Independent evaluation of the *Little Big Planet 2* project in Wolverhampton's Local Education Partnership schools: Outcomes and impacts

Summary

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Individuals and schools in this report have not been named, to ensure anonymity and confidentiality for those willing to provide evidence for research of this nature - this should in no way be seen as devaluing the commitment and contribution played by all involved.

SUMMARY OUTCOMES AND FINDINGS

The project in outline

- This project aimed to encourage teachers in schools to bring together teams of young people to use a well-known video game, Little Big Planet 2, to create new levels that would be published and used by other players.
- The project started with 15 schools and over 100 students.
- Teams of students were often selected by teachers, and most were run as after-school clubs.
- Many teachers recognised that students involved were not always involved in other school activities. Teachers did not create the ideas or do the programming for the project; they supported teams, facilitated work, provided a working environment, and offered advice.
- After some 5 months of activity, 25 teams in 7 schools had created a completed level.
- Those students not completing levels also gained a great deal of experience and interest along the way.

Addressing industry needs of the future

- This project and its outcomes relate in important ways to current issues raised about the future of key industries in the United Kingdom (UK).
- The Livingstone and Hope report (2011) highlighted a major set of issues facing the video games and video effects industries in the UK. As they said: "difficulties filling vacancies are having a real impact on video games and visual effects companies' growth prospects. They are forcing some companies to recruit from abroad, turn down lucrative work and in some cases move their operations overseas".
- Ray Maguire, former head of Sony Computer Entertainment UK, and now the Chair of BAFTA's Video Games Committee, said (in The Guardian, 2011) that he would like to see a computer club in every school to encourage young people to join these industries.
- In this project, 15 schools were involved, and evidence from students at the end of the project indicated that 6 more students had become interested in the video games industries, 5 more in the games software industries, and 4 more in the visual effects industries.
- The project helps students to think ahead. As one student said: "I think that it really helps you, as up until this, I hadn't really thought about being in the gaming industry and that it's something that you could do and a new experience of something that I have never done before".
- If the level of outcomes from this project could be replicated across all 5,000 secondary schools in the UK, then 5,000 more young people would be likely to become interested in the video games and video effects industries each year. This could clearly have a marked effect on the current industry shortages.

The context of young people not in employment, education and training (NEET)

- This project relates importantly also to the future of employment and training for young people. A recent report by Sissons and Jones (2012) states that: "Almost a million young people in England are NEET. … More young people are struggling to make the initial transition from education into sustained work".
- The report goes on to say that: "Skills needs have changed in a way that makes it harder for some young people to access the labour market. … In particular, soft skills are increasingly important for young people to access and maintain employment …"
- This project has achieved three important outcomes: some young people who were disengaged from learning and likely to become NEET have become re-engaged through the focus of this project; the project has highlighted areas of potential longer-term employment that were unknown or little known to the young people previously; and the project required the young people to use and develop soft skills in parallel with the use of technical skills.

Types of creativity

- This project has engaged a range of students in creative endeavour. That creative endeavour has covered a range of different elements – artistic and planning, as well as technical.
- Members of teams tended to take different roles; artists created many different images and scenarios; designers produced a great many ideas for routes and challenges; programmers found ways to build the levels.
- Digital creativity has been at the heart of student endeavours. Figure 1 shows a range of the creative outcomes (although these 2D images cannot do justice to the real, moving forms).

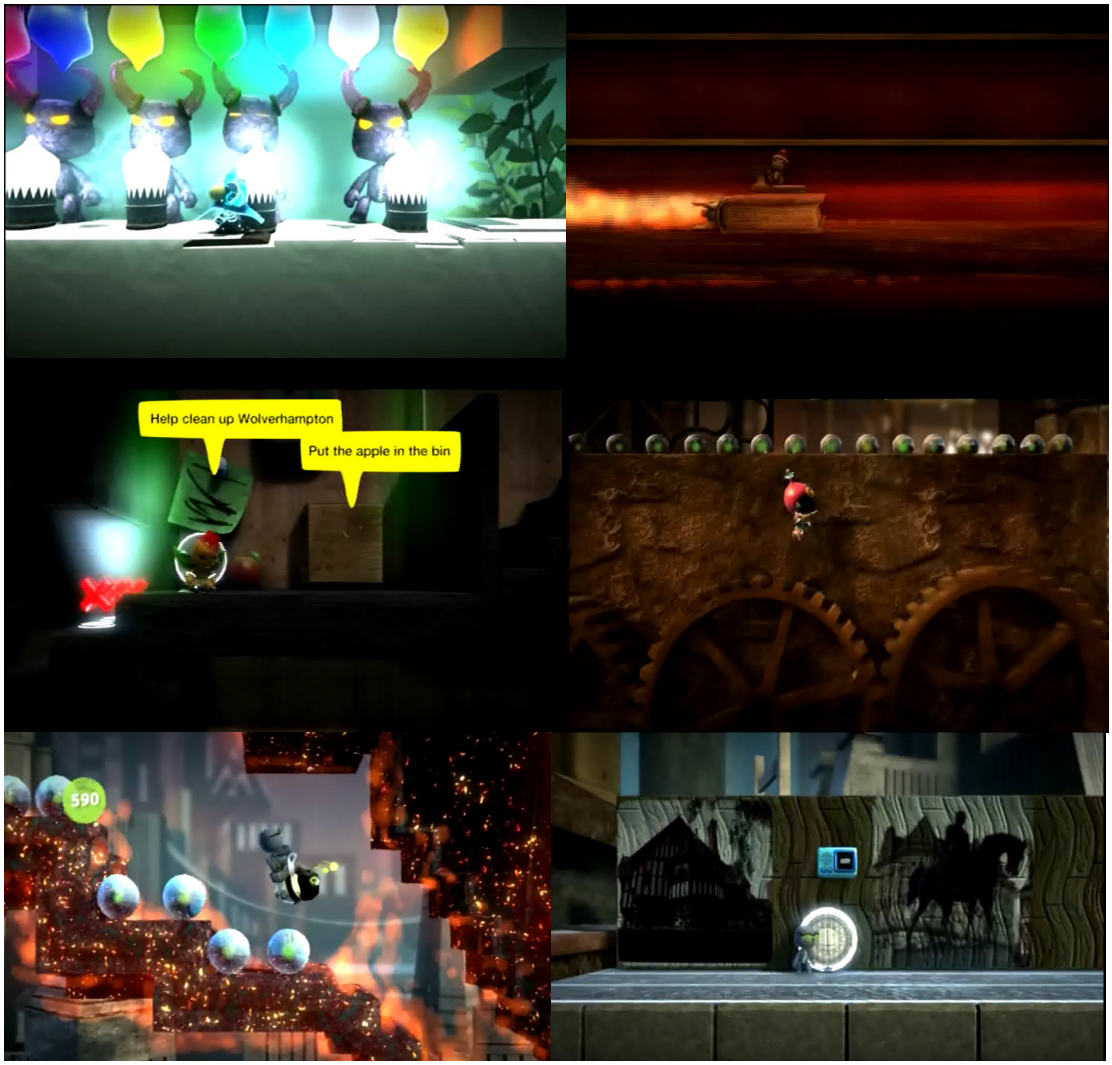

Figure 1: Montage of captured images from 6 different levels created by different student teams, demonstrating artistic, creative and technical abilities involved in building these scenarios

Development of soft skills

- Throughout the project, technical skills alone have not been sufficient for teams to achieve success. Teams have needed to use and develop a wide variety of soft skills.
- Communicating was vitally important. Teams spent many hours working together, planning and discussing details. They used their own social networking often to communicate. As one student said: "yes we often use instant messaging on our phones, sending each other ideas".
- Gaining technical details enabled teams to overcome obstacles and create features within their scenarios. Students needed to seek specific help often to do this. As one student said: "I

went online and communicated with a man in Germany who told me how to do this; he gave me the circuit board for that and I went on his YouTube too".

- Working in teams was vital. Students often found they could work with others they had not worked with before, and enjoyed working towards a shared goal. As one student said: "[what I] most enjoyed? Our imagination to build stuff; in the game we communicated and worked as a team, pretty good actually".
- Sharing and generating ideas was common. Some students were recognised as developing their abilities to share. As one student said: "We tested out ideas, got other people's ideas, put them into use in this level".
- Problem solving was important. As one student said: "[The] traffic lights bit - took me about an hour to make a car and … took me ages….had to look through tutorials … there are like Little Big Planet websites that show you the more advanced things".
- Students sought to create a professional finish; they were not satisfied with less than the best. As one student said: "most of the time we was arguing and saying that we didn't like this or that, but we sorted it all out and it's come better than we thought that it would".
- Student commitment was high throughout, and achievement was clear, as judged by the students themselves, the teachers, the supporters, and the research findings. As one student said: "I've put more work into this than my history work and other stuff. I put about 50 minutes a week into my history project and have put in an hour on the blog for this and another hour on the game. It's actually taught me how to get stuff done".

Measuring soft skills

- The research methods used in this study involved the trial of a new instrument to measure soft skills. Based in part on the Qualification and Curriculum Authority framework of personal, learning and thinking skills (n.d.), the instrument gathered data from students about 16 different soft skills: thinking; problem solving; researching; generating ideas; identifying solutions; making; evaluating; communicating; scripting; story boarding; sequencing; logical thinking; artistic; team working; planning; and leadership skills.
- In this study, the instrument was used to chart self-reported levels of skills before, during and after completion of the project. A matched student group self-reporting their individual skill elements at the beginning and at the end of the project indicated that a range of individual skill elements in each skill set had moved further towards the ideal across the period of the project: thinking skills (5 out of 5); problem solving skills (3 out of 5); researching skills (4 out of 5); generating ideas (4 out of 5); identifying solutions (3 out of 5); making skills (3 out of 5); evaluating skills (5 out of 5); communicating skills (4 out of 5); scripting skills (4 out of 5); story boarding skills (2 out of 5); sequencing skills (3 out of 5); logical thinking skills (3 out of 5); artistic skills (4 out of 5); team working (5 out of 5); planning skills (3 out of 5); and leadership skills (4 out of 5).
- The project provided opportunities for students to review their skills. Based on teacher reports at the interim stage and comments at the final stage, the later survey scores are likely to offer a more realistic picture of student skills, since their earlier experiences would have been much more limited. On this basis, more reliability should be placed on final scores. Skill elements strongly self-reported at the end of the project (67% or more of the ideal scores, and all clearly important for application in longer-term employment and training) were: I usually think about things from different viewpoints; I usually take other people's ideas into consideration; I can think of ways to handle problems; I can usually find details and information I need; I usually try out my idea to make sure it works; I modify what I'm doing if things need to change; I think carefully about what I've done and whether it's as good as it could be; I think about information and ideas and whether they are useful or not; I check with other people whether they can understand easily what I've written; and I check how things are going regularly.
- The skills framework has enabled monitoring of soft skill developments. It should be verified further, for use in contexts where students can self-review, and compare their reports with other peers and teachers.

RECOMMENDATIONS FOR POLICY MAKERS

This project supports creative endeavour and outcomes

- The outcomes of the project clearly encourage creative endeavour, across artistic, planning and technical arenas.
- The outcomes are real and authentic. Video games levels are created, that are published for others to use and report on.
- Few children of secondary school age have published a book. Yet 25 teams of students in 7 schools have had a video game level published as a result of this project.

Wider adoption could support future employment needs

- This form of activity should be encouraged. Results from this pilot suggest that future industry needs and future employment challenges of young people could be supported positively.

The place in the curriculum needs to be considered carefully

- Although some schools ran this project in lesson times (largely special and short-stay schools), most mainstream schools ran it in after-school clubs.
- It is clear that after-school clubs provide time and opportunities for creative work, developing artistic, planning and technical skills, and the development of wider soft skills in context.

RECOMMENDATIONS FOR CURRICULUM DEVELOPERS AND MANAGERS IN SCHOOLS

Implementation structure and planning is an important first step

- This project was initiated by a sponsor (in this case the local education partnership), and an advisor (who provided contacts with key industry people, provided an important and valuable structure and framework, ran three workshops, monitored progress, and checked the final work).
- Both of these elements are important. They need to be accommodated when a project like this is set up.

One or more key teachers need to facilitate rather than teach

- Key teachers need to make the project known to students. They do not need to be computing teachers, but support from computing teachers can certainly help. Key teachers may need to select teams, but selecting on the basis of potential team working and leadership rather than existing friendship groups may be more useful in the long-term.
- Key teachers need to facilitate – attending key workshops; discussing ideas with teams; advising on initial planning; providing a working environment; supporting meetings; and encouraging generally.

Communication channels should not be restricted

- Student teams are likely to need to communicate a great deal. They need time to discuss details as well as to discuss overview needs such as plans and scripts.
- Students are likely to use their own communication channels, and may spend additional time outside school. Setting up bespoke digital communication channels is not likely to be needed.

Technical details are likely to be sourced by the students

- Although teachers might advise students about finding technical solutions to problems, students are likely to know how to access some sources that are not familiar to teachers.
- Students are likely to teach each other. They will work independently but not individually; forcing them to work individually is not likely to lead to positive outcomes.

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About the author

Dr Don Passey is a Senior Research Fellow and a Director of the newly established Centre for Technology Enhanced Learning in the Department of Educational Research at Lancaster University. He has wide experience with developing and using evaluation and research methods to look at technological innovation, and has studied and reported on outcomes of uses of leading edge technologies and their impacts on teaching and learning over the last 20 years.

He has recently completed an evaluation for Espresso that has looked at outcomes and uses of digital resources across their very wide user base, and studies for Wolverhampton LA on the implementation of a parental reporting pilot in 5 schools, and on the implementation of the LP+ learning platform.

He is undertaking a range of studies on home access and uses of technologies to support young people's learning, has previously undertaken an evaluation study for the BBC looking at outcomes of the BBC News School Report project, and a number of studies for Becta looking at potential uses of technologies with young people who are not in employment, education or training (NEET). He has over the past few years undertaken a series of evaluation studies on how schools in Aston Pride have supported the development of community and home access to ICT, as well as a review of the ICT development practices and outcomes arising in Wolverhampton LA. He was commissioned by the BBC to look at learning uses and outcomes of the BBC jam resources at an early stage of their development. He previously completed studies on the role and learning benefits of IT Academies for the DfES, the use of broadcast video clips in schools and uses of multimedia support for at risk young people for the BBC, the uses of specific online learning resources for regional broadband consortia (RBCs), the ways in which ICT is linked to pupil motivation for the DfES, the role of ICT in supporting learning practices for disadvantaged communities for a NDfC project, the outcomes of uses of interactive whiteboards, and the development of e-learning practices across RBCs and local authorities (LAs). He has undertaken studies and reported previously on the outcomes and implementation of Pathfinder LEAs for the DfES, the development of Year 7 online course materials for mathematics for RM, and the use of a number of integrated learning systems in schools. He previously led a team that investigated the outcomes of laptop use in schools and homes as part of the Microsoft UK Supported Anytime, Anywhere Learning Project, and led a study for the Qualifications and Curriculum Authority (QCA) looking at the implications of uses of ICT for coursework in examination assessment.

He has worked with government agencies, commercial and non-commercial groups, educational institutions and schools, in undertaking research to inform both policy and practice. He has been a consultant to the DCSF (then DfES) on a number of projects, and has worked on the development of innovative approaches to data management systems in schools and LAs. He has worked with commercial companies in the UK, Switzerland and Germany, with state pedagogical research institutions in France and Germany, with educational groups in Hong Kong, Bermuda, and Peru, with LAs across England and Scotland, with RBCs, and with individual schools. He established, in collaboration with the Specialist Schools and Academies Trust (SSAT), a Masters in Research course in Innovation in School Practice for teacher practitioners, focusing on researching the uses of data and technologies within schools and in homes.

He is a member and vice-chair of the International Federation for Information Processing (IFIP) Working Group on Information Technology in Educational Management and a member of an international Working Group on Elementary Education and ICT. He is a member of the BCS Schools Expert Panel. He has written widely on aspects of leading edge ICT uses in primary and secondary education, and is on the editorial board of the IFIP journal.

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