



Play to learn: Designing games with kids for kids

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Illumina Digital's teen games

- Innovations company delivering high quality broadband, broadcast and learning products, content and experiences across multiple platforms

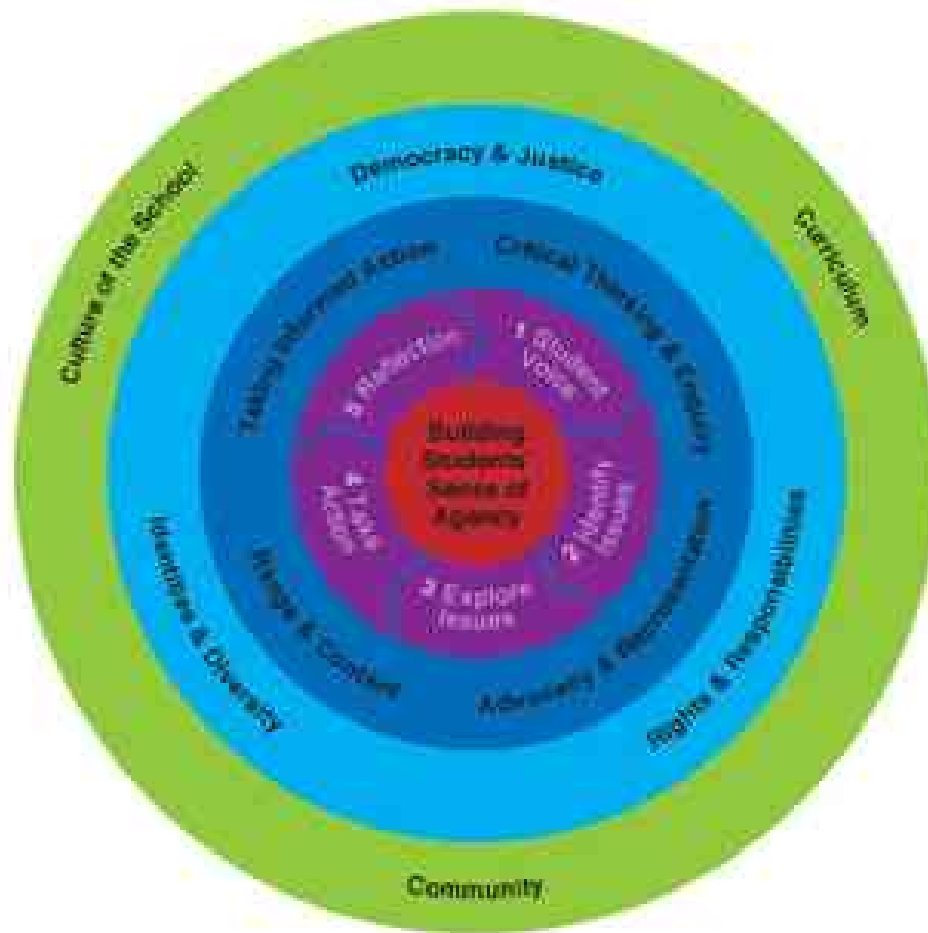


About Me in the Mix








- Published for **BBC jam**
- **A virtual town** where learners explore citizenship and identity through their actions
- Players resolve conflicts expressed as **dilemmas**
- Decisions have **discernible** consequences

Citizenship



THE NEW CITIZENSHIP CURRICULUM

-  The Goal of Citizenship: Building Students' Sense of Agency – their belief that they can effect political change
-  Characteristics of a Compelling Learning Experience
-  Key Processes / Range & Content
-  Key Concepts
-  Contexts of Learning

Learners will be able to...

- Find out about the participatory process
- Vote on issues and see what their peers think
- Make decisions and explore consequences
- Understand different perspectives
- Present and respond to material they create
- Find out more about how they can participate outside of the Mix
- Develop skills of communication and enquiry

Issues to bear in mind

Educational games:

- Too simplistic
- Repetitive tasks quickly become boring
- Poorly designed tasks don't support progressive understanding
- Limited range of activities
- The users know they're being coerced into learning

Kirriemuir, McFarlane (2004)

-> Respond to users' actions or instructions, and create a state of flow

Approaches to learning design

Approach	Users & roles	Aims	Common techniques
Ethnography and User observation	Users observed in existing activities and/or in natural settings using prototypes. Can take place at the outset, during, and on completion of a project.	To understand how users operate under existing conditions. To identify opportunities for new resource development. To understand how users use new resources in naturalistic settings.	Video, observation, field notes
User testing	Children or teachers observed in using technologies and asked to provide feedback. Most commonly used at the end of development phases.	To understand how users interact with new resources and to gain user insight on new resources.	"Talking aloud" during use, interviews, observation
Informant design	Children or teachers seen as experts or "native informants" informing designers of key issues related to their experience, helping to develop early design ideas and testing prototypes in development.	To generate new ideas about the needs and performance of users. To draw on user expertise at specific phases of the design process.	User panels, user focus groups involving prototyping activities, user trials at specific stages of development.
Participant design and cooperative inquiry	Children or teachers working as a core part of a design team to identify ways of improving the environments in which they learn or work through the development of digital resources.	To enable democratic design and decision-making in collaboration between users and developers.	Users seen as equal partners of the design and development team. Comprises four phases of gradual support for users to enable them to participate equally in the design process.

Me in the Mix informant design

What	Stage of project	Purpose	Involves
Learning brief	At outset	Create clear educational objectives and acceptance criteria. Identify opportunities for working with users in development phases.	In-house team
Content testing	Specification phase	Check resonance of content with target users. Elicit users' suggestions for development of the content. Understand how users currently participate in similar activities.	Focus groups with young people about key related issues. Comment on initial designs. Interviews regarding technology use and games.
Game concept and activities model testing	Specification phase	Test key educational and design aspects of the prototype. Ensure early identification of problems and potential improvements.	Preliminary tests of a board game and card game with a small sample of intended end-users, conducted in school outside lesson time. Observation of use, field notes, interviews.
Proof of concept and mood boards	Specification phase	Test initial thoughts on look and feel and the user experience.	Discussion led evaluation through focus groups with young people. Some basic goals. Informed by previous work.
Iterative testing	Production phase	Evaluation of the physical prototype against stated aims. Establishment of necessary pedagogic context.	Iterative testing of prototype components in simulated environments in schools. Includes accessibility testing.

Informant design objectives

To see whether the user experience:

- is compelling and rewarding
- encourages thinking about key citizenship issues
- encourages active citizenship and real-world outcomes
- provides a scaffold for empathetic awareness
- is age appropriate and suitable for users of different ability
- meets the needs of users across the UK
- is topical for users in the UK



Content testing

Focus groups

- 19 focus groups across 12 schools
 - 9 with 11 year-olds
 - 10 with 14 year-olds
- Rural and urban settings
 - England
 - Wales
 - Scotland
 - Northern Ireland



Focus groups – objectives

- To determine the issues that matter to Me in the Mix users
 - To examine location and age factors
 - To identify ways in which young people have come across these issues
- > Decide on stories for a news programme for your area and age group

Bullying takes place for all sorts of reasons - jealousy, size, colour, because you look different...

They judge me as a stealer because of the way I dress, but it was freezing!

We've got a Tesco and a Sainsbury's. Why do we need an Asda?

We should do news that kids want to hear... not just news about people getting shot

Focus group findings

Issues that matter

- Local planning
- Safety
- Health
- A voice in the media
- Environment/charity
- Diversity/tolerance

Location and age factors

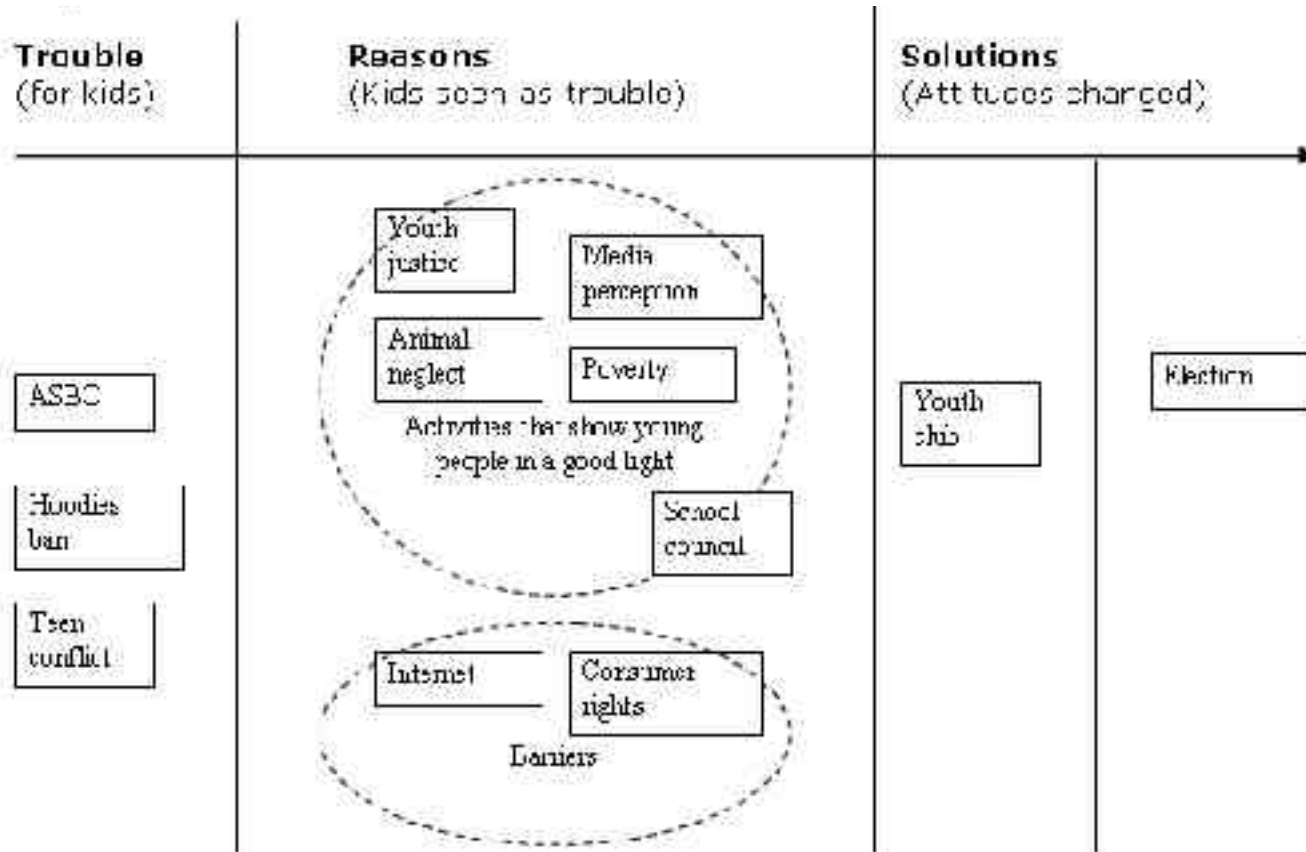
- Rural and urban variation
- Local concerns
- Age concerns similar

Focus group recommendations

- Focus on local issues, but extend to global if possible
- Include positive representations of young people
- Ensure game voices young people's opinions on issues that affect them
- Make involvement in planning central
- Safety in public spaces is also important



Scenarios





Game concept testing

Proof of concept and mood boards

Board game - world

Card game - activities

Game concept testing

- Board game
- Proof of concept



Testing objectives

Goals

- Assess user experience
- Collect feedback on what works and doesn't work
- Observe how users navigate
- Observe time taken on activities

Things to check

- Use of hints and tips
- Interface feedback required
- Will users redo activities if they fail
- Making the activities sufficiently challenging for age range

Example scenario

- A sign on the door of your local shop says “No teenagers”. A sandwich board outside the newsagent says: “Anti-social teens have no respect for the community. Local businesses clamp down.” Go to the shopping centre and see what you can do.
- **A: Try to find another shop that will let you in.**
You go to Mixton to do this, but the travel costs you £5. Your friends aren’t happy. Lose 2 support.
- **B: Organise a protest**
To do this you need 2 money, 7 support.
Some members of the community are not happy with the approach, but you win over the media. The newspaper publishes a story about good things young people have done. Teenagers are allowed back in the shop
- **C: Start a campaign to show the positive things young people do**
To do this you need £4 and 6 support.
You win over the media and the local community who become happier with young people.

Chance cards

It's bedtime. Go home.

You are given an ASBO. Go to the Magistrates Court and miss a turn.

You find a wallet containing £10: hand it in to win 5 support, or keep the money but lose 5 support.

An anti-bullying poster you designed has won a prize. Gain £5 and 10 support.

You trip over a paving stone. Go back three spaces.

Bus drivers are on strike. Go to the Bus Station and miss a turn.



ID ...And what about the chance cards?

Kids Ah they was funny, they were fine...

ID If you were to add some more what would you put in it?

Kids Dog poo, your car breaks down you have to pay,
you got caught nicking paint from school...

ID What age range do you think could play it?

Kids 8 and over

If you got loads of money you can do well – you get
an A in your GCSEs you win £5

Findings

- Chance is crucial, especially moral dilemmas
- Earning support and money was understood
 - “support is most important”
- Liked having ways to get around eg bus
- Suitable for target age group
- Scenarios are realistic and relevant

Recommendations



Chance cards

Transport methods
Locations



Card game

Youth club vs developers

Youth Club card

Proposal

We will not cause any more delays to the building if you tell the media you're helping

Developer card

Conclusion

We're not prepared to speak to you anymore. We're going to call the



The only way you can come to agreement is by compromising, and that's what we did. We knew we'd have to compromise.

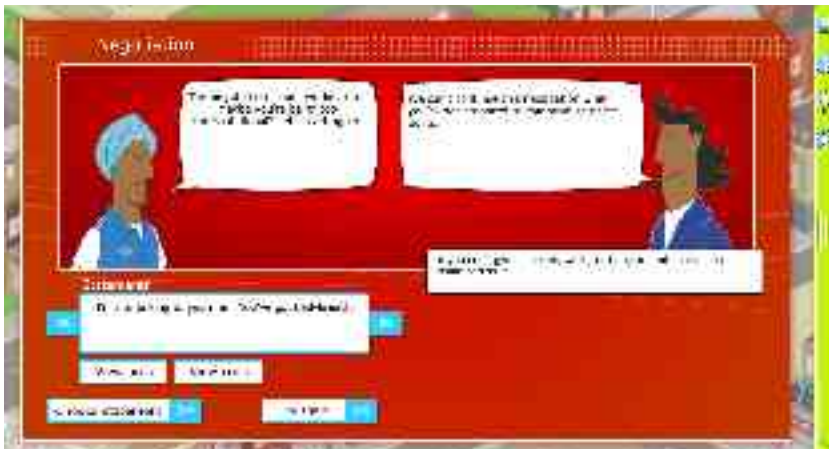
If you say 'oh, do this' they won't do it.

Be diplomatic.

Findings

- The conflict example was realistic
- Be clear on their priorities
- A summary of how the negotiation went would help users know the reasons for winning
- The differences in ability among players were more marked - differentiation needed
- Selecting cards is easier with pros and cons
- Consultation with team mates was important in decision making for both age groups, and so support for the lone user will be important.

Negotiation





Iterative testing

Testing sessions

1. Activities content and design
2. Activities functionality - round 1
3. Activities functionality - round 2
4. Activities functionality - round 3
5. Whole user experience and evaluation of learning
6. Accessibility testing with deaf and blind users

The Mix



A PLACE WHERE PEOPLE ARE AFRAID TO WALK; AFRAID TO DRIVE;



Favourite bits

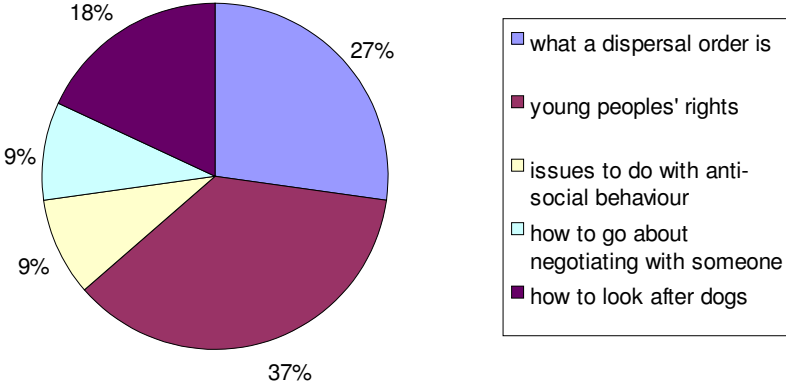


*“Can we spend the next lesson playing it too?
What about lunchtime then?”*

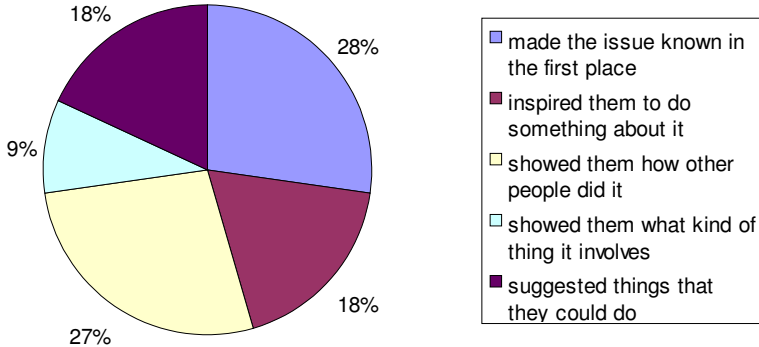


What they learnt

What evaluators learnt from playing the activities...



How playing the game would help evaluators get involved in an issue they cared about...



Accessibility testing

- A 13 year old blind games player uses cursor keys to navigate and successfully completed activities including letter design activity
- A 13 year old deaf user found the game pitched at his level



Final recommendations





Experience

Working with kids gives...

- First-hand experience of needs, interests and requirements
- Development of more innovative and creative ideas
- Avoid formulaic work
- Audience focused – designed to appeal
- Resources embedded in teaching strategies and educational contexts