

Producing gender through digital interactions: What young people set out to achieve through computer game design

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There has been much interest recently in the role which games **play** in the process of socialisation and the development of subjectivity in contemporary culture (see the chapters by Carr, Kennedy, Giddens, and Dixon & Weber in this volume; also Beavis 2005, Linderoth 2005; Taylor 2006; Walkerdine 2004). My aim in this chapter is to capitalise on this emerging work about game play to analyse young people's game design. To do this, I examine how youth draw on their experiences with computer games to design their own games.

My focus is on the social functions which young people perform through game design, and more particularly on how design is deployed as a resource with which to construct a gendered subjectivity. The analysis highlights the processes by which games are used to establish social relations, and by extension, construct a sense of self. I argue that the ways in which games are played, interpreted and designed are a function of the social relations within which they are located and which they make possible.

The data analysed in this chapter emerged from a research project called 'Making Games' conducted through a collaboration between media education researchers from the University of London and Immersive Education, a UK-based software company. Over three years, the partnership developed a production tool to enable young people to create computer games. We also researched strategies for introducing game design in English and Media classrooms, youth clubs, and the home. The rationale for teaching game design is that computer games are a significant cultural form and that young people should not only be able to play, talk or read about them, but also construct their own.

Two types of data will be discussed here: a selection of drawings produced by young people as part of a grade 8 (12-13 year olds) English, Media and ICT course on computer games; and two games made by 14 year-old students in an after-school club. As I will discuss in detail later, comparing and analysing these data suggests the ways in which game design can provide opportunities for the development of gendered subjectivities.

Girls making games

A number of research projects as well as local initiatives have sought to enable young people, particularly girls, to reap greater benefit from gaming technologies by giving them tools to design their own games (Kafai 1996, 2000; Dennon and Campe in press; Hughes in press; see also CC4G 2006). Efforts to include girls in gaming are intended to counter concerns that game playing and design are predominantly male activities. It has been argued that knowledge of particular gaming technologies may provide an entry point into subsequent careers in science and technology. The fear is that the largely male demographic of game players will dominate the field, leaving women behind to occupy less important positions in the key industries of the future (Cassell & Jenkins 2000). In

the wake of Gee's (2003) work on the pedagogical effectiveness of video games, apprehensiveness has also been expressed that girls may not be able to take full advantage of the anticipated boom in educational computer games (Kafai *et al* in press).

It has proved difficult however to isolate what it is about game making as an activity that enables girls to learn, earn or play more. This is in part because methods for analysing how games become meaningful to people (how they shape what people do, think and feel) have emerged only recently (Linderoth 2005). In order to evaluate the potential benefits of young people making games, and particularly with regards to girls, researchers need frameworks to identify the meaning which this activity has to young people, its function in the development of thoughts and actions and the role gender plays in this process (see Carr this volume). The work of two theorists seems particularly relevant to developing such frameworks. Judith Butler (1993, 1997, 1999, 2004, and with Laclau and Zizek 2000) explores the processes by which gender assumes significance in social norms and relations. Gunther Kress (1997, 2003, 2005), together with others working on multimodality (e.g. Kress and van Leeuwen 1996), develops methods for analysing the production of meaning in relation to modes of representation and the individual's interest in a social context. In tandem, they provide conceptual tools with which to describe how gender is made significant in multimodal representations such as games. I will introduce the work of these theorists a little further before suggesting how they can be used to analyse design work produced by young people.

Analytical tools

Butler's work describes the means by which subjectivity is produced as an effect of representation. Traditionally, subjectivity is said to precede representation: when we speak, write or draw, it is often understood that identity must first be in place prior to such an act. Butler argues that representation does not simply describe a state of affairs but brings it into being. Given that language (written, visual, musical, etc.) is not the property of the individual, but an intersubjective system which confers meaning by classifying and categorising in particular ways, it follows that in representing the world, subjects draw on resources which precede them and which establish the terms by which it is possible to think and act. Using language is not therefore something which leaves the subject unaffected, but rather is precisely how the subject comes to know its own thoughts and beliefs. Since subjects continuously make representations, it follows that the constitution of subjectivity is a reiterative practice; subjectivity is never fully settled but always remade through representational practices. Butler calls this process 'performativity'.

The concept of performativity has implications for how gender is defined and researched. Rather than treat gender as a fixed and known variable, Butler argues that what is significant about gender is precisely the processes by which it is continuously produced and recognised. Gender can be conceptualised as a kind of doing, an incessant activity which is realised through representation. In this sense, people construct their own gender, but the terms by which they do so are socially made, and embedded in social norms and practices which give them meaning.

Like Butler, Kress defines representational resources as collective, social. The reason we can communicate is precisely because social conventions exist about how to formulate meaning. We select from available conventions of representation according to the interest we have in a state of affairs: “it is the interest [...] of the sign-maker which determines what is taken as criterial about an entity at the moment of its representation” (2005). The argument that representation is shaped by the interests of the social agent has two consequences. The first is that conventions are understood to be socially motivated, which means that individuals make choices about how to represent something according to the interest they have in it, including the intended audience and the desired effect upon them. The second is that conventions are defined in terms of processes of production rather than application. Kress’ focus is on how conventions are adapted to a specific purpose, in line with the interests of the individual. This implies that conventions are never simply applied, but continuously transformed, re-shaped, modified. The (conventionalised) meaning of a word or image, for example, does not exist independently of instances of usage but is always reactualised or reasserted. It is Kress’ concept of interest in meaning-making which overlaps with Butler’s notion of performativity, as something which is carried out individually in order to achieve an effect whose meaning and value is defined within social terms. As a result, it is possible to analyse how individuals adapt social norms or conventions in processes of representation in line with their interest to achieve a particular subjectivity – and for the purposes of this chapter, a subjectivity defined in terms of gender.

Using the work of these two theorists, I will identify a rationale for girls’ game-making. I will explore the implications of this analysis by examining two sets of data, a group of drawings and games made by students.

Producing gender through the visual image

The drawings below were produced by 12-13 year old students as part of an English, Media and ICT course on computer games. The curriculum addressed how games can be analysed as texts, including how they tell stories; the business of games, and relationships between media companies, regulatory bodies and distributors; and game culture, including the pleasures which players associated with games. As class homework in the third week of the course, students were asked to design a screenshot from a game they would like to make. They were given two design specifications: it had to fit within the role-playing genre and should have a sci-fi setting. The conventions from each genre were reviewed in class, by examining and classifying game screenshots as well as excerpts from sci-fi films.

I will focus on the screenshots produced by six students, three girls and three boys selected from approximately twenty on the basis that they appear the most finished and polished. My analysis draws on *Reading images: The grammar of visual design*, in which Kress and van Leeuwen (1996) provide a framework to analyse visual data. Drawings can be interpreted in several ways; here I will provide what I believe to be the most convincing account. These images were produced in colour, but they are reproduced here in black and white.

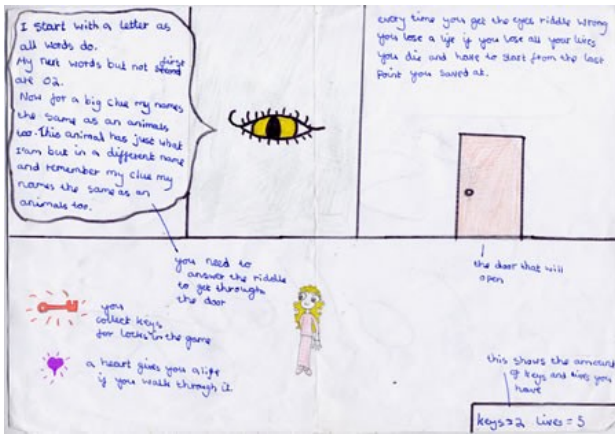


Figure 1. Kate's screenshot



Figure 2: Liz's screenshot

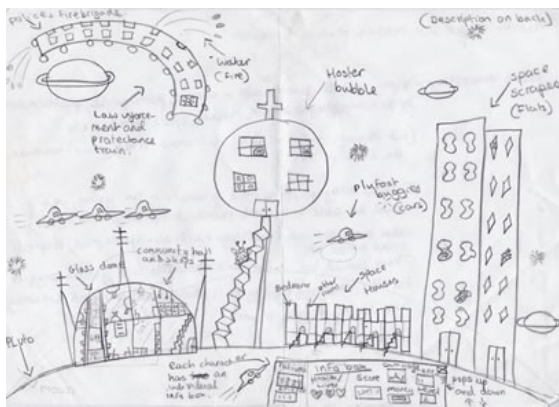


Figure 3: Janet's screenshot

Your worst Nightmare

a pile of heavy war machinery

and low
food
drinks
HIV
is coming
next



Figure 4: Jak's screenshot

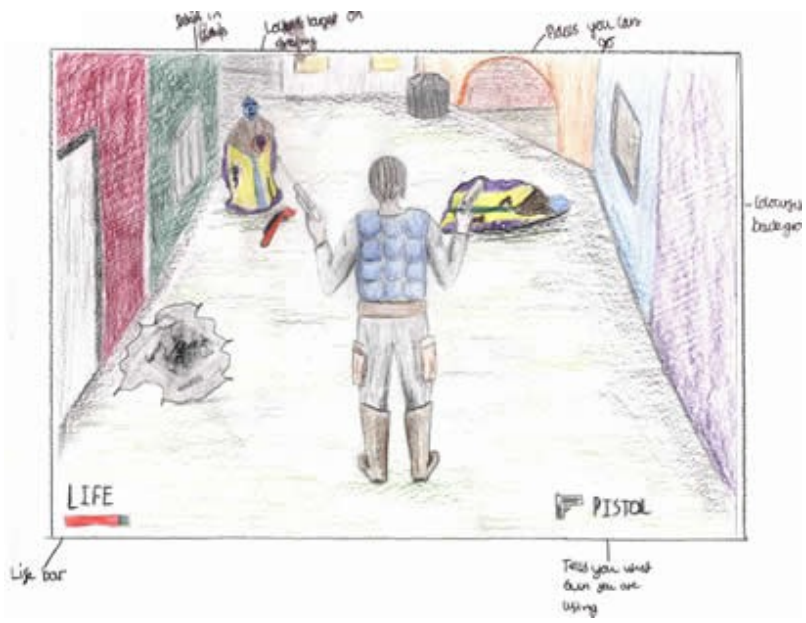


Figure 5: Tom's screenshot

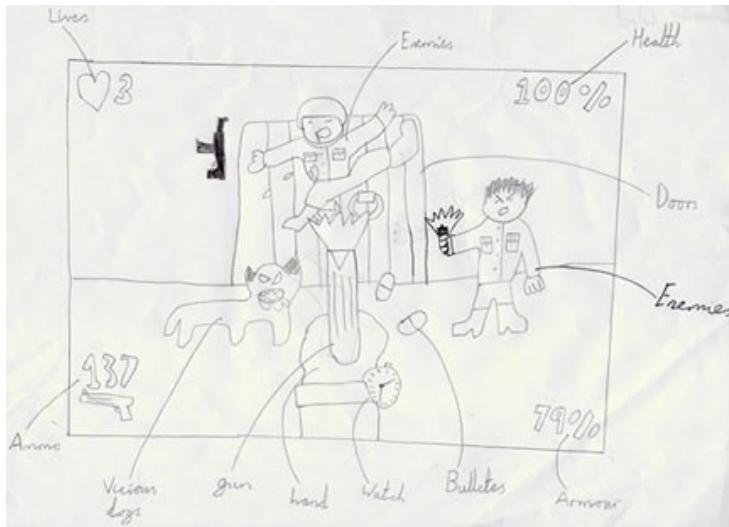


Figure 6: Paul's screenshot

My interpretation of these drawings focuses on elements which appear to relate to the performative production of subjectivity. One of the most striking details is that the boys' representations reflect an almost identical moment: one game character shoots down a number of others. In Jak's drawing, this is achieved through the depiction of an "incoming missile" flying in from the left. In Tom's and Paul's drawings, the perspective and angle suggest that the player is doing the shooting, in the style respectively of a third and a first-person shooter game. The girls' drawings do not feature this moment, and although reference is made to weapons and guns, these are not shown in use. I would argue, for example, that in Liz's screenshot, the female character is not aiming but displaying an available weapon (at least the male character seems unperturbed by having a gun pointed his way).

There are other striking differences between the drawings, which I will now interpret more systematically. Unlike the boys' drawings, Kate, Liz and Janet's drawings represent

the potential experiences a player might encounter *throughout* the game, rather than actualizing a single moment within it. The images in these girls' drawing are labeled objectively, and items are displayed or posed rather than captured in movement; for example, in Janet's drawing, the lines behind the cars indicate movement but there is no clear vector indicating their direction or purposes in getting there. Similarly, the blank facial expression of Liz's and Kate's characters depicts them as items for contemplation rather than interaction. The viewer is positioned broadly at eye level and at a distance which encourages objectification of the scene. This is further enhanced by the lack of a frame around the drawing; the representation is constructed as objective rather than a subjective response.

Relations between the visual elements in the drawings are established primarily through verbal language. This has the effect of decontextualising the items shown, making them generic, so that they become a "typical example" rather than connected to a particular moment in the game. For example, in Janet's drawing, she includes the fire engine but not the fire. Colour is used primarily to differentiate rather than saturate the scene and the palette is relatively limited, removing the distractions that a vivid, visual spectacle might entail. Backgrounds are plain and the representation of depth reduced, with elements classified hierarchically across the page. In Liz's drawing, for example, the planets to be visited are at the top of the page, the avatars in their current status across the middle and the buttons to be pressed at the bottom. The design principles underpinning these girls' drawings are similar to those used for the representation of analytical processes (Kress & van Leeuwen, 1996, p. 89). The screenshots are designed to present a static taxonomy of the whole game's essential attributes rather than represent a part of it in a life-like way.

Whereas the boys' drawings depict an image characteristic of a single genre (the shooter game, and in Jak's case, the strategy war game), the three girls combine elements from different game genres. Liz, for example, indicates that the actions in her game include shopping, jumping, bouncing, running, visiting and shooting, among others. The forms of interaction characteristic of *The Sims* (Liz and Janet) and the puzzle genre (Kate) are combined with shooting, dying (Kate), 'taking damage' (Janet) or 'being injured' (Liz). Given that game genres and their visual characteristics had been reviewed in class by studying screenshots, this medley of genre characteristics seems purposeful rather than a consequence of unfamiliarity. Indeed, the pick-and-mix approach demonstrates a certain pattern. Indicators of shooter genres are featured around the edges or on the back of drawings, rather than in the central space. In Janet's and Kate's case, they do not contribute to the drawings' symmetry, and in Liz's, the operational function of the gun is not included — it is not actually threatening anyone.

This suggests two things. Firstly, the girls' drawings are designed to present a conceptual representation of the essential features of games as a general category. The references to shooter games in Janet's and Kate's image serve to generalize a single representation; shooter games are often portrayed in popular media as representatives of games as a whole. This way of seeing objects is characteristic of the academic and scientific 'viewpoint'. In presenting the 'general' attributes of games, the girls construct themselves as 'good students', who understand the requirements of an academic (school-based)

context. This finding supports Weber and Mitchell's (1995) analysis of gender in children's drawings in which they found that academic styles were much more prominent in girls' drawings than in those done by boys. Secondly, the girls make reference to shooter games but keep these to the margins of their drawings. Their interest may be double here. Whilst perceiving shooter games to be central to a representation of games in general, they do not wish to identify their own tastes with it.

A similar analysis can be carried out on the other three drawings. Whereas the representational structures in the girls' drawings are conceptual, depicting features as more or less stable and timeless, the representational structures in the boys drawings are narrative: they serve to present an unfolding drama, foregrounding pleasure arising from sensation and visual spectacle.

The images in the boys' drawings are framed, constructing the scene as a subjective perspective and positioning the viewer as the player. This point-of-view, along with the representation of events, demand that the viewer / player engage with the scene actively rather than contemplate it dispassionately. The form of action required is established through vectors (shooting guns, a target symbol at the end of the line established by the avatar's gun), and perspective. The diagonals in Tom's drawing, for example, create strong directional thrusts which lead the eye straight upwards. These imply a forward movement. Jak engages with the viewer by providing a visual spectacle rather than demanding direct action, but the image of the tank under attack and the use of vibrant colour suggest his desire to arouse an emotional, subjective response.

The boys' drawings convey excitement and adventure and the colour saturation in Jak's and Tom's images instantiate a hyper-real modality which Kress and van Leeuwen associate with fantasy (1996, p. 168). In Paul's drawing, the viewer's sensory appreciation is invited through the scaling of certain visual elements (notably the gun and its falling shells) as well as the representation of certain physical details, such as the dog's drool and the drops of blood spurting out of the enemies. This emphasis on the senses discourages more distant, dispassionate forms of engagement. In all three drawings, written text is kept outside of the frame and serves little explanatory purpose. Written text is thereby subjugated to the principles of a visual spectacle.

The students' design strategies

The drawings reproduce certain popularly-held notions about the distinctive pleasures of male and female gaming (Jenkins 2003; Graner-Ray 2002; Alloway & Gilbert 1998). The boys' drawings focus on fast-paced, aggressive, linear action carried out by exotically dressed and armed super-heroes in fantasy settings, with the pleasures of gaming identified in terms of visual spectacle and sensory immersion. The girls' drawings suggest engagement with gaming at a more intellectual level, focusing on features such as exploration, 'realistic' characters and settings, the development of relationships, reflective problem-solving, and conflict resolution without high levels of violence.

One could conclude that these drawings confirm well-established beliefs regarding differences between boys and girls gaming preferences. However, one should be

suspicious of conclusions that appear so ‘common-sense’, particularly as they relate to stereotypes and ideologies about gender. Other data from the study introduce elements of doubt into such easy conclusions. In other situations over the length of the course, the students emphasized different aspects of games. In writing about historical strategy games, Jak placed value on their historical accuracy. In a questionnaire, Liz lists her favourite game as *Crazy Taxi*, although she excludes the racing genre from her drawing. As Carr shows in this volume, young people’s preferences about games are not fixed and at different times, they emphasize different aspects of games to clarify why they like playing them. This argument clearly goes against certain assumptions about gendered gaming practices. Gaming is gendered; but the relationship between how people play, how they understand themselves as players, and how they present themselves as players to others is by no means predictable and stable over time.

These contradictions provoke important questions. What factors led students to make these particular kinds of representations in this context? Or as Kress would put it, what interest were they pursuing in choosing to design a screenshot in this particular way? The boys could have picked any moment from a shooter game, including scenes in which the avatar goes shopping or chats to other characters; such moments are not rare. Similarly, the girls could have chosen a shot from one genre they enjoyed (for example *Sims*-type simulations) but they chose to combine genres, and made efforts to mix features characteristic of ‘realistic’ simulations with shooter games. What might reasonably explain the student’s motivations in making these choices?

I would argue that these drawings cannot be taken simply as indicators of how these students ‘see’ games, but that this way of seeing games is intended to have an effect. What these representations performatively produce is the gender of their author. It is precisely because the producer and the viewer of these drawings identify the images as stereotypically “gendered” that they become effective statements of gender identity. What defines the shooter genre as masculine in popular representations of games is precisely the kind of scene that the boys depict. Similarly, the girls focus on characteristics which are often said, in popular media and in gaming web sites and magazines, to be more ‘girl-friendly’. However, the images are not representative or simple reflections of the games these students actually play and supposedly enjoy. Gender is therefore the effect, not the cause of these images. The students do not portray games in stereotypically gendered ways because they *are* boys and girls, but because they wish to produce and *identify* themselves as such.

To argue that students design their drawings to achieve a gendered identity is not to suggest they do so in a manipulative or deceptive way, and that they are hiding what they ‘really’ like about games. How students interpret games, how they make meaning from them, is a social process, developed over time and in relation to conventions about social norms, including those relating to gendered behaviour. Social norms about what boys and girls like are therefore not simply imposed on young people but one of the ways in which they come to know their own pleasures. The drawings these students produce are one way in which they come to understand themselves as players and designers. It is by constructing games as ‘gendered’ that the students are able to construct themselves as

gendered. It is precisely by drawing on popular stereotypes about games for boys and games for girls that young people come to recognize and assert their gender.

In this section, I have suggested that preparatory game design work enabled students to construct themselves as particular kinds of players and designers. In the next section, I will examine how students produced an identity through the process of making games.

Producing gender through game design

The games discussed below were made using software developed by Immersive Education over a three year period in partnership with researchers, teachers and students. Before analyzing a couple of games, I will outline how the software functions as a representational resource.

The game-authoring software consists of a number of ready-made 3D assets, including locations (rooms and corridors), props and characters. Designing a game means defining the rules by which assets interact with each other. For example, ‘if the player clicks on the door, the door opens’. Emphasis is thereby placed on organising relations between assets rather than producing the assets themselves. The number of assets is limited, although it is possible to import audio, written text and 2D still images.



Figure 2: a screenshot from Simon’s game in player mode

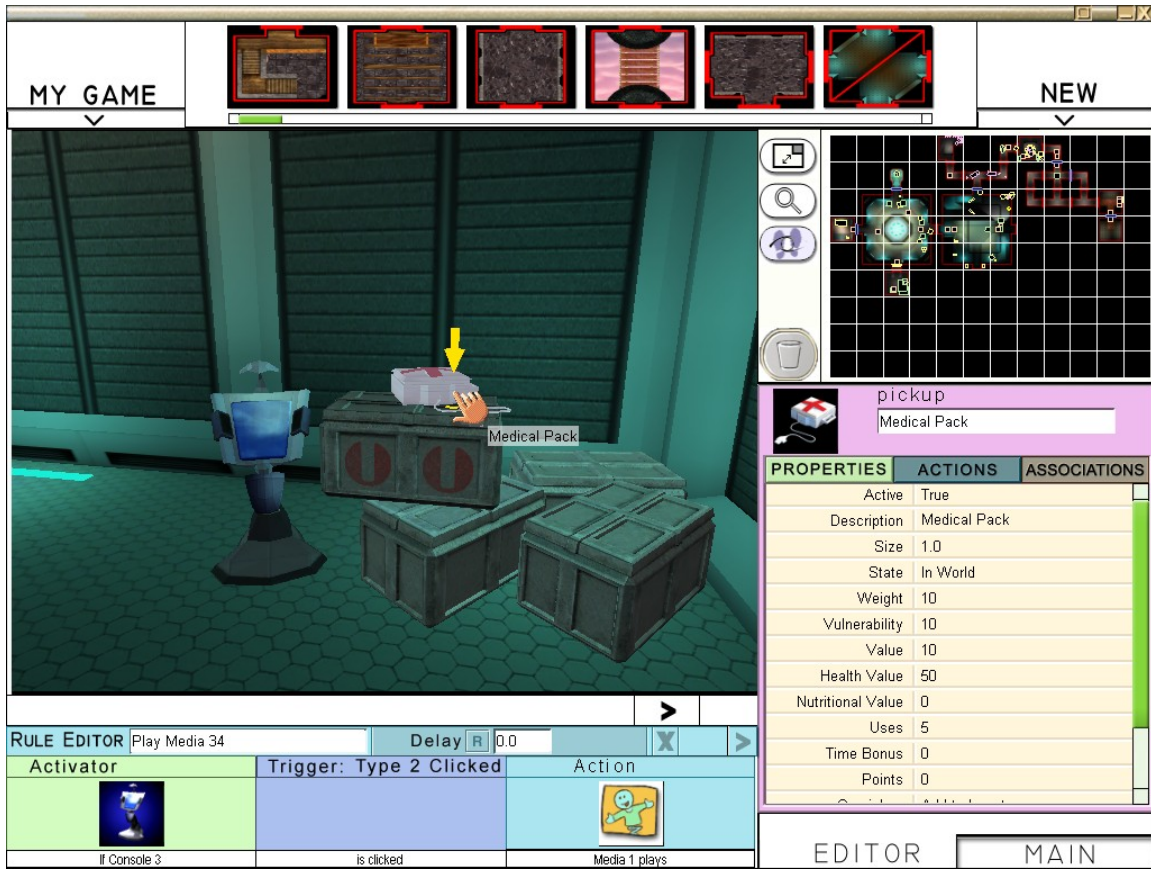


Figure 3: a screenshot from the same game in designer mode

In order to improve the design of successive prototypes of the software, we ran after-school clubs in a couple of schools and worked intensively with small groups of students, making games. One of these clubs involved students from the same class we had worked with 18 months previously. We invited twelve students to join. Over the first few weeks, some students dropped out, leaving us with approximately eight regular members. Only two of these were girls. I will discuss two games, one made by Alice and the other by Simon, to explore how gender-based considerations seem to have influenced their design.

Alice's game

Alice began to design her game with two friends, who subsequently stopped coming to the club. The game is set up as a mystery for the player to resolve. It opens with the following message: “you have gone back in time to Lady Hosiepol’s mansion. Your quest is to find the long lost scroll of Wasonant which holds Lady Hosiepol’s deepest darkest secret...”. The author of the various written messages which appear in the game is not named, but their function is to provide explanations of objects and of the conditions under which the player is acting. For example, upon finding a dagger, the player can examine it to reveal the following written message: “Lady Hosiepol committed suicide with this very knife and now haunts this house...WATCH OUT!!!!”. The message forewarns of danger but does not state what the threat might be, creating a level of suspense whilst also giving information which might be helpful to the player. A helper character is thereby evoked, who knows more than the player but not enough to tell them

how to act. Playing the game, therefore, involves acting with the aid of a friendly presence. The implied in-game character and player character are positioned as being equally fearful of the dangers ahead, and one knows only a little more than the other.

Much of the game involves working out significant from insignificant objects (objects which delay or do not enhance the player's progress through the game). A series of apples left in a corridor are identified as being either healthy or unhealthy, with the player asked to "choose wisely". The reference to wisdom here is suggestive of a coming-of-age story in which the player learns how to act and behave appropriately within a particular environment.

Alice's game draws on a fictional narrative form often targeted at young women — the murder mystery featuring a young heroic detective, such as Nancy Drew. The story is unusual for a gaming format —it is psychological rather than action-based (the aim is to find out why a Lady committed suicide). The genre of narrative which Alice draws on is, therefore, one aimed at women; it is found across different media platforms rather than just in gaming. Alice goes to some length to evoke a helper character. The nature of this social relationship enacts familiar conventions about male and female relations — none of the boys had messages with a helpful, convivial tone in their games.

One could argue that Alice, through her choice of narrative genre and creation of mood, is constructing her player as female, and positions herself as a female designer. This process is not simply a consequence of Alice's experience of games —she was a keen game player, particularly into platform games, but with a wide repertoire of gaming experiences to draw on. In selecting from this experience to inform her design work, Alice emphasizes features which define herself and her audience in terms of gender.

Simon's game

In configuring his game, Simon stated that he drew inspiration from one of his favourite games at the time, *Silent Hill*, which he liked because of its near-impossible puzzles. Following an opening message which simply tells the player they have been imprisoned by a maniac, Simon does not develop the storyline. Instead, he focuses on certain structural conventions of games. One of these is realised in the arrangement of weapons, which are situated spatially from small (a knife) to large (a mine). This sequence indicates increasing fire power, following popular gaming conventions which suggest an increasing level of difficulty. Another convention is reproduced in the creation of a training level at the start of the game. Here, the player is given instructions on what actions to perform; click on this, use this here. However, the second level does not draw on the skills acquired in the training level. Simon displays two conflicting interests here: to bring together the 'typical' components of a game (a training level, distinct from the rest of the game) and to create challenges which are fearsomely difficult, for which the player precisely cannot be trained.

The basis on which Simon organises his game positions him as a game fan, but also in a gendered way. He emphasizes aspects which are often said to appeal to dedicated male gamers: the use of fire power, inclusion of fantasy-based action, and skills which can be

acquired only through hours of practice and devoted attention. Simon could have drawn on any aspect of the *Silent Hill* games, including the highly developed narrative. This is de-emphasised in favour of the creation of fearsomely challenging puzzles. One cannot deduce from this that Simon is not interested in well-developed narrative or 'realistic' characters; in fact, his list of favourite games is dominated by games with these two elements, unlike Alice's list. Rather, the basis on which Simon configures his game is designed to establish a particular social identity in the group - the knowledgeable, well-experienced gamer. This identity is also gendered. It is precisely because members of the group will recognise and acknowledge an interest in weapons and ludic design as 'male' interests that Simon's game is effective as a statement of gendered identity. It is because such norms exist that they are drawn on by students to establish themselves as gendered

Conclusions

Kress' argument that representation is shaped by the interest of the social agent makes it possible to explore the principles by which students select from their experience and knowledge of games in designing their own. In this chapter, I have made use of Butler's concept of performativity to show that one of these principles is the desire to produce a gendered subjectivity. Students draw and design games in a way which identifies them as belonging to a group; a group of players, fans, but also a group defined by gender.

This perhaps raises a question about why students put so much effort into signifying gender, to themselves and to others. Before answering this, I should state that in analysing these data, I have focused on the production of gender rather than other issues. The same data could be analysed again to reveal other kinds of social affiliations, relating to fandom of certain texts or socio-economic status (Pelletier 2006). One of Butler's aims is to debunk the traditional view that gender is a more fundamental aspect of identity than anything else; indeed in another site of research, it seemed largely irrelevant as a consideration in students' approach to gaming (from their perspective), including game design (see Carr this volume).

However, in the data analysed here, I have focused on the production of gender as an aspect of identity. Classifying people into gender categories is a powerful social ritual; we make constant efforts to distinguish between boys and girls, women and men. This is clear in all aspects of social life, from public toilets to toys, including games. Games are often sold on the basis of a gendered target audience. The Nintendo DS for example comes in blue or pink versions. People create an identity for themselves by affiliating themselves with one group of people and distancing themselves from another. Groups are distinguishable by the norms associated with them, which people generally try and abide by and fit in with. Gender is a powerful way of organising and identifying social groups. It follows that in seeking to achieve a social identity, situating oneself in relation to gender norms is usually necessary. The reason young people align themselves with gender norms, therefore, is that this offers a way of becoming intelligible to others.

Through their identification with gender norms, young people deny some of their experiences and over-emphasise others. In this study for example, girls and boys distinguished differently between game components (narrative vs. action) claiming one as

legitimate in opposition to the other. This cannot be taken as a simple reflection of their gendered interest in games. Rather, this representation is selected to produce an effect at a moment in time.

Defining gender as a continuous activity implies that it is never fully achieved—we put effort into constructing our gender identity precisely because it is in doubt. What counts as ‘masculine’ or ‘feminine’ changes over time and a result of people’s actions in negotiating and transforming social norms. If we accept that making meaning necessarily involves reshaping available social norms and their representational conventions, it follows that the value of young people making games can be understood in terms of re-shaping game-based representational conventions, including conventions pertaining to gender. Alice and Simon drew on their knowledge of gaming conventions to make their own games — this is how their games are made playable. However, they do not simply maintain such (gender) norms but remake them. Designing a game means conforming to convention in order to be understood; but it also means appropriating and adapting convention to one’s particular situation. This process inevitably transforms such conventions. The value of young people making games is that they are developing capacities as designers. They draw on established conventions, but are able through their position as game designers to re-shape design patterns.

As more people, including girls, design games, norms about who designs and plays games are widened. It does not automatically follow that as a consequence, girls who make games in school or as a hobby are more likely to enter IT sectors or the games industry – they are undoubtedly larger barriers to this than girls’ subjectivities. However, making game design more popular and widespread perhaps begins to denaturalise the situation and thereby makes the stakes as well as the possible options clearer.

ACKNOWLEDGEMENTS

This research is generously supported by the Paccit Link programme:

<http://www.paccit.gla.ac.uk/>.

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