to support transformative practice.

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CHAPTER IV
EPILOGUE

Epilogue

ZOË ZERNITZ, NATIONAL CENTRE OF EXPERTISE FOR CULTURAL EDUCATION AND AMATEUR ARTS [LKCA]
JAN JAAP KNOL,
DIRECTOR OF THE BOEKMAN FOUNDATION

In this publication the much needed attention for digitalization in research is combined with that other big theme for education in our fast changing societies: creativity. The abilities to create and innovate rank high among the 21st century skills, just as ICT and media literacy do. How does digitalization affect the way children learn in the arts? And what is the impact of arts education on the development of creative skills? Several researchers have shined light on these important questions in this book. In this epilogue we try to summarize these studies and reflect on their meaning for arts education practice, policy and research.

DIGITALIZATION AND CREATIVITY

Although the themes of digitalization and creativity seem very different, they are in many ways related. Firstly, digitalization and creativity can be regarded as interdependent processes. Human creative capacity is at the root of the rise and development of digital technologies. Those technologies can and do take over human functions, such as storing, retrieving and sending information, calculating, and even caring for others. However, digital machines are not (yet) fully able to generate new ideas, new products and new knowledge. To some extent they can be creative, but they seem not yet to have outplayed humans on this capacity. Creativity is one of the things which distinguishes us from digital machines. At the same time digital technologies offer many new creative possibilities and foster creative potential.

Secondly, digitalization and creativity are both very urgent topics in debates about education, not only in Germany and the Netherlands, but across Europe. In the framework of European key competences for lifelong learning, for example, digital competence and creativity are referred to as basic skills: “In the knowledge economy, memorisation of facts and procedures is key, but not enough for progress and success. Skills, such as problem solving, critical thinking, ability to cooperate, creativity, computational thinking, self-regulation are more essential than ever before in our quickly changing society.”[162]

Thirdly, related to the second point, digitalization and stimulating creativity both require new didactics and methods. Broadly speaking, until ten or twenty years ago, education used to be mainly about instruction and memorisation of facts and procedures. This was reached through non-digital methods and didactics. With the rise of digital technologies, it was immediately recognized that these opened the doors for new ways of teaching like interactive learning environments that are adjusted to individual learning needs. The same goes for stimulating creativity in children: if you want education to contribute to the development of their creative skills, you need to develop a diversity of teaching strategies that respond to a variety of individual intelligences like musical-rhythmic, visual-spatial, verbal-linguistic and others as distinguished by Howard Gardners in his Theory of Multiple Intelligence.

Given the omnipresence of digitalization for young generations there is still surprisingly few research that addresses the possibilities and impact of digital technologies in arts education. In hindsight the ‘Seoul Agenda: Goals for the

Development of Arts Education' (2010), which was unanimously endorsed by all UNESCO Member States, pays little attention to the revolution in information and communication technologies. Only two of the 39 action items show a clear link to digitalization, including the call to: "employ emerging innovations in communication technology as a source of critical and creative thinking." (p. 8).

DIGITALIZATION AND ARTS EDUCATION

Schmiedl, Godau and colleagues presented a promising overview of the 14 projects all over Germany that are part of the big DiKuBi-programme, financed by the German Federal Ministry of Education and Research that started in 2017 to explore the impact of digitalization on arts education. The programme takes an ambitious scope, including a variety of social, educational and cultural research perspectives. The sneak peeks that they offer in their article of the effects of the use of mobile music technologies, give a foretaste for the research results that we can expect in the coming years, not only for music education but also for the wider range of art disciplines that are part of the programme.

The impact of new music technology on the practice of teaching is also researched by Spieker. How can digital tools be of help for teachers in primary education who feel themselves not capable enough of teaching music to their pupils? Since many teachers can be reticent towards technology as well, Spieker chooses to develop an approach in which overcoming a fear of technology keeps pace with overcoming a fear of teaching music. In both cases an active role of the teacher in the learning process is required.

Van den Dool and Van Baalen change the scene towards the world of art academies. They put forward the results of their study about the use by teachers of a Learning Management System (LMS) in Performing Arts Education. Based on a case-study they make a strong argument for a contingency approach in which the use of technology is customized to the specific characteristics of artistic learning. Technology imparts possibilities for flexible learning and online-feedback but it only works when both pupils and teachers feel confident to engage.

Digitalization is often seen as an unstoppable force of nature, but as Feige argues, it is not. It is a product of culture. He explores in his article the philosophical consequences of digitalization and leaves us with challenging questions about algorithms that encapsulate everything and everyone to predictable outcomes and the world of art for which unforeseen and unpredictable outcomes are fundamental and preconditional. His challenging analysis underlines the need for more research to understand the mutual influence of digitalization and creativity.

IMPACT OF ARTS EDUCATION ON THE DEVELOPMENT OF CREATIVE SKILLS

In the other contributions to this publication the impact of arts education is highlighted. Not surprisingly, the impact of arts education on the development of creative skills is a recurring research object. Pürgstaller and Neuber investigated whether a school based dance project had a positive effect on children's motor creativity development. Berner, Jacobi-Theurer and Rogh conducted research into student's creativity development over the course of the fifth grade and the impact of arts education on this development. What is striking is that both studies point at the same conclusion: arts education does not per se contribute to the development of creative skills. Whether creativity is stimulated or not mainly depends on the quality of the teacher, and the methods and didactics used.

The relation between arts education and creativity hardly has any theoretical foundations. In what way could arts education contribute to creativity? What are the underlying processes? The studies in this publication suggest that the teacher plays a central role, but we do not yet fully understand this role. The arts education field would certainly benefit from more insight into the theoretical foundations and theory based, longitudinal, (quasi-)experimental research into effective teaching strategies and didactics.

LOOKING FORWARD

Dutch research by Ben Kamphuis has shown that teachers do feel that creativity and digital technologies are important in arts education, but they lack didactic skills to bring their ambitions into practice.[163] More research into effective teaching strategies is certainly needed. As IJdens rightly argues, this research should stem from the wish of investigating the broader social and cultural challenges that arts education is supposed to address, and not from the intention to serve the interests of the arts education field itself. On top of that, following Van Meerkerks plea, researchers should be mindful of the values which underlie the expected goals. More theoretical insight into the processes of digitalization and creativity development can help achieve this.

Digitalization and the development of creative skills are urgent and big issues in the arts education field. Valuable, but rather small scale research projects are conducted in Germany, the Netherlands and other countries. Clearly the field would benefit from bigger research programmes like the DiKuBI programme, a stronger collaboration between existing projects and a coordinated exchange of research outcomes. Fortunately, international platforms have emerged which could serve these purposes. Examples are the networks ENO (the European Network of Observatories in the Field of Arts and Cultural Education), the UNITWIN-Network Arts Education Research, and the German Dutch Colloquium.

Almost ten years after the Seoul Agenda was set, it is high time that the theme of digitalization is put much higher on the agenda in arts education practice, research and policy, both nationally and internationally. Not only to further improve the teaching practice, but also to deepen our knowledge and to understand its impact on that truly distinctive human characteristic: the creative mind.

APPENDIX

Endnotes

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Curricula Vitae

Berner, Nicole, Dr, Professor for Art and Design Education at University of Applied Sciences and Arts Northwestern Switzerland, School of Education, Institute for Secondary Education. Kreativität im kunstpädagogischen Diskurs (2018). Schaffen Frei-Räume Kreativität? Zur Offenheit von Aufgabenstellungen im Fach Kunst (with M. Hess and F. Lipowsky, 2018). „Das trau ich meiner Klasse zu!“ – Gestaltungsaufgaben im Fach Kunst und ihr Zusammenhang mit der Einschätzung des Klassenleistungsniveaus durch die Lehrperson (in coop. with C. Theurer and M. Hess, 2016).

Eusterbrock, Linus, Research Assistant at University of Cologne. Studied musicology and philosophy at University of Cologne and University Paris-Sorbonne, worked in the Philharmony of Luxemburg and as a music teacher. Pursuing a dissertation project about aesthetic experiences in mobile music making. Research interests: digital music making, aesthetics, and ethnomusicology.

Feige, Daniel Martin, Dr, Professor for Philosophy and Aesthetics under special consideration of Design at the Stuttgart State Academy of Fine Arts and Design. Philosophie des Jazz (Berlin: Suhrkamp 2014). Computerspiele. Eine Ästhetik (Berlin: Suhrkamp 2015). Design. Eine philosophische Analyse (Berlin: Suhrkamp 2018).

Fiedler, Daniel, Dr, Research Assistant in the Department of Music Education at University of Music Lübeck and in the Department of Psychology at Ludwig-Maximilians-University München. Research focus: various factors of musical development (e.g., musical self-concept, musical sophistication, interest, etc.) as well as on development of tests and questionnaires, and teacher competencies.

Godau, Marc, Dr, Professor for Music Pedagogy and Music Didactics at the University of Applied Sciences Clara Hoffbauer Potsdam and research assistant at the Leuphana University Lüneburg. Research focus: materiality of pedagogical practices, music technology-mediated learning in informal and non-formal contexts, didactics of Popular Music, professionalization of music teachers and pedagogical innovations.

Haenisch, Matthias, Research Associate at »MuBiTec – Music Learning with Mobile Technologies« (University of Cologne, Berlin University of the Arts, University of Erfurt, University of Lübeck; promoted by the Federal Ministry of Education and Science). Main research interests: topics at the interface of anthropology, sociology and epistemology of music, performance and material culture studies, and music technology and digitalization.

Hasselhorn, Johannes, Dr, interim Professor of music education at the University of Music Lübeck. Research focus: competency modeling, competence development, motivational support, assessment behavior, and teacher competencies.

IJdens, Teunis, Dr, Sociologist, independent researcher, and visiting researcher at the Faculty of Arts, Radboud University of Nijmegen. Studying arts education policy and governance: concepts and perspectives (2018). Arts education around the world: comparative research seven years after the Seoul agenda (with B. Bolden & E. Wagner, 2018). Cultural education policy: its justification and organisation (with E. van Meerkerk, 2018).

Jacobi-Theurer, Caroline, Dr, Researcher at the Department of Empirical School and Teaching Research. Research interest: how aesthetic learning as an interdisciplinary principle can be effectively implemented in teacher training. Theurer, C., Freytag, V. & Hein, T. (2018): Haltungen zu ästhetischer Bildung als interdisziplinäres Studienelement im Grundschullehramt, in: Zeitschrift für Empirische Hochschulforschung, 2(2), pp. 120-132. Theurer, C., Berner, N. E. & Lipowsky, F. (2016): Assessing creativity development during elementary school: On the applicability of the TCT-DP in repeated measures, in: Thinking Skills and Creativity, 20, pp. 74–82. Theurer, C. (2014): Kreativitätsförderndes Klassenklima als Determinante der Kreativitätsentwicklung von Grundschulkindern. Dissertation: Universität Kassel: https://kobra.bibliothek.uni- kassel.de/handle/urn:nbn:de:hebis:34-2015022647540.

Jörissen, Benjamin, Dr, Professor, member of the European Academy of Sciences and Arts, member of the UNESCO UNITWIN Network Arts Education Research for Cultural Diversity and Sustainable Development, member of the Council for Arts and Cultural Education (Rat für Kulturelle Bildung), of the Advisory Board of the Grimme Research Council, spokesman of the Interdisciplinary Center for Aesthetic Education at the University Erlangen-Nuremberg, chairman of the Bavarian Conference of University Pedagogues and member of the German Educational Research Association (GERA/DGfE).

Knigge, Jens, Dr, Professor of Music Education at the Nord University, Faculty of Education and Arts, Campus Levanger (Norway). Co-editor of the “bulletin of empirical music education research” (b:em) and chairman of the German Association for Research in Music Education (AMPF). Main research interests: musical learning and especially the development of musical competency.

Knol, Jan Jaap MA, Director Boekman Foundation Amsterdam. On the Mapping of Cultural Education in Europe and More. A Plea for Politcial Urgency (International Yearbook for Research in Arts Education (2014). Kulturförderung zwischen Staat, Markt und Gesellschaft (Jahrbuch für Kulturpolitik, Kulturpolitische Gesellschaft 2014). Cultural Awareness and Expression Handbook (co-chair with B. Demeulenaere, OMC-working group European Commission 2016).

Konietzko, Sebastian, MA, Project Manager and Research Officer at the Council for Arts Education (Rat für Kulturelle Bildung e. V.), Essen. Von Mythen zu Erkenntnissen? Empirische Forschung in der Kulturellen Bildung (with Sarah Kuschel, Vanessa-Isabelle Reinwand-Weiss, 2017).

Krebs, Matthias, Research Assistant at the Berlin University of the Arts, head of the Research Center for Mobile Music Making & App Music (RCAM). Dealing with the systematic investigation of forms of musical practice with digital music technologies since 2019. Research interests: mobile music making, tangible learning of a musical instrument, professionalization of music teachers, early childhood education, and community-based innovations.

Liebau, Eckart, Dr, Emeritus Professor for Educational Science, UNESCO Chair in Arts and Culture in Education, Friedrich-Alexander-University Erlangen-Nürnberg, Chairman Council for Arts Education (Rat für Kulturelle Bildung). Theatrale Bildung. Theaterpädagogische Grundlagen und kulturpädagogische Perspektiven für die Schule (with L. Klepacki & J. Zirfas, 2009). International Yearbook for Research in Arts Education (with E. Wagner & M. Wyman, 2013). Forschung zur Kulturellen Bildung. Grundlagenreflexionen und empirische Befunde (with B. Jörissen & L. Klepacki, 2014).

Möller, Elke, Research Assistant in the BMBF research project "Digitalization in Arts and Cultural Education" (DiKuBi-Meta) at the Friedrich-Alexander-University Erlangen-Nuremberg. Master degree in media studies and political science, was a fellow in the DFG Research Training Group 1718 "Presence and Implicit Knowledge." Currently, dissertation project with a focus on traumatic memories in essayistic films. Research interests include digitalization, media and memory, documentary and essayistic film practices, and media education.

Nagel, Melanie, Research Assistant at the University of Cologne. Additionally works in the field of music education and was Research Assistant at the University of Regensburg. Studied musicology at the University of Regensburg and University of Bristol (UK) and Music Mediation and Educational Science at the University of Cologne. Research interests: mobile music making, musical learning.

Neuber, Nils, Dr, Professor for Physical Education and Teaching Research, Director of the Institute of Sport and Exercise Sciences, University of Münster. Darstellen, Vorführen, Aufführen – vom Bewegungsspiel zum Bewegungstheater (2010). Facetten Kultureller Bildung im Medium „Tanz und Bewegungstheater"– Eine empirische Studie (in coop. with C. Steinberg, S. Konowalczyk, E. Pürgstaller, Y. Harth & M. Stern, 2018). Spiel, Musik, Tanz, Bewegungstheater – Kulturelle Bildungsangebote im Grundschulsport (in coop. with E. Pürgstaller, in print).

Pürgstaller, Esther, Dr, Research Assistant at the Institute of Sport and Exercise Sciences, University of Münster. Kulturelle Bildung im Tanz. Grundlagen und Befunde zur Wirkung eines Kreativen Tanzangebots auf die Kreativitätsentwicklung von Grundschulkindern (2019). Entwicklung und Förderung Motorischer Kreativität im Bewegungstheater und Kreativem Kindertanz (2019). Kulturelle Bildung in bildungsbenachteiligten Milieus. Eine empirische Untersuchung zur Wirkung von Tanz- und Bewegungstheaterangeboten in der Ganztagsgrundschule (in coop. S. Konowalczyk, C. Steinberg, Y. Hardt, N. Neuber & M. Stern, 2018).

Rittelmeyer, Christian, Dr, Professor, until 2003 Professor of Educational Science at the Department of Education Science, Georg-August-Universität Göttingen, former member of the Council for Arts Education (Rat für Kulturelle Bildung). Über die ästhetische Erziehung des Menschen. Eine Einführung in Friedrich Schillers pädagogische Anthropologie (2005). Warum und wozu ästhetische Bildung? (2017, 3rd Ed.). Bildende Wirkungen ästhetischer Erfahrungen (2016). Digitale Bildung. Ein Widerspruch (2018).

Rogh, Wida, Research Associate at the Department for Research on Learning, Instruction, and Didactics at the University of Zurich (Switzerland). Kreativer durch Kulturelle Bildung? Ein Beitrag zu Wirkungszusammenhängen von Kreativität und Kultureller Bildung (in coop. with Nicole Berner, Caroline Theurer, and Frank Lipowsky, 2017), Kulturinteresse und Kulturpartizipation von Fünftklässlern (in coop. with Nicole Berner, Caroline Theurer, and Frank Lipowsky, 2016).

Rolle, Christian, Dr, Professor of music education at Cologne University. Member of the international advisory board of the journal Music Education Research. Main research interests: aesthetics, philosophy of education and comparative perspectives on music education.

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Schrandt, Bernadette, MA, Researcher at Amsterdam University of Applied Sciences, Amsterdam. The Fashion Retailscape: Innovations in Shopping (with H. Van Vliet & A. Moes, 2016). Reizen in de Tijd: evaluatie van een cultureel computerspel in het basisonderwijs (with H. Van Vliet, 2017). De Tentoonstellingsmaker van de 21ste Eeuw: Ontwerpen voor Beleving (with H. Van Vliet, 2019).

Spieker, Benno, MA, Doctoral Student at University of Twente, Enschede, and at Ghent University, Ghent. Main subject teacher at Music in Education Department, ArtEZ University of the Arts, Enschede. In the Zone. An interactive educational technology based on symmetrical entrainment (2017): Horen, zien (doen) en weten: Hoe visuele informatie bijdraagt aan het zo nauwkeurig mogelijk drummend entrained by synchronisatie-opdrachten met de sociale muziekgame In the Zone en vice versa (2015).

Stenzel, Maurice, Research Assistant at University of Erfurt. Master degree in musicology at Humboldt University Berlin. Currently, dissertation project about collaborative music making on the internet at Leuphana University Lüneburg. Main research interests: the study of music making with digital technologies, popular music and empirical research in online and offline sites.

Unterberg, Lisa, Dr, Researcher at the Chair of Pedagogy with a Focus on Culture and Aesthetic Education at the Friedrich-Alexander-University Erlangen-Nuremberg. Recently, works in the meta-research project "„Digitalization in Arts and Cultural Education" (DiKuBi-Meta).

Van Baalen, Wander, PhD candidate at Codarts University for the Arts and lecturer in the Humanities department at Erasmus University College. Master`s degree in Media, Culture & Society. Current research: exploring ways in which we can conceptualize and assess the quality of transdisciplinary education involving the arts. This research findings feed into larger RASL projects such as teacher development programs and RASL Compositions.

Van den Dool, Jaco, Dr, principal of a primary school in the Netherlands. Until the beginning of 2019 he held a professorship on 'Blended Learning' at Codarts University of the Arts and he was a lecturer at the department of Arts and Culture Studies, Erasmus University Rotterdam, the Netherlands. Currently, director of School of Performing Arts Kathmandu, founded in 2011. After the destructive earthquake in 2015 this institute mainly focuses on providing music therapy for homeless children and performing arts classes for those who do not have access to education.

Van Meerkerk, Edwin, Dr, Associate Professor in Arts Education and Cultural Policy and Director of Education at the department of Modern Languages and Cultures, Faculty of Arts, Radboud University Nijmegen. Cultural policy in the polder. 25 years Dutch Cultural Policy Act (with Q. van den Hoogen, 2018). Teacher journals and professional development: a tool for assessing transformative learning processes (2017). Lehrerkompetenz im Programm 'Kulturelle Bildung mit Qualitat' (2016).

Weidner, Verena, Dr, Professor for music pedagogy and music didactics and head of the music department at the University of Erfurt, Germany. Methodological focus: empirical discourse research, systems theory, and its application in music pedagogy and musicology.

Zernitz, Zoë MA, Researcher at National Centre of Expertise for Cultural Education and Amateur Arts (LKCA), Utrecht. National Awareness and Cultural Diversity: Conflicting Values in Arts Education? (with T. IJdens, 2019). 'Nemen de verbeeldingskracht en originaliteit van leerlingen af?' (2018). Kunsteducatie: 'stepping stone' of struikelblok voor leerlingen met autisme? (2016).

Institutions

RAT FÜR KULTURELLE BILDUNG E.V.

The Council for Arts Education [Rat für Kulturelle Bildung e.V.] with its head office in Essen (Germany) has been established by an association of seven foundations: Bertelsmann Stiftung, Deutsche Bank Stiftung, Karl Schlecht Stiftung, PwC Stiftung, Robert Bosch Stiftung, Stiftung Mercator, Stiftung Nantesbuch. These foundations share an esteem for aesthetic experience as well as artistic forms of work and expression as an essential part of education. The union, as an alliance for arts education, enables the foundations to give important impulses for the further development and implementation of this part of education in our society. At present, the association realises its non-profit aims on two levels:

Discourse Policy

Through their publications and analyses, the thirteen members of the independent Council for Arts Education [Rat für Kulturelle Bildung] act in building theory on arts education, and give scientifically justified and qualified impulses for the development and promotion of arts education into the fields of politics, practice and research as well as into the association of the foundations.

Research

The project Research Fund for Arts Education [Forschungsfonds Kulturelle Bildung] is funded by the Stiftung Mercator and additionally since 2017 by the Karl Schlecht Stiftung. The fund aims at the wording of scientifically supported reasons for the recognition of arts education as an equal part of general education. For the next three years the research focus will be on the quality of educational opportunities in the field of arts education.

www.rat-kulturelle-bildung.de

BUNDESMINISTERIUM FÜR BILDUNG UND FORSCHUNG (BMBF)

Education and research are the foundations for our future. The promotion of education, science, and research by the Federal Ministry of Education and Research [Bundesministerium für Bildung und Forschung, BMBF] represents an important contribution to securing our country's prosperity.

We promote education and research for they are the foundations on which we will build our future in a changing world. Education provides the basis for leading an autonomous, responsible and participatory life within industry and society. Education provides our children with the tools they need to meet the challenges of a changing and increasingly globalized world. Research helps us to discover the new and improve on the known. Thanks to excellent research we are finding solutions to global problems and devising strategies for sustainable growth. Research creates previously unknown opportunities in all domains of life, and it keeps our products and services innovative and competitive.

Our responsibility in the area of education addresses every stage of human life, beginning with early childhood learning through to continuing education and lifelong learning. Whereas school and university education are mainly in the remit of Germany's federal states, the Federal Government also plays a significant role: for example by means of the Higher Education Pact, through award of scholarships, or through the Alliance for Education. We share responsibility with Germany's federal states in the fields of non-school vocational training, training assistance and continuing education. One of our priority concerns is the establishment of social equality in education to ensure that a person's background no longer determines his or her chances to get an education and that no talent is wasted. International exchange in education and science is also one of our responsibilities.

Research excellence is a must in a country whose prosperity is built on the innovative strength of its industry. The aim of the High-Tech Strategy is to make Germany a leader in providing scientific and technical solutions to the challenges in the fields of climate/energy, health/nutrition, mobility, security, and communication. Innovative technologies and services create new jobs, and thus every generation will have its chance to develop its potential. The Excellence Initiative and the Pact for Research and Innovation are injecting new life into the research community and promote young research talent.

www.bmbf.de

LANDELIJK KENNISINSTITUUT CULTUUREDUCATIE EN AMATEURKUNST (LKCA)

LKCA is the Netherlands National Centre of Expertise for Cultural Education and Amateur Arts. It is a state-funded organisation, employing 66 people. It has three broad tasks: to collect and disseminate information about issues and developments in the field of arts and cultural education (at school and out-of-school) and amateur arts; to support the professionalisation of everyone who is working in these fields; to stimulate, initiate, and conduct research for policy and for practice in these fields.

Information and Professionalisation

Everyone working in or involved with arts and cultural education and amateur arts can benefit from the expertise and opportunities for knowledge exchange that LKCA offers. They include arts teachers, culture coordinators in schools, education officers within cultural institutions, policy officers, politicians, researchers, school managers, and administrators in the education sector and in umbrella organisations for the amateur arts. Volunteers working in areas such as the amateur arts can also consult LKCA for information.

LKCA regularly organises conferences and network meetings on specific topics and brings professionals, policy makers, and administrators into contact with each other. These meetings are publicised through a number of channels. The LKCA website provides independent information on cultural education and participation in the broadest sense of the term. This includes the latest news from the sector and reliable information on a wide range of issues relating to cultural education and participation. The website has various platforms for sharing knowledge amongst visitors.

Stimulating, Initiating, and Conducting Research

LKCA stimulates and initiates research into issues and developments in arts and cultural education and amateur arts. It publishes the research journal Cultuur+Educatie on various topics in formal and non-formal arts education and on informal learning in arts and culture. LKCA also conducts research for policy and practice itself, for instance about participation in non-formal arts education and amateur arts. It carried out the international research project Monitoring Arts Education Systems (MONAES) in close collaboration with the UNESCO Chair for Arts and Culture in Education at the Friedrich-Alexander University Erlangen-Nürnberg. LKCA is a founding member of the European Network of Observatories in the Field of Arts and Cultural Education (ENO), linked to UNESCO that has its registered office in Utrecht.

www.lkca.nl

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