

The future is mine

Joe Usher and Denis Moynihan

The tools, resources and means with which pupils learn and practise geographical skills and knowledge are constantly changing. Here, Joe and Denis outline the potential for using Minecraft Education Edition to help pupils become active local citizens.

Pupil participation in local decision-making

The United Nations Convention on the Rights of the Child (UNCRC) established the right of children (hereafter pupils) to participate in society. As pupils are residents, citizens and social actors in their home localities, they should be given opportunities to shape their own and their community's futures. In the Republic of Ireland the local area planning guidelines and the *National Strategy for Children and Young Peoples' Participation in Decision-Making 2016–2020* (Department for Children and Youth Affairs, 2015) reflect Article 12 of the UNCRC. Under the *Strategy*, pupils' views will be taken into account on the local area planning process that shapes their built environment.

The benefits to enabling pupils to participate in local planning processes include:

- more effective outcomes and decisions that better meet the needs of local communities
- stronger community spirit through broader community buy-in and participation
- pupils' development of geographical knowledge and understanding.

Pauw (2015) highlights the importance of geography in enabling pupils to grasp 'the bigger picture' and in contextualising the development of 21st-century skills and competencies while empowering pupils to participate as citizens: 'the message cannot be: the problems are immense and these skills are our answer'. If pupils are to become geographers, they need to be able to think critically, engage with the geographical evidence, look for solutions to issues, consider multiple perspectives and make informed decisions (Dolan, 2020).

Effective geography teaching comprises hands-on activities that are linked to real-world contexts and pupils' lived experiences. Pupils learn best when they are fully engaged in the learning about what matters to them (Usher, 2021). Exploring real-world everyday issues is more memorable for pupils.

'Game-based learning' (GBL) refers to an approach to teaching, learning and assessment which makes use of digital games (Ke, 2016; Schrier, 2018). In this project, Minecraft Education Edition (EE) was chosen because it is a 'virtual sandbox' that encourages pupils to build 'static representations' of the real world (Nebel *et al.*, 2016). However, unlike the real world, in Minecraft EE pupils have complete control over both building resources and natural elements. This GBL motivated the pupils while enabling them to engage in hands-on activities linked to real-world contexts and their own experiences.

A local public park project

In this unit of work pupils investigate the provision of public parks in their locality. They can investigate an existing

park, evaluating whether it serves the entire community before using Minecraft EE to design and build an improved version. The progression of lessons and learning activities follows Roberts' (2003) framework for enquiry (Figure 1).

Creating a need to know

Pupils study satellite imagery (via Google Earth) and photos of the local park to identify and discuss its main features and facilities. They annotate the images as appropriate.

Pupils discuss what they like about the park and consider other people who use it. The emphasis here should be on the term 'public' and what it means relating to the provision of parks. The main overarching enquiry questions include:

- What does 'public' mean?
- Who uses the park?
- Do people use it differently? If so, how?
- Is it accessible to everybody?
- Does it serve all members of the local community?
- How could it be improved?



Figure 1: A framework for enquiry in geography education. Source: Roberts (2003).

	Young children (0–7y)	Older children (8–12y)	Teenagers	Adults	Older people (65+y)	People with additional needs (e.g. wheelchair users)
Existing features						
Extra needs						

Figure 2: Needs grid for planning improvements to the park.

Using resources

The pupils consider the local community, completing a ‘needs grid’ (Figure 2 – for download, see web panel) on what the different stakeholder groups might need and want from a public park. Here, pupils can collect data using questionnaires to interview people from different age brackets (e.g. sports coach, parent/guardian, grandparent, younger/older sibling). Pupils can also ask other year groups about their preferred aspects of the park and suggestions for improvement. Pupils can then present their findings using appropriate types of graph.

The pupils could carry out fieldwork in their local park including: examining its features and observing how people use it (conducting further interviews); mapping the locations of various features (e.g. benches, bins, bicycle parking, play equipment); identifying areas in need of improvement (e.g. uneven surfaces) and annotating aerial images or hand-drawn maps.

Making sense

The pupils collate their data and propose improvements to the park. They must consider inclusivity, biodiversity and sustainability. Pupils could present their ideas as mood boards showing examples of their proposed new features.

Pupils work in groups using Minecraft EE to create their new improved public park. They decide what features to remove, what to retain and what to add. Scale is particularly important here because not everything will fit into the existing space. In order to build their park in Minecraft EE to scale, the pupils will need to devise an appropriate ratio (e.g. 1 block = 1m). They can use the measurement tool on Google Earth to work out the area of the park and various features within it (Figure 3).

Using Minecraft EE (Figure 4) groups can work together from different laptops and locations while building the same public park.



Figure 3: Pupils can use Google Earth to identify and measure the area of their local park and key features in order to make a scale model in Minecraft EE. © Google.



Figure 4: An example of a redesigned public park built collaboratively by pupils using Minecraft EE. Image © Block by Block.

Reflecting on learning

The groups can present their projects in class and within the school; you could invite others into school, for example local government councillors and planners from the local council, to watch and discuss the pupils' presentations on their new public parks.

'Ireland's Future is Mine'

Microsoft Ireland and RTEjr (the Irish state broadcaster) recently ran a primary school 'Ireland's Future is Mine' competition in both the Republic of Ireland and Northern Ireland. Pupils were tasked with using Minecraft EE to redesign and build their local area in a more sustainable way. Pupils worked collaboratively to investigate, map and rebuild their localities to include any changes they deemed appropriate. Examples include providing additional cycle lanes, electric charge points, community allotments, wild areas and solar-powered street lighting. Many of the classes participating in the competition engaged with their own local area plans and the local planning process, inviting local councillors and planners to visit their school to join in their discussion on the main issues, opportunities and the future of their locality.

Teachers valued the project for its potential for subject integration, its collaborative nature and the sense of ownership and enthusiasm engendered in pupils. One 5th Class primary teacher commented:

'I find Minecraft EE such a fantastic teaching tool in that it integrates most curriculum subjects such as history, science, maths, English or Irish – and geography of course! The best thing I have found is that it is pupil-led learning and I am there mainly to facilitate... I also found that it involves collaboration of the whole class, with all pupils being able to use their strengths/abilities, but learn from each other at the same time – which has been fantastic.'

Conclusion

GBL using Minecraft EE can be a powerful tool in enabling pupils to grapple with real-world problems in a meaningful way. Pupils are afforded the opportunity to design and rebuild a feature in their local area where the only limits to their creativity are the park's physical boundaries. Use of Minecraft EE allows pupils to create virtual representations of their solutions and share them with others. It also enables teachers to design integrated learning activities for pupils.

A major barrier to facilitating the consultation of pupils in the local planning process is the lack of any standardised mechanism to capture their views and concerns. Use of Minecraft EE to enable more community-wide engagement offers a potential solution. One example is 'Block by Block' (see web panel), which employs Minecraft as a powerful tool for visualisation and collaboration, actively engaging pupils and members of the local community (who, typically, do not have a voice) in public planning projects. One of the main purposes of education is to equip pupils with the skills they need to engage as active citizens in the real world. Dolan (2022) and Usher (2019) highlight the need for pupils, teachers, policy-makers and the general public to recognise the relevance and importance of geography. The main aim of geography is to engage pupils in conversations, investigations and problem-solving about local and global issues that are relevant to their lives and not confined to the impartation of abstract knowledge within the four walls of the classroom (Figure 5). We hope this article will inspire teachers and pupils in this regard.

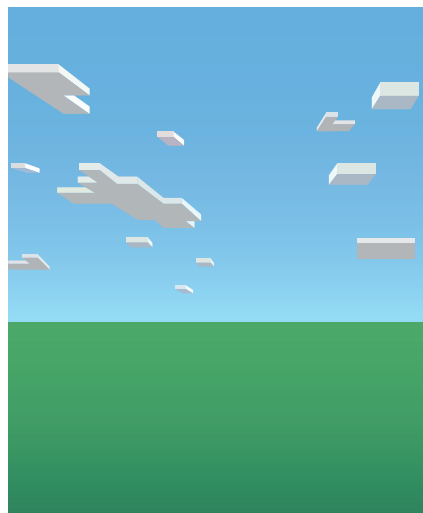


Figure 5: With creative construction through Minecraft the possibilities are endless. Image © Phoenix 1319/Shutterstock.com.

References

- Bartlett, S. (2002) 'Editorial: Building better cities with children and youth', *Environment and Urbanization*, 14, 2, pp. 3–10.
- Chawla, L. (2002) 'Insight, creativity and thoughts on the environment: integrating children and youth into human settlement development', *Environment and Urbanization*, 14, 2, pp. 11–21.
- Department for Children and Youth Affairs (*An Roinn Leanaí agus Gnóthaí Óige*) (2015) *National Strategy for Children and Young Peoples' Participation in Decision-Making 2015–2020*. Available

- at: <https://assets.gov.ie/24462/48a6f98a921446ad85829585389e57de.pdf>
- Dolan, A.M. (2022) 'The power of primary geography', *Primary Geography*, 107, pp. 8–9.
- Dolan, A.M. (2020) *Powerful Primary Geography: A toolkit for 21st century learning*. Abingdon: Routledge.
- Ke, F. (2016) 'Designing and integrating purposeful learning in game play: a systematic review', *Education Tech Research Development*, 64, 2, pp. 219–44.
- Nebel, S., Schneider, S. and Rey, G.D. (2016) 'Mining, learning and crafting scientific experiments: a literature review on the use of Minecraft in education and research', *Educational Technology & Society*, 19, 2, pp. 355–66.
- Pauw, I. (2015) 'Educating for the future: the position of school geography', *International Research in Geographical and Environmental Education*, 24, 4, pp. 307–24.
- Roberts, M. (2003) *Learning through Enquiry*. Sheffield: Geography Association.
- Schrier K. (2018) 'Guiding questions for game-based learning' in Voogt, J., Knezek, G., Christensen, R. and Lai, K.W. (eds) *Second Handbook of Information Technology in Primary and Secondary Education*. Cham, CH: Springer.
- Usher, J. (2021) 'How is geography taught in Irish primary schools? A large-scale nationwide study', *International Research in Geographical and Environmental Education*. <https://doi.org/10.1080/10382046.2021.1978210>
- Usher, J. (2019) 'BREXIT and borders in the geography classroom: exploring life on the Irish border with students aged 10–12 years old', *Teaching Geography*, 44, 3, pp. 111–114.

Web Resources

- Download Needs Grid:
www.geography.org.uk/Journals/Primary-geography
- Block by Block video:
<https://www.youtube.com/watch?v=wkfB96DNwDw>
- Block by Block website:
<https://www.blockbyblock.org/>

Joe Usher is an Assistant Professor of Primary Geography Education at the Institute of Education in Dublin City University, Ireland, where he is also Co-ordinator of Primary Geography. Denis Moynihan is an Assistant Professor in Digital Learning at the Institute of Education in Dublin City University, Ireland. Email: Denis.Moynihan@DCU.ie