Research paper

Reset, Hack and Own

Media Focus in Art and Design Education

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Introduction

Over the past fifteen years, the professional context of arts and design, in terms of production, distribution and consumption, has largely changed as a result of technological developments. However, art and design education programmes in the Netherlands have mostly failed to constructively integrate digital media technologies in their curriculum and organisational structures. 'I would rather design a poster than a website', could very well be a response from a typical student of an art academy in the Netherlands, based on recent empirical and exploratory research conducted by Aldje van Meer (2012) on the attitudes and perceptions of art and design students in the Netherlands toward digital media. Van Meer concludes that students primarily make use of 'conventional' media such as drawings, books, fabrics or posters, and possess limited knowledge of hardware and software. Although students acknowledge the expanding opportunities of digital media for their work, they mostly agree with the statement that they would rather design a poster than a website. This situation, briefly outlined above, calls for a renewed perspective on the concept of media focus in art and design education. Since we are working within the context of *Creating 010*, a research centre affiliated with the Willem de Kooning Academy (WdKA), most of the examples of work by students will be drawn from this particular art school. The main question of this paper will be: *what does media focus mean in the context of art and design education, for students as well as educators?*

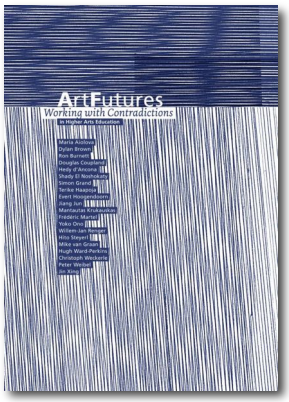
In answering this main question, the research paper is divided into three chapters. Chapter I will include a brief definition of current developments within the education, art and design professions, as well as in labour markets, which determine the urgency for developing a media focus in art and design education. Since the question of how to structurally integrate digital media within the context of art education has been brought up by others before us, chapter II will describe and analyse the perceptions and interpretations of 'new' technology within the field of art and design education in the Netherlands. Which lessons can be drawn from the rise of networked technologies and from their reception by the art and design education community in the early 2000s? Chapter III will focus on current attitudes toward digital media, by taking a closer look at the popularity of craft and analog media among art

and design students in higher education programmes. Having gained a more comprehensive understanding of current developments in the field of education and technology, as well as the perceptions and attitudes of students and teachers toward digital media, chapter 4 will focus on the question of how to critically engage students and teachers with digital media. In this context I will introduce ‘reset’, ‘hack’ and ‘own’ as three attitudes for developing media focus in the context of higher education in art and design – attitudes which will be helpful for further development as well as curriculum design.

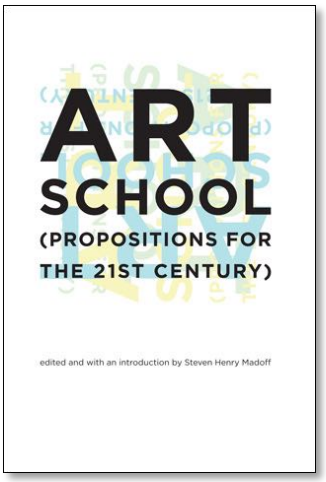
Chapter 1: Why is media focus important?

Before further examining what media focus might entail for art and design education, I will first sketch a – rather condensed – overview of educational, technological and economical developments which come into play when exploring the topic of media focus in the context of Dutch art and design education.

In his book *De kracht van de verbeelding* (2014) (The Power of Imagination), Paul Rutten, research professor (lector) of Creative Business at the Rotterdam University's research centre *Creating 010*, described recent developments affecting the creative industries in the Netherlands. Rutten wrote of the almost symbiotic relationship between ICT and the creative industry: the Internet and digital technologies are currently the main driving force behind a profound rearrangement of the media industry as well as the emergence of new industry sectors, such as e-publishing and gaming (2014: 20). The importance of this shift also transcends the national level: in Europe, the European League of Institutes of the Arts (ELIA), which brings together more than 300 organisations for higher professional education in the arts, published in 2014 *ArtFutures Working with Contradictions in Higher Arts Education* (Corcoran et al. 2014), which addressed the most urgent issues in the field of art and design education. In this publication, digitisation is defined as such: 'New ways of creating, producing, disseminating and exploring art and culture imply quality issues, as exemplified by open source and social media or the emergence of digital communities and self-organised knowledge communities' (2014: 1010). Consequently, during the next decade the context of the careers of art and design students will be profoundly shaped by digitisation. The radical transformation, during the past decade, of communication structures in the world of art and design has also been noticed, for example by the Dutch *Council for Culture* (Raad voor Cultuur), which stated that the working methods, dynamics and context of the cultural sector have radically changed, due to



technological developments which have influenced its content, platforms, production, distribution and business models (Raad voor Cultuur, 2011: 53).



In the book *Art School: (Propositions for the 21st Century)* Steven Henry Madoff presents an overview of current debates and topics in art education as an 'ongoing consideration of the institutional and informal transmission of art knowledge' (2009: xi). Alongside debates on pedagogies, disciplines and conceptualism, Ernesto Pujol sets out the new conditions of art and design education in the twenty-first century, where all 'American middle-class students now enter art school with eight evolving tools including: (1) cable, satellite, and Web-accessible televisions; (2) laptop computers; (3) cell phones, and particularly smart phones; (4) DVDs and game players, portable and stationary; (5) MP3 de- vices and iPods; (6) credit cards and ATM cards; (7) digital cameras, integrated and standalones; and (8) scanners. All generate instant information, communication, and currency to goods, and several include image capture. A pivotal historical perceptual change is taking place among us, making the abyss between past and present modes of perception greater than ever before in terms of attention, translation, forms, aesthetics, and production. The future of art education will be based on the notion of universal immediate access' (2009: 3).

Students with access to these new digital tools also have new options for choosing an education programme which offers a wide range of studies related to digital media. In the Netherlands, a current rearrangement of the Dutch system of universities of applied science[1] has led to a re-ordering of programmes, including communication and multimedia design, into a new domain called 'creative technologies'. This domain has developed a shared set of competences as well as a specific degree (Bachelor of Creative Technologies), and aims to foster closer connections with branch and sector organisations in the creative industry.

[1] In the Netherlands, art academies are part of higher professional education (hoger beroepsonderwijs or HBO).

Connecting creativity, design and technology is no longer the exclusive domain of higher education in the arts. To conclude: the context for this research is an increased digitisation of the arts and design profession as well as the labour market, alongside developments in the field of higher education in the Netherlands. Of course, at the time of writing in 2014, this situation has not emerged overnight. In order to engage media focus in art and design education, it is therefore important to further understand how media focus has become an important topic in the context of art and design education in the Netherlands.

Chapter II: The computer as trick machine

Introduction

The goal of the following chapter is to position the issue of media focus within a broader historical perspective. To do so, I will make use of a report issued in 2003 by *Overleg Beeldende Kunst*, titled *Studenten, medewerkers, docenten en stafleden van Nederlandse kunstacademies over ICT in het kunstonderwijs: een inventariserend verslag* (*Students, employees, teachers and staff of Dutch art academies on ICT in art education: an inventory report)* (OBK 2004). This report was the result of topic discussions and a conference on the subject of ICT in art education, bringing together 124 individuals from 14 art academies in the Netherlands including teachers, ICT managers, workshop instructors and students (130). This relatively large and diverse group of participants, as well as the extensiveness of the reporting, provides us with a historical perspective on the question of media focus, which in turn will help us to understand current challenges regarding digital media in the context of art and design education. What are the perceptions and attitudes toward digital media and the Internet in relation to the practice of art and design? Which topics turned out to be discussed heavily, and which topics generated less debate? What were the different discourses on the subject of digital media in art and design education presented in the report? I will conclude this chapter by examining which metaphors of technology were used during these sessions, and how this use of metaphors points to underlying expectations and assumptions about digital media for the profession and education of art and design.

OBK report

The OBK report featured a total of five topic discussions on the following themes: human, school, learning, profession and the future. The report had several goals: to contribute to an increased focus on ICT-related competences in art and design education; to promote insight into educational developments and organisational aspects related to ICT; to strengthen an ICT knowledge network within the sector and initiate an agenda for the sector; and to prioritise follow-up projects (OBK 2003: 130). The report consisted of written reports of topic discussions as well as contributions by guest authors. In this chapter I will analyse the topic discussions in particular.[2]

Programming skills and trick machines

The issue of using computers in the design process is framed first of all as a dilemma: given the limited amount of time in a four-year study, should the curriculum focus on acquiring technical skills (working with software, programming skills), or would it be better to concentrate on concept development and design? (OBK 2003: 32) The participants agreed that a more content-focused and conceptual perspective would strengthen the students' connection with the professional field (25), and that a conceptual perspective is a distinctive feature of art and design education (p 17). The discussion on the necessity for students to acquire programming skills was further elaborated by Petr van Blokland, who stated that for designers, designing your own tools is part of the design process itself (59). Furthermore, the issue of using computers within the design process was framed within the question as to whether or not computers are actually beneficial the quality of the work. According to the report, the initial phase of ICT use in fact often leads to impoverishment. New users of tools make heavy use of the 'virtual colouring box'. The writer mentioned the growing presence of clichés apparent in designs made with new tools such as computers (30). More implicitly, the report describes on several occasions certain approved and disapproved uses of computers as instruments. The consensus is that technology should be used wisely rather than

[2] Since the report was written in Dutch, I will mainly be paraphrasing its contents.

superficially: see for example the remark that PowerPoint should be on a list of forbidden applications (p. 25), the observation that students should not be encouraged to use ‘simple computer gimmicks’, or the comment that students often lack a clear understanding of the computer, merely using it as a ‘kunstjesmachine’ (trick machine) (44). Teachers also mentioned a sense of feeling obliged to go along with the current tide (33). I will expand on this notion of ‘trick machine’ at the end of this chapter.

Besides the use of computers within the design profession, the report also focused on the implications of digital media for teaching and learning processes. This *teaching and learning discourse* included a discussion on the changing roles of teachers, since one consequence of the advent of digital media is that students often seem to have more knowledge of computer-related topics than their teachers. Teaching therefore should be focused on coaching and supervision rather than transferring knowledge (30). This didactical change is also described as a shift from teacher-oriented education to project-oriented education (41). On the level of implementing and teaching new software skills, participants also described the perceived lack of skills and knowledge of older teachers as ‘digital illiteracy’ (48) and having ‘missed the connection’ (30).

Besides changes in teaching and learning, the report also addressed an *educational strategic discourse* on the question of which directions art academies should be taking in order to remain connected to the professional field. During one of the discussions, it was mentioned that in the traditional art school structure, graduating students were not expected to be fully qualified for the practice of their profession. On-the-job training as an assistant was the next step after graduation, hence the focus on conceptual thinking during the four years of study (46). Also during the topic discussion, the further division of professional fields was mentioned, and participants debated whether digital media technologies led to an increased demand for generalists or specialists (51), and to which extent these technologies might encourage interdisciplinarity (20). The participants pointed to the rise of interaction design programs within art and design education (52) as well as the increased popularity of Communication and Multimedia Design programs (CMD), though it is doubtful whether such

programs will be aimed at specialists or generalists, and it was noted that their impact is hard to predict (31).

In 2002 and 2003, when the theme discussions were held, one of the pivotal discussions was about whether the integration of digital media within art and design education was centred around the *facilities and investments discourse*, as well as the question as to which facilities art academies should and could offer their students: for instance, high-end computers, software bundles, internet and intranet infrastructure. Another recurring concern among participants was which investments are really necessary and effective, given the never-ending succession of software updates and rapidly increasing computer capacities on one hand, and limited budgets on the other hand (24, 52). In one of the topic discussions, the question arose as to whether every student should be required to own a laptop and what the costs might be (39). At the time of the discussion, the laptop was still a relatively new tool and the question was raised whether a laptop could be used for design, something some participants did not believe (24). Another topic discussed by the participants was whether individual academies should invest in developing their own courses and offer them online, or whether this should instead be the subject of a joint effort in order to reduce the costs involved (50).

To summarise: from the perspective of 2014, what can we learn from these discussions for the development of media focus in art and design education today? Some notions appear to be more time-bound, such as the idea of computers speeding up the design process. Due to increased ownership of laptops or tablets, the discourse on facilities and investment has also become less prominent. New learning platforms such as MOOCS (Massive Open Online Courses), and a less extensive focus on intranet, ELOs or other educational aid systems indicate a merging of the aforementioned *teaching and learning discourse* and *educational strategic discourse*. One aspect which was less prominent in the report, but now seems increasingly crucial, is that of the perceptions, assumptions and attitudes of students and teachers toward digital media. How do teachers and students make sense of the opportunities of digital media for their own working process as artists or designers? And what determines their perceptions, attitudes and assumptions towards digital media? These

questions will be addressed on a broader societal level in the next chapter. Using the OBK report, I will briefly explain how technological frames and metaphors play an important role in structuring perceptions, attitudes and assumptions toward digital media on an organisational level.

Technological frames and metaphors

When it comes to framing the impact of ICT on art and design education, one dominant perception is particularly noteworthy, that of the computer as a tool/machine.[3] The tool-machine metaphor should be understood in the context of 2003, just after the Dotcom-bubble of ca. 2000: one can distil from the OBK report a clear tendency to think and act 'beyond the hype' (64, 126). Metaphors are important in understanding media focus in the context of art and design education. As Marianne van den Boomen stated in *Transcoding the Digital: How Metaphors Matter in New Media*: 'Metaphors are neither good nor bad, but least of all are they neutral. All metaphors reify, unify, and homogenize, and at the same time they connect, multiply, and differentiate. All metaphors ontologize and liquefy' (Van den Boomen 2014). Metaphors thus frame perceptions, which in turn determine how the impact of ICT is framed within the context of art and design education. In their article *Technological Frames: making sense of information technology in Organizations* (1994) Wanda J. Orlikowski and Debra C. Gash argued that a frame of reference is pivotal for implementation in organisations (175). Expectations and assumptions frame our interaction with technologies. The authors used the term *technological frame* 'to identity that subset of members' organisational frames that concern the assumptions, expectations, and knowledge they use to understand technology in organizations' (1994: 178). The metaphor of the computer as a tool thus plays a role in defining the broader assumptions, expectations and knowledge about technology within art and design education organisations. Based on the OBK report, it could be argued that the 'tool' metaphor defines the perception of digital media in two ways. First, the computer as a tool within the 'traditional' working process, and second, the computer as a device which tempts students to rely on preconfigured settings

[3] For example, on page 45 as 'machine', or at page 46 as 'kopieermachine' (photocopier), and variations on the 'trick machine' on page 43, 45 and 46.

and options, rather than their own conceptual abilities. Furthermore, this metaphor conceals the impact of the networked capabilities of computers (Internet), thus hindering a broader discourse on the cultural impact of computers, as well as the role of the Internet, search engines, and other information systems as possible disrupting technologies for the distribution and consumption (communication) of content. In 2003, the question of the new roles of users in the creation and distribution of content through social networks and mobile technologies was a much less prominent topic of discussion in the context of art education. Furthermore, neither art education programmes nor the role of media education were mentioned in the report. And so metaphors, as part of broader technological frames, shape and select the challenges and opportunities of digital media within art and design education organisations, thereby implicitly or explicitly defining and describing useful and urgent measures to be taken, or challenges to be faced.

Chapter III: From device to thing: the relationship of students with digital technologies

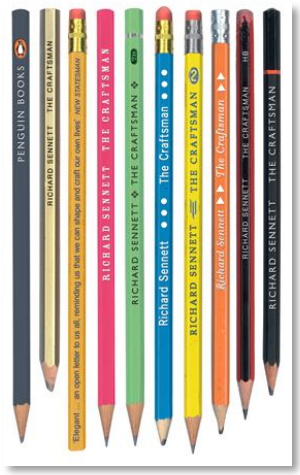
Attractive analog media

As outlined in the introduction to this paper, recent empirical and exploratory research by Van Meer (2012) helps us to identify a number of trends regarding the knowledge, skills, use, perceptions and attitudes of students in higher professional art and design education in the Netherlands. When asked which kind of media they had used for their latest work or production, students primarily (more than 50 percent) mentioned analog techniques and publication forms such as fabrics, drawings, books or posters (10). Students reported having skills in using Microsoft Word and various Adobe software for design, while being less skilled in working with 3D modelling, or interactive and web development software (15). According to Van Meer's study, students use online digital media mostly for visiting news sites, web searching, and social media (7). This reported media usage of arts and design students is similar to that of the broad population of Internet users in the Netherlands: almost 90 percent of people between 18–25 years of age in the Netherlands use the Internet for social networking (Korvorst et al. 2014). Although more research is required, the above findings suggest that students in higher professional art and design education perceive digital media primarily as a means of communication and social networking. Digital media are considered less suitable for creative work than analog media.[4] Therefore my goal in the following chapter will be to understand how students develop their relationships with digital technologies. First, I will take a further look at the popularity of craft and analog media. Then I will examine the perception of digital media as a 'black box'.

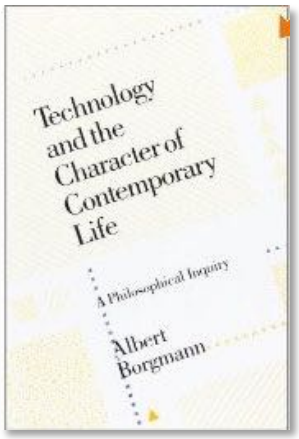
[4] Not all students are so deeply interested in so-called analog media. For example, each year students from higher professional art and design education are selected for the 'HOT100', a selection of the most promising designers in the field of digital media in the Netherlands

From device to thing

Since 2010, mobile apps such as Instagram or Hipstamic which emulate analog aesthetics (vintage cameras, cassette tapes, etc) have become increasingly popular (Caoduro 2014, Jurgenson 2012). This attraction (or flirtation) toward analog media is part of a broader



trend which I would call 'craft as lifestyle' (Nordeman 2014) – a consumer pattern which favours 'handmade', 'original' or 'authentic' products, services or cultural artefacts over more or less processed, prefabricated or packaged ones. This notion of craft has resonated particularly within the Dutch cultural sector, heavily influenced by Richard Sennett's seminal work *The Craftsman* (Sennett 2008). However, in the Netherlands the discourse of craft is mainly understood as a reappropriation of analog techniques and work methods (Nordeman 2014). As we saw in the previous paragraph, students in art and design education show a particular interest in analog techniques and work methods. I would argue that this appreciation of crafted products and related work methods can be understood as way of positioning oneself in relation to digital technologies. The work of the philosopher Albert Borgmann (1984) is of notable interest here. Following Borgmann, I would argue that any digital technology, such as tablets, websites, mobile apps, can be perceived as a device: a system which conceals its inner workings and does not, as Borgmann says, 'disclose the skill and character of the inventor and producer' (Borgmann 1984: 48). Analog media can serve to foster a different type of engagement, which Borgmann calls a 'thing' relationship (1984: 41). These two types of engagement with technology may help to explain why students in higher professional art and design education are attracted to analog media. Students who wish to acquire skills in silkscreen printing, analog photography or analog filming can readily tap into various traditions of craft with their related social practices (craftsmanship, the workplace, apprenticeship), whereas students interested in designing an app are relegated to the

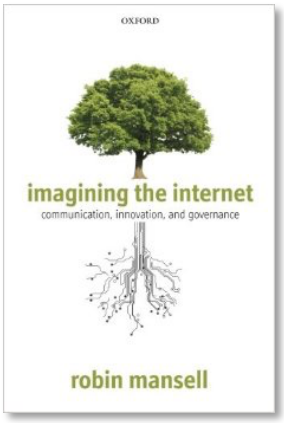


designer's office, programming languages, and app-store regulations, all of which seem more connected to the values of corporate culture. Conversely, students from an engineering or polytechnic university may tend to perceive digital technology as a 'thing' rather than a 'device'. The distinction between the two types of engagement with technology should not be understood as merely an issue of preference, a liking informed mainly by the latest trends. As Jesse Tatum wrote in *Technology and Values: Getting beyond the "Device Paradigm" Impasse* (1994) the distinction between 'thing' and 'device' indicates a much more profound difference: 'If enough is mechanized by means of devices, and the elements of action involved do not accurately reflect a person's values, that person may come to feel both remote or separate from the expression of values in his or her world and powerless to achieve effective expression of his or her values through action' (Tatum 1994). This experience of separation and remoteness could explain why students in art education 'would rather design a poster than a website'. However, if higher professional art and design education programmes instead used craft practices as a starting point for repositioning themselves in relation to education programmes for Communication and Multimedia Design, they may very well end up as flag-bearers for a certain lifestyle, in much the same way as the Dutch supermarket chain 'Marqt' has come to epitomise organic food. Instead, the notion of technology as a 'thing' should function as a starting point in reconsidering the engagement of art and design education with digital technologies: how can students find new relationships and new modes of engagement with technology? In order to answer this question, it is important to note that students enrol in art education programmes with certain (mostly unarticulated) attitudes and assumptions about digital technologies, specifically the Internet which, as mentioned at the beginning of this chapter, is now primarily used by students for communication and social interaction.

Dominant conceptualisations of the Internet

Why do students perceive digital media as less adequate means of expression? What are their perceptions and assumptions with respect to technology? In *Imagining the Internet*, Robin Mansell (2012) examined different conceptualisations and visions of the Internet and 'the way people in the information society make sense of the visions and practices and how

this is influencing the communication system' (2012: 9). To understand this process of 'making sense' of technology, Mansell introduced the concept of 'social imaginaries', based on the work of Charles Taylor who described this concept as '(…) the ways in which people imagine their social existence, how they fit together with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations' (2002: 106). Mansell distinguished a dominant social imaginary and an alternative social imaginary of the information society (2012: 87). The alternative social imaginary stresses aspects such as the importance of sharing as opposed to market exchange, and of creativity and experimentation as opposed to security and surveillance (87). The dominant social imaginary frames the Internet as primarily market-driven and generally perceives technological development as an autonomous process. In this context, people or organisations that are reluctant to embrace technological developments are perceived as lacking sufficient skills or harbouring anti-technology sentiments.[5] This dominant social imaginary is what Mansell calls a 'prevailing vision of the information society' (14). Hence, students who enrol for an education programme in art and design most likely will recognise or possibly adhere to the notion of the Internet as an exogenous, market-driven force. As Florian Cramer wrote in 'What is "Post-digital"?' (Cramer 2014): 'The 1990s / early 2000s assumption that "old" mass media such as newspapers, movies, television and radio are corporate, while "new media" such as websites are DIY, is no longer true now that user-generated content has been co-opted into corporate social media and mobile apps. The Internet as a self-run alternative space – central to many online activist and artist projects, from The Thing onwards – is no longer taken for granted by anyone born after 1990: for younger generations, the Internet is associated mainly with corporate, registration-only services" (Cramer 2014). Besides this aversion toward corporate culture and the commercial outlook of the Internet, the dominant social imaginary of the information society contributes to what Mansell describes as a 'loss of control' which is 'a persistent theme in the history of



[5] For an example of how this prevailing vision is playing out, see the statement by Facebook's CEO that privacy is no longer a 'social norm' (Johnson 2010)

technological innovation' (Mansell 2012: 16). Digital media then appear as a black box, a 'device' as Borgmann (1984) puts it: fenced, closed-off systems or applications which cannot be fully or even partially understood or controlled by individuals, in contrast with the more tangible qualities of analog media, such as film photography, which at least offer the possibility of controlling the creative process and outcome. As stated previously, a withdrawal by higher professional art and design education from further engagement with technologies would not be helpful, as Mansell states: '(…) the conventions built into the behind the screen software (and hardware) are influencing people's tastes and aesthetic values, similar to the conventions in the mass media era' (Mansell 2012: 103).

To summarise: as we have seen in the findings of Van Meer (2012), further supported by recent quantitative research (CBS, 2013), students primarily use the Internet for communication and social networking, and less as a means for creative expression. The attractiveness of analog media and of craft as a lifestyle, combined with the changed perception of the Internet as a black box, should all be taken into account by higher professional art and design education establishments as they rethink the role of digital media within their curricula. The work of both Borgmann (1984) and Mansell (2012) may be useful in this context, in combination with a critical stance towards too narrow conceptualisations of media (as a mere tool or machine, as argued in chapter II), rather than only taking into account the more structural (economical, cultural, social) aspects of digital technologies. How to develop such a critical stance, will be the topic of chapter IV.

Chapter IV: New challenges for art and design education

Introduction

In the previous three chapters I have tried to connect three interrelated themes, in order to understand what media focus entails in the context of art and design education. Chapter I focused on showing how digital media is still an important topic for art and design education, due on one hand to digitisation of the profession of arts and design as well as the labour market, and on the other hand to changing educational structures in the domain of higher education, for example the new domain of Creative Technologies in the Netherlands. In chapter II my goal was twofold: first, to take a closer look at certain themes related to media focus which were discussed more than a decade ago, and secondly to show how the discourse on digital media in the context of art and design education is profoundly shaped by specific perceptions and metaphors. In chapter III, I attempted to explain the popularity of craft and analog media among students in higher professional art and design education, citing the work of Borgmann and Mansell which stressed the importance of critically re-engaging and reconceptualising the relationship of artists, designers and educators with digital media. The main goal of the present chapter is to define a framework for the implementation of media focus in art and design education curricula. I am aware of the delicate balance between the extreme macro level – providing only some general remarks on the curriculum – and the extreme micro level – detailed instructions on what to teach, where and why. I deliberately left out of this research paper a comprehensive list of skills, knowledge or topics that should be taken into account, first of all because this would go beyond the scope of my research, and secondly because doing so would ignore the two most important actors within the curriculum: the students and teachers who will develop their ownership of this topic by defining which skills and knowledge they perceive as important.

Therefore my approach will be somewhat different: based on this research, I will set out a framework, consisting of three attitudes toward digital media technologies, which takes into account an artistic, critical and innovative approach to digital media, and could be used for the development of curricula as well as policy.

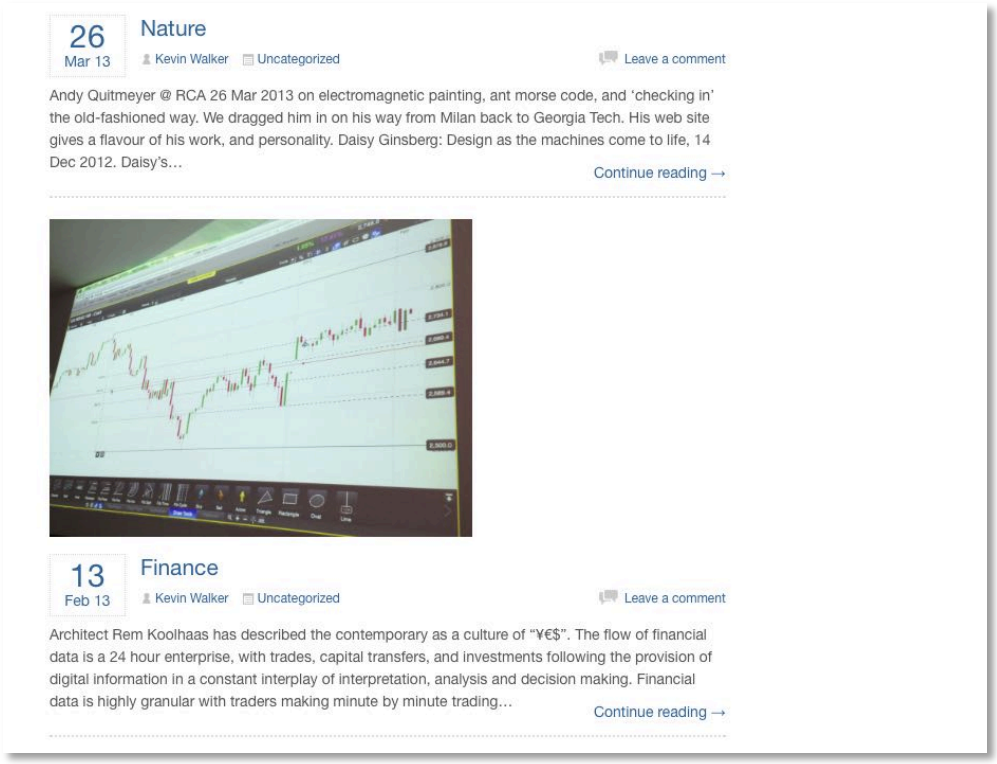
Reset

In order to arrive at a critical and innovative approach toward digital media, current perceptions and attitudes toward the media – as stated above – should be considered as both obstacles and starting points for a renewed engagement with digital media, regardless of age.[6] The dominant social imaginary determines to a great extent how students will position themselves, and thus defines their opportunities as artists, designers and educators, as well as their uses of digital media. In order to achieve a greater media focus, there is a need for a 'reset' of existing attitudes, expectations and values of students in regard to their own understanding, making and use of digital media. The concept of 'reset' may function as a guideline for curriculum (re)design and curriculum content in the fields of making, researching and theory. An important strategy for introducing students to structures and processes of digital media is *defamiliarisation*. In my article *Media as Tool* (Nordeman 2012) I described different strategies which can be used to develop new perspectives on digital media, for instance rescaling or automatisation: '(…) what happens when we change the physical size of a laptop, mobile phone or tablet, making it much larger or smaller? Or what would happen when we humanize automatic processes, for instance the Descriptive camera (…) which does not show pictures, but only the description of the picture written by a number of people using the Mechanical Turk system from Amazon' (Nordeman 2012). Besides this defamiliarisation, another strategy is to confront students with less dominant social imaginaries – for instance hackerspace, free/open software, net art, creative commons, critical making, and critical approaches of digital media from queer and gender studies. Preferably this should be addressed in the first year of study. The aim is twofold: to

[6] The myth of the digital native is no longer useful (assuming it ever was) for educators in the field of art and design, specifically because this concept highlights present skills, mainly focused on mainstream use of digital media such as social networking, and is thus not helpful in indicating new and emerging uses of digital media.

reset current attitudes and perceptions, and to connect with new attitudes and perceptions, thereby opening up new realms of possibilities. I will now give three examples which reflect this focus on ‘reset’ as described above.

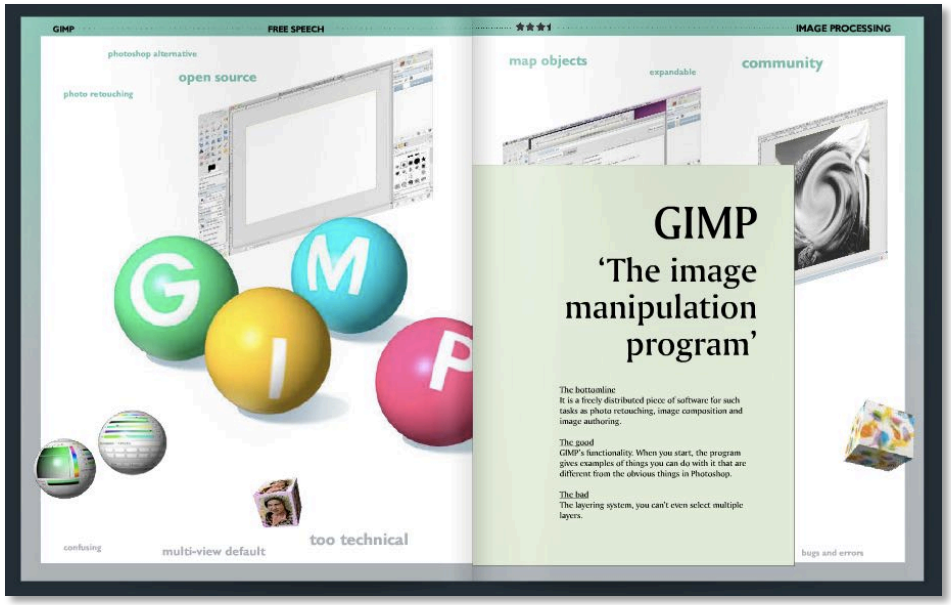
Reset example 1: Decomputation study method



The London Royal College of Art’s education programme ‘Information Experience Design’ offers a variety of interesting assignments and projects which encourage ‘resetting’ current perceptions and attitudes toward digital media. For example, ‘decomputation’, which is rooted in the field of computational thinking and looks for other areas in which to apply this way of thinking, for instance music, finance and language. Students are challenged to understand for instance a museum collection as a dataset: ‘Taking a museum collection, a subset or a single gallery as a dataset, we devise sets of instructions (algorithms) for exploring the data and identifying individual

objects. A sequence of objects is then drawn. Depending on the instructions, personal interpretations of objects can give rise to micro-narratives, or deep investigations of topology can be linked to an object's history or context as visual research or thinking-through-drawing' (Algopop 2014). Through this study method, students are encouraged to engage with algorithms as 'ways of seeing', increasingly shaping interaction and communication. This motivates students to reset current perceptions about programming or rules-based systems.

Example 2: Free Tool Galaxy – a publication by graphic design students



During the Willem de Kooning Academy's Free Culture project in 2013, second-year Graphic Design students conducted research on an alternative to the dominant social imaginaries of the Internet and software: free and open culture, alternative ways of sharing, copying and remixing content, and various issues related to software and licenses. Students investigated the potential and the various meanings of free

culture, and defined a new understanding of what free design tools could mean for their profession. The project resulted in a one-day symposium which included a debate and an exhibition, and students developed Free Tool Galaxy: a review of over 20 different design tools, ranging from image processing to (3D) animation, such as Hotglue, GIMP or Blender.

In this project, students were encouraged to critically reflect on the notion of 'free', and to combine this reflection with a hands-on mentality by reviewing the 'good', 'the bad' and 'the bottom-line' of the software. This encouraged students to rethink their attitudes toward free and open culture as opposed to its commercial counterparts such as Adobe Photoshop or InDesign. This project demonstrated the possibility of introducing students to new notions of culture, copyright and software, thereby resetting old concepts, all in a practical and hands-on way.

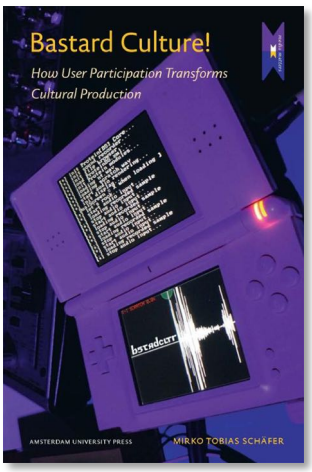
http://issuu.com/luusss/docs/allspreads_issue_pr

Hack

A second important principle for redesigning the curriculum is the ability to meaningfully relate to digital media in the process of appropriation and reappropriation in a practical, hands-on, yet critical manner. Hacking is all about opening up the black box of technology, in order to understand the technical, social, political and economical processes which have been hidden away or made obsolete, and could perhaps be used again in new contexts.

In his book *Bastard Culture!: How User Participation Transforms Cultural Production* (Schaefer 2011), Mirko Tobias Schaefer described various ways for users to interact within a

'participatory culture', through what he called implicit and explicit participation. Schaefer defined the former as being 'channeled by design, by means of easy-to-use interface and the automation of user activity processes' (2011: 51), for instance by uploading user-created content, or rating videos on YouTube. On the other hand, still according to Schaefer, 'Explicit participation mostly refers to the appropriation of technology by users and the development of technical skills' (Schaefer 2011: 52), for instance through 'customizing and changing mass-produced serial products' (Schaefer 2011: 79), such as the Xbox Linux Project, initiated by people from the hacker scene as well as other user communities, and which allowed users to run the Linux operating software on the Microsoft Xbox console. Hacking therefore can be equated to a form of explicit participation: to engage with technology through a hands-on opening up of new opportunities of technology, while developing a critical attitude and approach to digital media. This principle also applies to theory and research focused on understanding existing (mainstream) and alternative social imaginaries which define and have defined existing study programmes – for instance, how desktop publishing has transformed the practice of graphic design, and how digital publishing continues to do so.

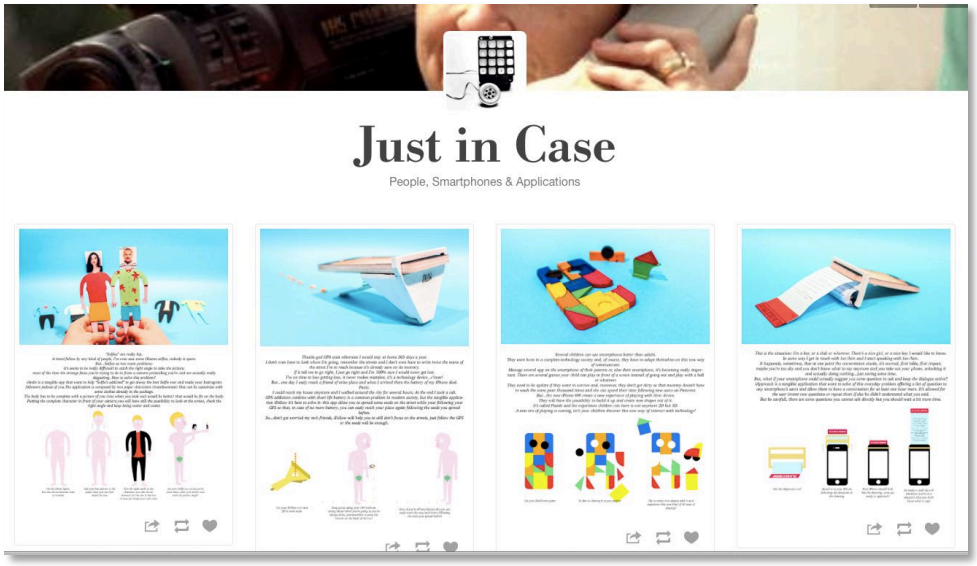


Example 1: Hardware Hacking – WdKA

The ‘Hardware Hacking’ module (first and second-year WdKA students) focuses on learning how to use electronics in new and unexpected ways. Students are asked to bring objects such as toys, gadgets, clothes or devices and to deconstruct, combine, play and learn with these elements in order to re-create new artefacts and objects. During the ‘Hardware Hacking’ module, students were asked to connect an object or image with a sound using a MaKey MaKey, thereby giving it a new meaning. Students who completed the ‘Hardware Hacking’ module became familiar with concepts such as hacking, the physical computer, and wearables.

Example 2: Just in Case Smartphone Tangible Application Kit

Just in Case Smartphone Tangible Application Kit is a graduation project developed by WdKA alumnus Andrea Segato: a toolkit which aims to solve the problems of people who find themselves addicted to their smartphone. One tool allows people to walk on the street while checking their smartphone without involuntarily crashing into other pedestrians. There is also a device called 'iFollow' which automatically spreads seeds on the street so that users can find their way back home even if the battery runs out. Segato described the goal of the project as such: 'Each application is focus on the new behaviors technology create in the past ten years. What mostly inspire me is the relation people have with their devices and how they can become stupid in front of a smartphone.' [sic]



http://justincaseguide.tumblr.com

https://www.behance.net/gallery/15392763/Just-in-Cas

Example 3: Knuffeldrones by medialab SETUP

'Knuffeldrones' (cuddly drones) is a project by the Utrecht-based media lab SETUP which allows children to explore new meanings and new uses of drones. It consists of wa series of lessons for primary education, from research, design and development to reflection. The project asks questions such as: What are drones? How does a drone fly? In the third lesson, children develop their own drone. The final lesson is a reflection through a debate. In early 2014, some 100 children designed their own drone, for instance a 'disco drone', or a 'smoothie drone' which harvests fruits and vegetables and delivers fresh smoothies. Other children developed drones with facial recognition technology. The cuddly drone project integrates (media) education with the hacking of preconfigured meanings and uses of drones. It enables children to imagine and visualise potential uses of drones.

http://event.setup.nl/knuffeldrones/

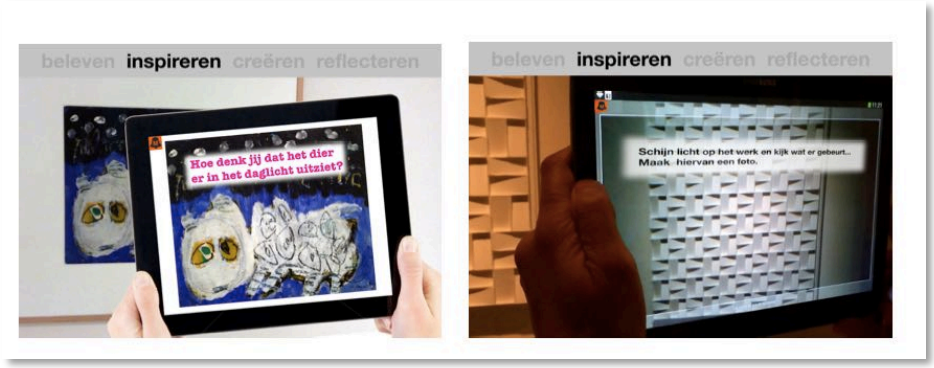
Own

The last principle, 'own', refers to a situation in which students are able to understand and critically engage with digital media within their own professional context. Owning in this sense refers to the concept of 'ownership', which combines notions of identification ('I identify with what I make'), authorship ('being present in the medium as artist, designer or educator') and mastery ('I "own" what I am doing'). The principle is oriented toward a professional context, a form of what Sennett calls craftsmanship: (…) 'an enduring, basic human impulse, the desire to do a job well for its own sake' (Sennett 2008, 9). An overview of what these skills, knowledge and attitudes might be, depends largely on the existing media use considered relevant within the practices. Owning also refers to the idea of

regaining control over media (Mansell) and creating a meaningful ‘thing’ relationship instead of a ‘device’ relationship (Borgmann).

Example 1: M-app: Fleur Doelman and Kjell van Ginkel

The M-app was developed by Fleur Doelman en Kjell van Ginkel as a graduation project for the WdKA’s bachelor programme Education in the Arts. Their goal was to engage vocational high school (VMBO) students with art (‘to fall in love with art’) in the context of the Schiedam museum.



The project focuses on developing a vision on education and the museum, as well as research on existing apps for museums, interviews with experts, and onsite testing. Students were allowed to walk through the exhibition at their own pace, and to select artworks. By asking questions and giving assignments, the M-app encouraged the students to look (experience), to envision new or alternative images, and to create through augmented reality (AR) their own interpretation of the works.

Through in-depth research, the project integrated knowledge of learning process as well as the context of museum education, in addition to the possibilities and limitations of tablets and augmented reality in this particular context. The project thereby demonstrated an understanding of

technological capabilities and the specific context, as well as education and the added value of an app.

Example 2: Interactive poster by Job Taks

Using a hacked Kinect, graphic design student Job Taks developed an interactive poster for public spaces which could recognise and react to the movements of viewers. The project was the result of a broader research on interactivity and movement. This project illustrated the ability to rethink and augment the possibilities of a conventional graphic design practice, namely designing posters for the public space.

http://www.studiotaks.com/#follow
http://www.studiotaks.com/#zkt-interactive-poster

Conclusion

This research started out by asking the question *what does media focus mean in the context of art and design education, for students as well as educators?* As we saw in chapter II, *The computer as trick machine*, as well as the OBK report from 2003, the perceptions and attitudes of educators and teachers toward digital media largely determine the extent to which these media become part of the students' curriculum. Therefore, if we are to further develop media focus in higher professional art and design education, a critical stance toward the discourse (the ways in which students as well as teachers perceive, frame and describe digital media) is crucial in order to avoid falling into the trap of encouraging students either to engage solely in craft practices, or to retreat into a narrow conceptualisation of digital media as a mere tool, thereby failing to acknowledge and foresee the more profound and structural changes taking place in the art and design profession as well as the labour market. Though there is no quick solution to the challenges described above, the three attitudes I have described in this research – reset, hack and own – should be helpful to students as well as educators.

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