

Pathways in interactive media practices among young people

Citation for published version (APA):

Van den Beemt, A. A. J., Akkerman, S. F., & Simons, P. R. J. (2011). Pathways in interactive media practices among young people. *Learning, Media and Technology*, 35(4), 419-434.
<https://doi.org/10.1080/17439884.2010.531395>

DOI:

[10.1080/17439884.2010.531395](https://doi.org/10.1080/17439884.2010.531395)

Document status and date:

Published: 01/01/2011

Document Version:

Publisher's PDF, also known as Version of Record (includes final page, issue and volume numbers)

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.tue.nl/taverne

Take down policy

If you believe that this document breaches copyright please contact us at:

openaccess@tue.nl

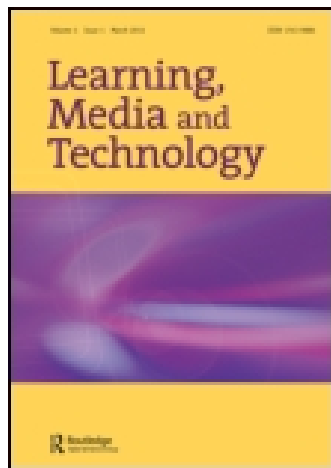
providing details and we will investigate your claim.

This article was downloaded by: [Eindhoven Technical University]

On: 22 August 2014, At: 00:39

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Learning, Media and Technology

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/cjem20>

Pathways in interactive media practices among youths

Antoine van den Beemt^a, Sanne Akkerman^b & P. Robert-Jan Simons^b

^a Fontys Hogeschool ICT, Fontys University of Applied Sciences, Eindhoven, The Netherlands

^b IVLOS Institute of Education, Utrecht University, Utrecht, The Netherlands

Published online: 15 Dec 2010.

To cite this article: Antoine van den Beemt, Sanne Akkerman & P. Robert-Jan Simons (2010) Pathways in interactive media practices among youths, *Learning, Media and Technology*, 35:4, 419-434, DOI: [10.1080/17439884.2010.531395](https://doi.org/10.1080/17439884.2010.531395)

To link to this article: <http://dx.doi.org/10.1080/17439884.2010.531395>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Pathways in interactive media practices among youths

Antoine van den Beemt^{a*}, Sanne Akkerman^b and P. Robert-Jan Simons^b

^aFontys Hogeschool ICT, Fontys University of Applied Sciences, Eindhoven, The Netherlands; ^bIVLOS Institute of Education, Utrecht University, Utrecht, The Netherlands

(Received 23 June 2010; final version received 10 September 2010)

This qualitative study examines how 11 Dutch students aged 14–15 develop an interest in specific types of interactive media practices and how they perceive these practices in relation to others. The methods included semi-structured interviewing, autodiving visual elicitation and photo elicitation using moodboards. Our results show the importance of peers for the emergence of interest to learn about specific applications. We found that the learning process of our respondents consists of searching and trying out by themselves, or asking peers in real life or via *MSN*. Furthermore, although our respondents did not strongly typify their own interactive media practices, they gave distinctive descriptions of tools, identities and practices for other kinds of interactive media users. Although some respondents think positively of interactive media in an educational context, all students want these media combined with projects and explanation by teachers. Building on earlier research on diversity in interactive media practices among contemporary youth, this article provides a contextualised understanding of both the emergence of these practices and possible implications for education.

Keywords: interactive media use; diversity; emergence of interest; peripheral participation; identity; otherness

Introduction

Learning and interactive media practices

Contemporary youth move in a range of physical and virtual spaces. These movements involve connections and actions in relation to others, which in turn bring forward opportunities to learn (Wenger 1998). Our present-day society knows a wider range of possible spaces where people can engage in connections and actions, compared to earlier times (Van den Brink 2007). Consequently, the contexts for teaching and all types of learning have become increasingly complex (Greenhow and Robelia 2009). Barron (2006) speaks in this respect

*Corresponding author. Email: a.vandenbeemt@fontys.nl

of a ‘learning ecology’, which helps to conceptualise the development of expertise and experiences across the spaces of home, school, work and community (Greenhow and Robelia 2009).

In this learning ecology, young people engage in activities, such as playing games, maintaining a webpage or explaining the use of social software to peers, mostly outside school hours (Kutteroff and Behrens 2008; Schulmeister 2008). These out-of-school activities allow for the development of expertise, while simultaneously supporting the development of identity and interest (Barron 2006). In addition to this out-of-school use, several studies show diversity in the use of internet applications and games among youth (Eynon 2010; Ito et al. 2008; Jones et al. 2010).

In this article, internet applications and games are combined under the label ‘interactive media’. ‘Interactive’ in this definition refers to the technology being responsive to the user’s actions. However, as soon as the use and context of interactive media are being examined, an ambiguity in terminology can arise. After all, the behaviour and communication of humans is often referred to as ‘social interaction’ (cf. Schütz 1964). Furthermore, interactive media are often used as tools in social interaction (cf. Preece, Rogers, and Sharp 2002). We attempted to avoid ambiguity in this article by describing the components of social interaction and restricting the use of ‘interactive’ to references to technology.

To understand the nature of young people’s diversity in interactive media use, it is valuable to investigate the relation between this diversity and the development of expertise, identity and interest. In this investigation, it is important to look at: (1) the origins of diversity by examining events that trigger people to start using types of interactive media, and the resulting shared repertoire of experiences, stories, tools and ways of addressing recurring problems, also known as practice (Wenger 1998); and (2) the development of identities, which result from comparing one’s own practices to others (Gurevitch 1988). Hence, the following two research questions are central to this article:

- (1) What caused the respondents’ interest to engage in interactive media practices?
- (2) How do respondents perceive their own interactive media practice in relation to others?

Wenger (1998) argues that the essence of practices can be found in the stories that users tell about a system. Therefore, we use stories of interactive media use told by students to answer our research questions. Answering these questions contributes to an understanding of the relation between out-of-school interactive media use and education. Because this relation is important for educators who want to apply interactive media as learning tools, the respondents’ perception of interactive media use in the context of school will be examined as well. However, it is important to note that the employment of

interactive media as learning tools is only one of the implications that can be drawn from the intensive use of these media by youths.

Emergence of interest for interactive media practices

Our first research question will be answered by respondents' accounts of the emergence of interest and subsequent interactive media practices. These accounts extend previous research that shows diversity in young people's use of interactive media and in their reflections on these media (van den Beemt, Akkerman, and Simons 2010b). In that study, we discerned four groups of interactive media users. There is a group of relatively low-end technology users that mainly engage in the traditional internet activities focused on consumption and exchange of information, such as sending email, surfing the web or searching for information. We labelled this group *Traditionalists*. There is a small group of high-end technology users, which we labelled *Producers*, that makes relatively intensive use of all possible types of interactive media, notably complex content production tools. Furthermore, two groups of intermediate technology users are defined by mid-level technology use. One group, labelled *Gamers*, shows an emphasis on playing games, and the other, labelled *Networkers*, shows an emphasis on using all kinds of social software. The Networkers and Producers are relatively intensive users of the more traditional interactive media as well. This categorisation has additional value to results from other studies because we included both internet and gaming applications in our analysis (see Schulmeister 2008 for an overview of studies).

The use of specific interactive media applications starts with an *emergence of interest* (Barron 2006), which, as Barron argues, can best be studied by examining pathways of participation. These pathways refer to the development of specific kinds of practices. Consequently, examining these pathways should provide an account of the kinds of events, activities and processes that spark interest in learning to use interactive media applications.

Tracing the origins of diversity in interactive media practices is valuable for educators because it will contribute to an understanding of the development of skills and preferences for these practices among students.

Perception of interactive media practices in relation to others

In relation to the second research question, we discuss theoretical notions that can guide the examination of students' perceptions of their own interactive media practice in relation to others. The actual use of interactive media, which is ignited by a spark of interest, makes it possible to see students as peripheral participants (Lave and Wenger 1991). They become peripheral participants of a network of interactive media users, which especially counts for Gamers, Networkers and Producers. When a person starts to participate in a network of

interactive media users, s/he needs to learn about the network's joint activities, the common ways of communication and information sharing. Based on such community activities, people develop relationships and a group identity that distinguishes them from others (Wenger 1998). However, we do not know whether the found diversity of interactive media use indeed represents interactive media practices with distinct identities. These identities can be traced by indications of otherness, such as defining people who use different interactive media as 'strange' (Gurevitch 1988).

Schütz (1964) argues that social behaviour is guided by assumptions about others being similar to oneself. These assumptions allow people to typify themselves and the world around them. Consequently, people enter new groups under an assumption of the sameness of self and other (Gurevitch 1988).

Gurevitch (1988) argues that participation in a community entails that others have to be made 'strange', which leads to an inexplicable combination of the familiar (for instance other young people) and the strange (their engagement in practices such as using social software). This tension comes to relief in 'otherness', the definition of the other person's activities to be different from one's own, which leads to a creative and critical search to understand the other and allows distinguishing among selves (Gurevitch 1988). Thus making the other strange can result in either recognition with a focus on a shared stock of knowledge, or distantiation with a focus on strangeness (see also Akkerman et al. 2006).

In our examination of students' perceptions of their interactive media practices in relation to others, the concept of otherness permits us to see whether, for example, a Gamer perceives other Gamers as familiar and people who are found to be Networkers as strange. We expect the concept will contribute to an understanding of how aspects of identity and interest (Barron 2006) develop as part of interactive media practices.

Understanding the perception of interactive media practices in relation to others is valuable for education because it indicates whether we can speak of user groups, each with its own identity that should be approached by educators in distinctive ways.

Methods

This study extends the results of a quantitative survey among Dutch students. The survey was conducted in the winter of 2008/2009 ($N = 2138$) among students aged 9–23, coming from all education levels between primary education and higher professional education. The purpose of this survey was to discern the students' interactive media use and reflections on this use. The findings of this prior study serve as guidance for the current study, and are reported elsewhere (van den Beemt, Akkerman, and Simons 2010b).

Participants

For this article, a study consisting of 11 semi-structured one-to-one sessions was set up. Students were selected from two classes at the third year in preparatory higher professional education (Dutch: *havo*). Students start at the age of 12 at this education level, which takes five years to complete. The respondents were selected by means of purposive sampling. This method implies an active search for cases within categories, with the purpose of a better understanding of behaviour. This means that all students in the selected classes filled out the questionnaire used in the aforementioned survey. The respondents were then identified based on the user categories from the survey study. Students were randomly selected from each user category to represent the population division of the survey results. Eleven of the selected students agreed to be interviewed: seven girls and four boys aged 14–15. Although this number of respondents does not allow a generalisation of the results to the population at large, ‘the findings and analysis ... may resonate with the experiences of [young interactive media users] in similar circumstances and be enlightening for educators who work with similar students and seek to understand their online practices’ (Greenhow and Robelia 2009, 127). Of the students, three can be categorised as Traditionalist, three as Gamer, four as Networker and one as Producer. All students in the study had at least one internet-connected computer at home.

Materials

The interview sessions consisted of three parts. First, interview questions were posed regarding the respondent’s history of interactive media use and the purpose, opinions and social networks related to these media. All respondents were also asked for their perception of interactive media use in the context of education. The interview questions served as probes for the respondents to tell stories about their interactive media use. Examples of questions were:

- ‘What are the things you often do on the internet?’
- ‘How do you use these websites?’
- ‘Can you explain how you increased your knowledge about these websites?’
- ‘Can you tell me about [games, profile pages, *MSN*, *YouTube*] and people who use it?’

The second part of the interview consisted of questions steered by autodiving visual elicitation (Prosser and Loxley 2008). This method is intended to let respondents show their favourite social software, websites or games to the researcher, while simultaneously explaining how they use these interactive

media. The principle of autodiving helped to ensure that interviews include topics relevant to the respondents. During the process, respondents were encouraged to tell about the functionalities they did use or did not use, and elaborate on the corresponding reasons.

The third part of the interview consisted of photo elicitation. In this method, respondents were shown images of the four types of interactive media users: Traditionalists, Gamers, Networkers and Producers. The images were designed by the researcher in the form of so-called ‘moodboards’, showing the logos of specific interactive media applications, combined with screenshots of these applications and images of users. Figure 1 shows a functional representation of a moodboard. Each moodboard carried a distinct ‘punctum’ (Barthes 1984, as cited in Prosser and Loxley 2008) contained in the main topic – the use of games, social software, authoring software or traditional internet applications – on which respondents focused and gave their version of reality and meaning. However, whereas the punctums acted as a control mechanism to say ‘tell me about this’, they also restricted their potential by limiting the intrinsic ambiguities present in all photographs that can be used to get respondents thinking and talking reflectively (Walker and Weidel 1985, as cited in Prosser and Loxley 2008).

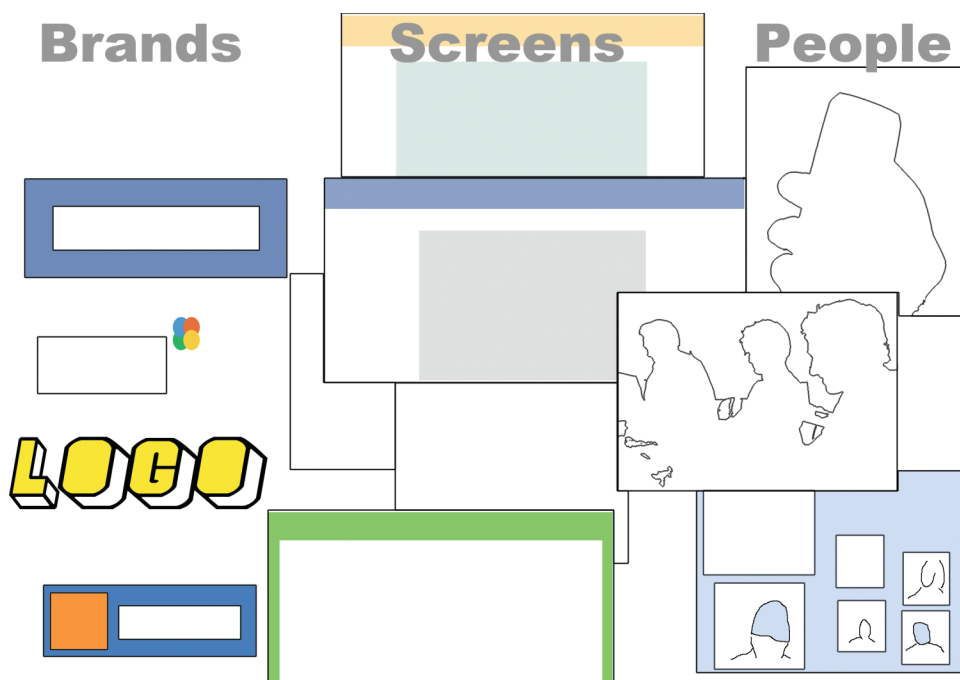


Figure 1. Functional representation of a moodboard.

The moodboards were used as ‘graphic probes’ (Prosser and Loxley 2008, 19) to talk about various interactive media practices. With this approach, the participants’ perception of their own interactive media practices in relation to others could be explored.

Procedure and analyses

All interviews were conducted in-person, video-recorded by means of a webcam and lasted on average 45 minutes. The interviews were conducted at the respondents’ school, in the room where they take computer courses. This location prohibited disturbance during the interview. However, it implied that console games had to be discussed by means of gameplay videos on *YouTube*. For both the kinds of visual elicitation, respondents were asked to use a laptop to show their interactive media use and comment on the moodboards.

The researcher was aware of the allocation of respondents in user categories during the interview, which guided the themes to be discussed. For instance, Gamers were asked more, but not solely, about games. However, in order to let all possible themes arise, all types of interactive media were touched upon. During the interviews, all interviewees responded to all four moodboards, in order to let them position their own interactive media practices in relation to others.

The data analysis consisted of two phases: (1) a within-case analysis to reach data reduction, and (2) a cross-case analysis to search for patterns in the respondents’ stories. In the first phase, data of each respondent were analysed. After transcription and open-ended coding of the interviews, a thematic coding around categories corresponding to the research questions was performed. This thematic coding facilitated comparisons between students in a next phase. Flowcharts per student of related concepts as a means for data display (vertical analysis) were used. Finally, a comparative (horizontal) analysis of all respondents took place, which resulted in accounts to draw conclusions and verify the data with the theoretical concepts related to our research questions.

The technique of ‘constant comparative analysis’ (Glaser and Strauss 1967; see also Boeije 2010) was used for both the vertical and the horizontal analysis in order to continuously compare preliminary interpretations with accounts of the other respondents and the theoretical framework. In the process of reading, interpreting and checking, we focused on interpreting patterns of students’ interactive media use.

Next, we report the common themes that emerged from this analysis, organised into three sections. First, we present stories of three respondents as prototypical examples of students’ explanations of their interactive media use. The following two sections present the results of our cross-case analysis and correspond to our two subsequent research questions.

Results

Stories about interactive media use

The semi-structured interviews were intended to record the respondents' stories about interactive media use. Therefore, before answering both our research questions, we illustrate the results of our analyses by parts of the stories of three students. These three students appeared representative for the other students in their user category: a Producer named Rosannah, a Networker named Edmond and a Gamer named Mario.¹ Mario and Rosannah were technology savvy and eloquent about their interactive media use. Edmond made intensive use of social software. He also played games to enjoy the social aspects of online gaming. All three respondents engaged in the traditional interactive media activities grouped under 'interacting'.

Rosannah's story

Rosannah, a 14-year-old Producer, told us that the tools she uses frequently are *YouTube*, a weblog, *Hyves*,² *MSN* and computer and console games. Online she occasionally plays small games, which she called 'gibberish games'. Rosannah reported uploading videos to *YouTube* together with her father and friend and using *Hyves* to send friends short messages ('scraps'), upload photographs, embed *YouTube* videos and keep a weblog. Furthermore, she uses *YouTube* to 'listen to videos' which her friends recommended. By means of the 'related videos' option, she might wander around on *YouTube*. Next to that she keeps a personal weblog at an online diary site. Both her *Hyves* page and the diary are hidden from public access and only visible for invited friends. Rosannah explained that she was inspired by her father and brother to use the computer at the age of five, when she figured out how to let the Smurfs on her father's game console jump and run around.

She learns how to use new applications and play new games by trial and error. Rosannah stated that she can get frustrated by this process, at which point she puts away the application to pick it up again after a while. If she gets stuck in an application, she uses *MSN* to ask peers for help. She reported to be considered a computer expert by friends, which means she has to help them as well. Rosannah develops her opinion about applications by means of 'Googling': when she hears or reads about a new website or game, she starts a query on *Google* and reads reviews published on websites. Then she decides whether she wants to try out the new application.

Rosannah reported that *Hyves* and other profile pages are used to show others relevant issues about yourself, what you have done, 'simply to share things'. She did not think that young people form a distinct generation because of their interactive media use. She argued that everybody uses the basic tools, such as *Google* or email. Rosanna thought that boys are mainly game players

and they remain so until they are 30 or 40 years of age. Furthermore, she stated that boys use *Google*, because ‘they like to look things up; girls like to share’.

Rosannah thought that interactive media as learning tool in school can be ‘fun, as recreation’. However, according to her, teachers should combine it with projects and explanation, ‘although teachers might think [this combination of games, projects and explanation] is unrealistic’.

Edmond’s story

Networker Edmond (15) reported that he did not know about profile pages until his niece showed him her page. Together they made his profile page, and since that moment he has been making daily use of *Hyves* and *MSN*. His other tools are online games – casual games or console games. Edmond explained that he plays games because of the in-game communication with others, rather than for the content, although he prefers action games.

Edmond argued that his opinions about applications are formed by means of *Google* or videos on *YouTube*. For instance, when his friends tell Edmond about new games, he first looks for online reviews and videos. After that, he wants to try and decide for himself. Edmond stated that trying out by himself is also the way he learns how to use applications.

While showing his profile page, Edmond told us that he always accepts invitations from friends and that he thinks it is important and fun to keep in touch with others, even if you only know them remotely.

Everybody, according to Edmond, uses the basic tools, while games are played by young people of age eight and above; these are mainly boys ‘because they like action better than girls’. Edmond thought that social software is used by young people; however, ‘their age begins to increase to above 30’. Boys between 14 and 20, who ‘like to make fun of others’, are the ones making *YouTube* videos.

Interactive media as a learning tool in school is ‘weird’ according to Edmond. He considered *MSN* to be ‘an out of school thing’, while games as a learning tool ‘could be funny’. However, the teacher should be at hand otherwise ‘you would only sit around and play games’.

Mario’s story

Mario, a 14-year-old Gamer, reported playing games and creating games with Gamemaker. He explained that he learns how to play a game by trying out by himself or searching for hints on forums. Mario argued that because he plays a lot of games, he can give others advice on games. He does so in person rather than via email or *MSN*. Sometimes he places messages on game forums. Mario explained that he develops his opinion about games by means of information found on *Google* and trying out new releases. Mario also looks at new games in stores, because, as he argued, ‘as a Gamer you recognise a good game [by

the cover]’. He always tries out new games in a series when he liked the other parts.

Mario stated that he does not use social software because ‘[he does] not know what to do there’. Furthermore, he argued that playing large console or pc-games is a serious matter, while small games are played ‘for fun’.

Mario thought that everybody uses the traditional interactive media. Furthermore, he argued that young people ‘who like to have a cosy chat’ use social software. Games are played by boys, and the producers of interactive media content can be ‘anyone, because it is really not difficult to make’. When people grow up they stop playing games because, as Mario stated, ‘when you’re older, you are busy with more serious things’. Gamers form a specific group, with one important rule: ‘just play nice and cosy with each other’. According to Mario, all media are one blur of possibilities. However, he does not share his games or gameplay videos with the community: ‘Making videos is not difficult’, he said, ‘I just don’t see the point in uploading stuff’.

Finally, Mario thought that games as a learning tool in school ‘can be fun. More fun than a book. But only once in a while, as an addition’.

Emergence of interest and peripheral participation (Research Question 1)

By means of the concept emergence of interest we analysed the origins of the respondents’ interactive media use. Additionally, we asked students about their perception of interactive media as learning tool.

All students in our study felt that peers such as friends or family ignited the spark of interest for certain interactive media, which can also be seen in the stories of Rosannah, Edmond and Mario. This spark of interest resulted in participation in the group of interactive media users, which often started with trial and error or by imitating the practice of peers. This initial acquaintance with a website or game and the subsequent process of learning how to use specific applications consisted for all respondents of asking peers or trying by themselves. The stories of some students showed that there is also a certain amount of peer pressure involved in using applications. Two students described how they transferred the password and maintenance of their profile page to a close friend. Although they use it to stay in touch with their friends, they reported a lack of interest in the application itself.

The Producer and two of the Gamers indicated their interest in content as the motivation for interactive media use. This contrasts with the Networkers, who reported to use interactive media for communication with others. Furthermore, the Networkers’ accounts of content and functionality were often less in-depth compared to Gamers. These results substantiate the conceptual distinction between content-driven and interest-driven uses of interactive media (Ito et al. 2008).

In response to our question about the application of interactive media as a learning tool, most respondents initially stated that they do not want interactive media or games as learning tools in school. The Gamers were an exception, because they saw the amusement part as benefit. Nevertheless, all students argued that if interactive media were applied as a learning tool in class, it should be done in combination with other materials such as books or explanation from a teacher.

Students' perception of their participation in relation to others (Research Question 2)

To answer our second research question, we first report how the respondents perceived their own interactive media use. Subsequently, we briefly describe the reported characteristics of groups of interactive media users.

Generally, our respondents explained their own practice by describing 'mundane' (Buckingham 2008) forms of interactive media use. All respondents reported using the traditional interactive media such as *Google*, *MSN* or email. These applications were referred to by verbs such as 'Googling' or 'MSN-ing' indicating it as activity instead of being a tool. Most respondents, reported using *Hyves*, however, with varying intensity and skill. On this social networking website, some respondents use only the short message option (scraps), while others have all available content clusters filled out and know how to embed videos and maintain a weblog on it. The female respondents, who were active on *Hyves*, talked euphemistically about gaming. First they told the interviewer not to play games. However, the girls' stories showed that most of them play small games on a regular basis. They defined gaming as 'spending many hours, each day' on titles other than small games. Generally, the respondents considered interactive media as self-evident. However, more in-depth questions showed that not all functionalities, for instance profile pages, were known or understood by them. The Traditionalists among our respondents did not talk extensively or in great depth about interactive media. They also abstained more than the others from specific applications, because they argued not to know 'what to use it for'. The Networkers, Gamers and Producer showed more eloquence and an open attitude towards interactive media, which can also be seen in the stories of Rosannah, Edmond and Mario.

The students' descriptions of their interactive media practices in relation to others always started with a reference to age groups, which from the perspective of 'otherness' (Gurevitch 1988) can be seen as 'familiar'. From the responses to the moodboards, it appeared that Traditionalists are not seen as a distinctive group or community. All respondents stated that 'everybody' engages in the traditional interactive media activities (interacting), which indicated both young and older people. When probed for an age indication of 'older', they answered '25 and up'. Users of games and social software were labelled as 'young people', with 'children of my own age' or 'between 10 and

16' mentioned as age indications. All students thought that young people make more intensive and skilful use of interactive media compared to older people. The question 'who creates online content such as *YouTube* videos?' was answered with either 'I don't know' or 'older young people, because you need skills to do that'. None of the respondents, other than the Producer, reported to know of other people that produce interactive media content.

In addition to age, the respondents often referred to gender differences as characteristic for groups of interactive media users. The male respondents thought that Networkers are mainly girls; the females thought that Networkers are boys as well. This difference between boys and girls can be seen as an indication of making the other 'strange', which is necessary to define your personal identity (Gurevitch 1988). The respondents thought that the group of Gamers consists of boys who will play less or quit gaming once they get older. Most respondents thought girls played *The Sims*. One male Gamer added 'but when they are 12 years old, they will leave that behind'. The female respondents distanced themselves from the group of Gamers, despite the fact that they reported playing (small) games themselves.

Conclusion and discussion

This study focuses on how students start to use specific interactive media applications, as well as how they perceive their own interactive media practice in relation to others. With this focus, the present study aims to understand the nature of the diversity in interactive media practices that is found in earlier studies.

The interviews with 11 students consistently show the role of peers and family members in the emergence of interest to engage in interactive media practices. It appears that no specific or deliberate event prompted this spark of interest. However, in some cases we can speak of peer pressure: students reported using applications because all their friends do so as well. The role of peers is also present in the students' process of learning to use specific interactive media applications, when peers provide information about these media. The various narrations show the strong influence of significant others.

With respect to the students' perception of their interactive media practices in relation to others, we asked them to show and elaborate on their own interactive media tools, as well as to respond to moodboards of four types of interactive media activities (interacting, performing, interchanging and authoring). The results indicate that the students do not strongly typify their own interactive media practices. Hence, our respondents do not seem to be aware of their own identity in relation to interactive media use. However, they describe distinct tools, identities and practices for people engaged in interactive media practices other than their own.

Our finding that students did not explicitly typify their own interactive media practices can be interpreted in different ways. For one, it can be seen as

a difficulty in reflecting on one's own practice perhaps caused by the respondents' age and subsequent level of identity development. However, it can also be seen as a case of 'benign community neglect' (Lave and Wenger 1991), which indicates the use of applications without knowing about its community or practice. The concept of 'otherness' (Gurevitch 1988) fits our findings: the respondents recognise other types of interactive media users because they are young as well (familiar). However, the behaviour of these others, for instance playing games intensively or making fun of others in *YouTube* videos, is considered strange. In line with Gurevitch (1988), the interviewer's request to describe and label types of interactive media users could lead for otherness to emerge, while in everyday practice students would not be aware of the differences. This is confirmed by some respondents commenting on the usefulness of this study and the interest of 'older people' for characteristics of their interactive media use.

With the recognition that contemporary youth increasingly use interactive media, many educators and educational institutes have started to look for ways to implement interactive media as learning tools in education (see, e.g., Annetta 2008; Skiba and Barton 2006). We claim that before doing so, it is important to better understand both the diversity of interactive media use (van den Beemt, Akkerman, and Simons 2010a, 2010b) and the nature of this diversity, that is, how this diversity emerged and whether it represents distinct communities. Besides investigating these issues, we also asked the students in the interviews what they think of using interactive media tools in school context. The answers to this question imply reservations in the application of interactive media as a learning tool. For instance, Networkers reported using interactive media for communication with others. Because most of them play small games as well, this could indicate the use of groupwork, with peer feedback, supported by small games. Furthermore, because the Gamers and the Producer speak in terms of interesting content as a motivation for interactive media use, these small games should combine obvious gameplay with encouraging content. However, the respondents' initial doubts about games being useful as a learning tool might bring more nuance to this conclusion. Even more nuance can be found in the students' wish to always combine interactive media in class with books, assignments and explanation by teachers. These results are in line with other studies that show that young people are, as considerable public attention has noted, far more excited by the internet as a communication medium than as a learning resource (Livingstone and Bober 2005).

The results of our study are limited by the number of respondents, which means that it was hard to reach saturation for all four user categories (see also Guest, Bunce, and Johnson 2006). This implies that the results should be perceived as resonating with behaviour of other youths instead of being generalised to the population at large. Hence, a follow-up study with more and older students might also contribute to a better understanding of the development of identity in relation to interactive media practices.

By showing the importance of peers when students become participants in networks of interactive media users, this article indicates two implications for education. First, educators can trust the network in initiating students to new applications and ways of developing skills. Second, because significant others, such as parents and nearby family, can have a positive influence as well, it appears useful to guide a student's interactive media use by showing possible applications, rather than posing rules and restrictions on the computer use at home (see also van den Beemt, Akkerman, and Simons 2010b). The problem, however, is that parents are often reported to have too little skills to use social software or play games.

Although students show diversity in both the motives for participation and the resulting practices, they all appear to follow similar pathways towards these practices. All students develop a trial and error attitude in learning to use interactive media. Only when failure looms do students consult their network. This implies that educators can make this attitude a prerequisite for assignments and projects, for all students equally. However, because the pathways result in different types of interactive media practices, it is important that different groups of users should be addressed according to their specific skills and interests when applying interactive media in the context of education.

Notes

1. All names are fictitious.
2. *Hyves*, a website resembling *Facebook*, was the most popular social networking site in the Netherlands at the time of inquiry.

Notes on contributors

Antoine van den Beemt is Course Leader of Game Design & Technology at Fontys University of Applied Sciences. His research interest is in the relationship between youth culture, interactive media and learning, with a special interest in educational games. He has published on diversity in interactive media participation among contemporary students.

Sanne Akkerman works as Associate Professor at the Institute of Education and Freudenthal Institute at Utrecht University. In her research, she has focused on the notion of boundaries as a central issue in group negotiations, by drawing on socio-cultural theories and uses a dialogical approach towards identity, cognition and learning.

P. Robert-Jan Simons is Director of NSO at Netherlands School of Educational Management and Professor of digital learning at the Institute of Education at Utrecht University. His main research interests are the role of ICT in both education and work-related learning, with an emphasis on computer-supported collaborative learning, communities of learners, reflection and feedback.

References

- Akkerman, S., W. Admiraal, P.R.J. Simons, and T. Niessen. 2006. Considering diversity: Multivoicedness in international academic collaboration. *Culture & Psychology* 12, no. 4: 461–85.
- Annetta, L. 2008. Video games in education: Why they should be used and how they are being used. *Theory into Practice* 47, no. 3: 229–39.
- Barron, B. 2006. Interest and self-sustained learning as catalysts of development: A learning ecologies perspective. *Human Development* 49: 193–224.
- Boeije, H. 2010. *Analysis in qualitative research*. London: Sage.
- Buckingham, D., ed. 2008. *Youth, identity, and digital media*. Cambridge, MA: MIT Press.
- Eynon, R. 2010. Supporting the ‘digital natives’: What is the role of schools? In *Proceedings of the 7th international conference on networked learning 2010*, ed. L. Dirckinck-Holmfeld, V. Hodgson, C. Jones, M. de Laat, D. McConnell, and T. Ryberg, 851–8. Lancaster: Lancaster University.
- Glaser, B., and A. Strauss. 1967. *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- Greenhow, C., and B. Robelia. 2009. Informal learning and identity formation in online social networks. *Learning, Media and Technology* 34, no. 2: 119–40.
- Guest, G., A. Bunce, and L. Johnson. 2006. How many interviews are enough? An experiment with data saturation and variability. *Field Methods* 18, no. 1: 59–82.
- Gurevitch, Z.D. 1988. The other side of dialogue: On making the other strange and the experience of otherness. *American Journal of Sociology* 93, no. 5: 1179–99.
- Ito, M., H. Horst, M. Bittanti, D. Boyd, B. Herr-Stephenson, P. Lange, C. Pascoe, and L. Robinson. 2008. Living and learning with new media: Summary of findings from the digital youth project. <http://digitalyouth.ischool.berkeley.edu/report>
- Jones, C., R. Ramanau, S. Cross, and G. Healing. 2010. Net generation or digital natives: Is there a distinct new generation entering university? *Computers & Education* 54, no. 3: 722–32.
- Kutteroff, A., and P. Behrens. 2008. JIM 2008: Jugend, Information, (Multi-)Media, Basisstudie zum Medienumgang 12- bis 19-Jähriger in Deutschland [Youth, information, (multi-)media, baseline study on the media use of 12 to 19 year olds in Germany]. <http://www.mpfs.de>
- Lave, J., and E. Wenger. 1991. *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Livingstone, S., and M. Bober. 2005. *UKChildrenGoOnline: Final report of key project findings*. London: LSE Research Online. <http://eprints.lse.ac.uk/archive/00000399>
- Preece, J., Y. Rogers, and H. Sharp. 2002. *Interaction design: Beyond human computer interaction*. New York: Wiley.
- Prosser, J., and A. Loxley. 2008. *Introducing visual methods*. NCRM Review Papers, NCRM/010. <http://eprints.ncrm.ac.uk/420/1/MethodsReviewPaperNCRM-010.pdf>
- Schulmeister, R. 2008. *Gibt es eine Net generation?* [Does a net generation exist?] http://www.zhw.uni-hamburg.de/pdfs/Schulmeister_Netzgeneration.pdf
- Schütz, A. 1964. *Collected papers*. Vol. 2. Den Haag: Nijhoff.
- Skiba, D., and A. Barton. 2006. Adapting your teaching to accommodate the net generation of learners. *OJIN: Online Journal of Issues in Nursing* 11, no. 2: Manuscript 4. www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume112006/No2May06/tpc30_416076.aspx

- van den Beemt, A., S. Akkerman, and P.R.-J. Simons. 2010a. Considering young people's motives for interactive media use. *Educational Research Review*. DOI:10.1016/j.edurev.2010.06.002
- van den Beemt, A., S. Akkerman, and P.R.-J. Simons. 2010b. Patterns of interactive media use among contemporary youth. *Journal of Computer Assisted Learning*. DOI: 10.1111/j.1365-2729.2010.00384.x.
- Van den Brink, G. 2007. *Moderniteit als opgave. Een antwoord aan relativisme en conservatisme* [Modernity as assignment: A reply to relativism and conservatism]. Amsterdam: Sun.
- Wenger, E. 1998. *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.