Making Sense of a Learning Space: How Freestyle Scooter-riders Learn in a Skatepark

By Martin Johnson and Tim Oates CBE

There is relatively little research considering how participants in skatepark-based activities learn. Moreover, there is a marked lack of research that considers the case of freestyle scooter-riders (rather than skateboarders). Freestyle-scooter riding developed in the early-2000s (The Scooter Resource, 2016) and has a broad international participation base.

Figure 1: Parked scooter (Copenhagen, Denmark); Scooter session (Menton, France).

One particular characteristic that sets freestyle scooter-riders apart from other skatepark-based sports (e.g. skateboarding, BMX bike riding, in-line skating) is the relatively young age-range of the participants (Jeavons, 2013). We wanted to explore freestyle-scooter riders' views on learning to extend the limited research base. We used a structured interview to gather the views of 23 young people who ranged in age between 8 and 17 at Adrenaline Alley®, Europe's largest indoor skatepark. All were male and most were considered to be "intermediate" in ability (although the group also included some "expert" and "novice" riders). Observational notes gathered during the skatepark visit augmented these interview data.

It might be anticipated that learning in skateparks could be similar to learning in other open-access spaces where people meet as a community of shared interest and participate in self-directed activity. These features are also characteristic of makerspaces and tinkering studios that have started to appear in museums and community facilities across the UK. Although the specifics of these different spaces vary across contexts, a common feature is that they provide an opportunity for interaction where knowledge exchange is fluid, networked and serendipitous, and where many users teach one another rather than relying on structured lessons (Dellot, 2015).

Our analysis identified two broad themes in the interview data. First, there were some common elements of the scooter-rider learning process. Second, there were elements of the environment that were considered to influence the learning process.

LEARNING ELEMENTS

Mastery: Learning involves the self-conscious movement of the learner toward their mastery of a set of skills and tricks. In this way, learning has an "official script" (c.f. Engeström, 2009) where learning has an implicit order and a defined end. This type of learning requires that the skills being learned are stable and therefore recognizable. One way that skills are stabilized is through their naming, and this forms the basis of important social interaction for learning (see below). By defining tricks and skills the scooter-riders are able to establish the common ground for communication between each other. These definitions also allow riders to relate their learning and progress to other representations of the sport that exist in other media (e.g. scooter magazines and YouTube edits). A corollary of naming is that skills gain legitimacy and social currency through their use. This means that the achievement of a defined skill has an implicit status that links to the general social recognition of the skill itself.

Distributed expertise: Expertise is distributed around the scooter-riding community and has no "central authority." The demonstration and recognition of expertise on the social plane is one indicator of authority in the learning community. In common with skateboarding communities (Ivarsson & Greiffenhagen, 2015), and unlike more formal learning environments (e.g. schools), age group is not the primary organizing category for learning. This differentiates the skatepark as a learning site from formal classroom environments. Another differentiating factor is that the status of a participant in the skatepark is inextricably related to their demonstrable skill level. In contrast to formal learning environments where roles in the teaching and learning process are socially established (e.g. "being a teacher" or "being a learner"), the status of an individual in the skatepark is more fluid.

Goal setting and evaluation: Development in scooter-riding skills is a highly self-motivated activity. Scooter-riders set goals for their learning and these motivate their learning process. Movement toward mastery involves scooter-riders knowing their place in their own learning trajectory. The learner then uses this evaluation to establish the next stages of skills practice and reflection and to benchmark their progress toward their established learning goals. This means that learning is a self-regulated activity. This point mirrors other observations on learning in skateparks (e.g. Jones, 2011).

The learning process: Theories of socially mediated learning (e.g. Vygotsky, 1987) recognize that participation in goal-driven group activities makes the skills and concepts that are valued by a community apparent to the participants. In the skatepark this knowledge also includes how to use the available resources appropriately (e.g. ramps). The "zone of proximal development" is an important Vygotskian learning concept. This describes how the interaction of a learner and a more knowledgeable other in a particular environment opens up the potential for learner development. Our analyses noted that there were at least five components that helped to characterize the learning process for this group of learners:

• "Passive" learning - The skatepark provides physical spaces and opportunities for riders to observe others at a distance (Ma & Munter, 2014). In this way, participants display a great degree of control over, and self-regulation in, their learning. Learning through observation-imitation-practice is a cornerstone of human learning (Billett, 2014), and, alongside direct instruction, is a component of cognitive apprenticeship (Collins, Brown, & Holum, 1991).

Figure 2: Passive learning at the top of a ramp.

• Social interaction - Karsten & Pel (2000) observe that peer evaluation and confirmation is an important element of skateboard learning. Our participants recounted how getting advice is a common form of interaction, and that the best advice is positive and pitched slightly above their ability. This mirrors theories about effective scaffolding

Figure 3: Peer advice from an expert rider.

found in more formal learning contexts (e.g. Rojas-Drummond, Torreblanca, Pedraza, Vélez, & Guzmán, 2013).

• Competition - Scooter-riders engage in non-formal competition, and this differentiates them from skateboarders (e.g. Karsten & Pel, 2000). Participants engage in games where they perform tricks to out-skill opponents and claim points (e.g. "P.I.G"). Participants need to describe the components of a trick before "landing" it, and in this way they reinforce and "stabilize" important community concepts and skills through their language use (Engeström, 2009). Games and competitions encourage riders of different skill levels to interact with each other.

• Failure - Progression in learning often involves failure, and Jones (2011) notes that learning should exceed failure so that participants experience a successful learning trajectory. Riders talked about dealing with failure and "learning the hard way," and highlighted the importance of having a space where they could make mistakes "without getting hurt too much." The riders also talked about the need to persevere in their learning. This concept was central to learning in this community, accentuated by the way that all of the riders believed they would continue to ride scooters for as long into the future as they could imagine.

• Records "of and for" learning - Many scooter-riders video record their riding, which may also be posted on social media (e.g. YouTube). Video recordings allow riders to review and reflect on their technique. Video recording overcomes the processing limits of witnessing transitory acts in real time, and allows riders to unlock the hidden intricacy of

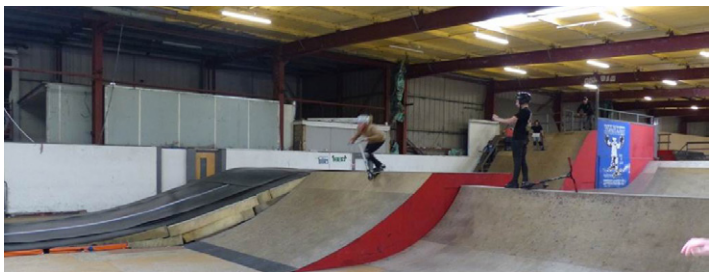

Figure 4: Recording a friend's performance for later review and reflection.

tricks. Scooter-riders also describe how they use social media as a learning resource. Video "edits" introduce riders to new tricks and skills, as well as providing a model of expert skill demonstration. They also provide a point of access to the wider community, and a forum where comments on performance can be shared.

THE LEARNING ENVIRONMENT

"Reading the environment": A number of features are common across skateparks. This means that the learning that occurs in one skatepark has a degree of transferability to other parks and that scooter-riders can engage in learning across a variety of sites. According to Ma & Munter (2014) these common features appear to be spaces for induction, practice (mentoring) and (expert/peer) audience. Scooter-riders generally relate their ability to improve to the quality of the skating environment, with better and more varied ramps giving them the opportunity to learn more and learn faster.

Social spaces: Skateparks have spaces where scooter-riders can gather and interact socially. These interactions may involve dyadic or group discussion. Congregation spaces tend to be "flatland" places within close proximity to ramps (Ma & Munter, 2014). These spaces allow more expert others to evaluate a performance and to give tips to a rider to help their learning. Successful use of the social spaces in the skatepark relies on the participants recognizing and adhering to rules for safe access. Studies have explored how riders come to adopt recognized embodiments that act as cues to others when entering shared spaces (Ivarsson & Greiffenhagen, 2015) as well as how community "policing" by riders helps to reduce unsafe riding (Petrone, 2010). These cueing and enforcement behaviors indicate how participation in scooter-riding involves the riders developing a sense of appropriate community rules that sustain conflict-free participation.

A skills ladder: Skateparks comprise different sets of ramps and boxes which often separate the park into different zones. These ramps and boxes are resources for learning and the specific formation of the ramps and boxes allow the riders to decide which zone they want to ride in. The decision about where to ride involves the rider engaging in a self-evaluation process so as to match their learning needs with the affordances of the environment. This evaluation may be termed "the Goldilocks Principle" since the rider needs to find a place that is "not too easy, not too hard, but just right" for their learning needs. In this way the skatepark provides a skills ladder. Therefore learning in this context involves the scooter-riders engaging in a process of coming to recognize (or read) their environment in a particular way (Shirtcliff, 2015). At the same time, this process of reading the environment also enables the participants to access it.

SUMMARY THOUGHTS

Our interview probed riders' perceptions of the differences between the apparently formal setting of school and the apparently informal setting of the skatepark. Almost all of the participants emphasized elements of difference in the nature of the learning objectives in the two environments - the physical, skills and activity focus of the activity in the skatepark, contrasted with the more cognitive focus of the school curriculum. Many riders expressed confusion as to why we asked the question regarding "difference" - they wondered why we were asking a question about something which to them was obvious: "…of course it's different...school is school and this is scootering..." However, our observation of activity, combined with key questions in the interview, yielded important insights into elements of high formality in the learning community and learning practice in the park.

Riders were strictly rule-bound, with a culture of high rule-compliance. Great respect was shown to those with high skill levels, and operated as models for less skilled, and frequently younger, riders. There was little presence of and action by facility managers. Rather, riders observed strict protocols about when to drop into a bowl or pit, where to stand while waiting, and observe safe practice. These data indicate that the skatepark is a site of pro-social behavior, cohering with earlier studies (e.g. Bradley, 2010; Wood, Carter, & Martin, 2014).

The culture was focused intently on "we are here to ride," with respect being shown to those riders with high skill levels. Riders reported being persistent and committed, and this was corroborated by our observations. Riders were anxious to achieve higher skill levels, decomposed tricks in order to master them, sought and welcomed feedback from others. The mixed age and mixed ability groups were fluid in respect of younger riders asking questions (often tentatively and respectfully) and receiving unsolicited feedback.

Our data analysis suggests that the environment and culture that is shaped by those managing and those using the skatepark creates the conditions for scooter-riders' learning and development. The skatepark is a largely self-regulated learning environment where participants take responsibility for satisfying their own and others' learning needs. In addition, this learning involves not only the development of specific discrete skills but also inculcation (or apprenticeship) into the expected norms of the riding community.

A central concept that enables scooter-riders to direct their

learning is their ability to "read" the learning environment. The ramps, boxes and bowls that are located around the skatepark are potential learning resources and characterize the skatepark as a variegated learning landscape. This means that the skatepark designers stimulate on-going learning as scooter-riders continually seek to exploit the affordances of the skatepark. This landscape also caters for a variety of learning styles, enabling riders to employ passive observation-based learning methods and more socially active verbal interaction or modelling behaviors.

Peer feedback has a crucial role in learning and scooter-riders commonly recognized the influence of others on their development. Feedback interactions took place in face-to-face contexts (such as on the flatlands) or via social media. To be useful, feedback needs to be targeted and tailored to the recipient's ability level. According to theory, more expert others have a crucial role in this process as they can assess the level of peers and offer subsequent advice or model behaviors that are pitched at a more challenging but attainable level for the learner. This guidance role is complex and also includes attendance to decisions about the choice of spaces to practice, so that riders can find areas where there is a degree of safe challenge. The interaction between an individual learner's needs, the guidance offered by peers, and the affordances of the skatepark environment create a space that becomes a zone of proximal development that supports on-going learning.

Our observations clearly suggest that the skatepark is a complex, rule governed and self-created culture. The universal long term commitment shown by riders (even if they ultimately do not stay with the sport) suggested that in this context, they have assumed the characteristics of highly engaged learners. Becoming aware of the enthusiasm which young people are showing for the activity, schools have become interested in attending, and engaging with the culture and activity in the park. Our research suggests that this should be approached with caution, and that the motives of educators need to be scrutinized.

If educators feel that engagement may help to "bridge" the social the schooling domains of young people's lives, they must action caution over adversely affecting the very things which make the activity motivating and engaging for young people. These young people have devised and developed a distinctive learning culture, highly-rule bound, in which they engage with commitment and persistence. They gain pleasure and benefit (physical, emotional, cognitive and social) from the activity. The culture is not one which is monitored and regulated by adults in any intensive way. Mistakes could be made through assumptions that it is the activity and physical environment alone which is motivating and engaging. Simply bringing groups of young people into the park, but managing them through the power and social relations typical of the school, are unlikely to replicate and support the kind of learning relations which we observed.

We suggested earlier that the nature of learning in the skatepark had parallels with that of other open access spaces such as makerspaces and tinker studios. It appears that some of the same tensions around control and access to learning in the skatepark also relate to these other spaces. Martin and Dixon (2013) warn that attempts to formalize learning into a set of narrow component skills – as a form of pedagogic control – "may leave less room for exploration and personalization, and erode the value youth see in participation" (Martin and Dixon (2013, p. 3). We must recognize that participation in these spaces might be intrinsically linked to the value base that underpins young people's learning interactions. This point mirrors concerns expressed by Vossoughi & Bevan (2014) who suggest that at the center of the community of learning is a sense that learning is connected to a broader set of "equity oriented principles, such as building generous learning environments and treating learning as a purposeful and social endeavor" (Vossoughi & Bevan, 2014, p.32).

REFERENCES

Billett, S. 2014. *Mimetic Learning at Work: Learning in the Circumstances of Practice* Dordrecht: Springer. 107pp.

Bradley, G. L. 2010. "Skate Parks as a Context for Adolescent Development." *Journal of Adolescent Research* 25(2): 288–323.

Collins, A., Brown, J. S., & Holum, A. 1991. "Cognitive apprenticeship: making thinking visible." *American Educator* 6: 38–46.

Dellot, B. 2015 Ours to Master: How makerspaces can help us master technology for a more human end. London: RSA.
Engeström, Y. 2009. "Wildfire Activities: New Patterns of Mobility and Learning." *International Journal of Mobile and Blended Learning* 1(2): 1–18.

Ivarsson, J., & Greiffenhagen, C. 2015. "The Organization of Turn-Taking in Pool Skate Sessions." *Research on Language and Social Interaction* 48(4): 406–429.

Jeavons, S. 2013. "Action Sports – Serious Fun!" *Playground News* 36: 1-3.

Jones, R. H. 2011. "Sport and re/creation: what skateboarders can teach us about learning." *Sport, Education and Society* 16(5): 593–611.

Karsten, L., & Pel, E. 2000. "Skateboarders exploring urban public space: Ollies, obstacles and conflicts. *Journal of Housing and the Built Environment* 15(4): 327–340.

Ma, J. Y., & Munter, C. 2014. The Spatial Production of Learning Opportunities in Skateboard Parks." *Mind, Culture, and Activity* 21(3): 238–258.

Martin, L. & Dixon, C. 2013. *Youth conceptions of making and the Maker Movement.* Paper presented at Interaction Design and Children Conference, New York.

Petrone, R. 2010. " 'You have to get hit a couple of times': The role of conflict in learning how to 'be' a skateboarder." *Teaching and Teacher Education* 26(1): 119–127.

Rojas-Drummond, S., Torreblanca, O., Pedraza, H., Vélez, M., & Guzmán, K. 2013." 'Dialogic scaffolding': Enhancing learning and understanding in collaborative contexts." *Learning, Culture and Social Interaction* 2(1): 11–21.

Shirtcliff, B. 2015. "SURFING the YouTube: How social media is changing landscape research." *In Landscape Architecture Conference Proceedings and Papers*. Manhattan, KS.

The Scooter Resource. 2016. *About the Scooter Resource*. http://www.scooterresource.com/about-the-scooter-resource/ Accessed June 23, 2016.

Vossoughi, S. & Bevan, B. 2014. *Making and Tinkering: A Review of the Literature*. National Research Council Committee on Out of School Time STEM: 1-55.

Vygotsky, L. S. 1987. *The Collected Works of L.S. Vygotsky: Volume 1: Problems of General Psychology, Including the Volume Thinking and Speech* (New York: Plenum Press).

Wood, L., Carter, M., & Martin, K. 2014. Dispelling Stereotypes… Skate Parks as a Setting for Pro-Social Behavior among Young People. *Current Urban Studies* 2: 62–73.

Martin Johnson and Tim Oates CBE are researchers at Cambridge Assessment, a department of the University of Cambridge, and a not-for-profit organization. They can be contacted at johnson.m2@cambridgeassessment.org.uk.

STEM Learning in Public Libraries: New Perspectives on Collaboration from a National Conference

By Keliann LaConte and Paul Dusenbery

PUBLIC LIBRARIES AND STEM

The informal STEM education (ISE) field is a landscape that includes a variety of institutions beyond schools, including museums, science centers, zoos, youth and adult organizations, documentary film producers—and public libraries (J. H. Falk, Randol, and Dierking 2012). Libraries across the country have been reimagining their community role and leveraging their resources and public trust to strengthen commu¬nity-based learning and foster critical thinking, problem solving, and engagement in STEM.

The national movement of STEM learning in libraries is gaining momentum: Many libraries are now providing innovative STEM activities in their youth programs, including interactive exhibitions and hands-on workshops. More and more libraries are responding to the need to increase science literacy and support 21st century skills by adding to STEM programs for patrons of all ages, from pre-school to adults (IMLS 2009). From Portland, Oregon, to Portland, Maine, libraries are hosting Science Saturdays, Robot Races, Maker Spaces, and STEM exhibitions. Building on a long tradition of library-led summer educational programs and reflecting the increased infusion of STEM, the National Collaborative Summer Library Program™ slogan for 2017 is "Build a Better World" and for 2019, the theme will be "Space."

Figure 1: The 2015 Public Libraries & STEM conference was the first of its kind for bringing professionals from the library and STEM professions together. Here, participants engaged in hands-on teamwork with Keva planks.