Hope in the Wall? A digital promise for free learning

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Abstract

Hole-in-the-Wall (HiWEL) is a concept that has attracted worldwide attention. It involves providing unconditional access to computer-based Learning Stations in playgrounds and out-of-school settings, children taking ownership of their learning, and learning driven by the children's natural curiosity. It is posited that this approach, which is being used in India, Cambodia and Africa, can pave the way for a new education paradigm and be the key to providing literacy and basic education and bridging the digital divide in remote and disadvantaged regions. This paper examines why two such free access, self-directed and collaborative learning systems failed to take root in the Central Himalaya communities of Almora and Hawalbagh. The purpose of this study is not to deny the achievements and potential of HiWEL in other settings, but to examine some of the tenets of HiWEL and the sustainability of such initiatives after the initial funding period. It is argued that there is a need to distinguish between HiWEL as an idea and HiWEL as an institution and to reflect on the key suppositions on how unsupervised access, informal, public, self-guided and collaborative work can achieve free learning.

Keywords: India, Hole-in-the-Wall (HiWEL), computer-based learning, informal learning, deschooling, sustainability in innovations

Introduction

The goal of achieving educational equity in societies mired by historical or contemporary disadvantage and injustice has great appeal. However, the pursuit of this ideal can vary in its outcomes from inspirational to disillusioning.

Rural India has been plagued with chronic failure in delivering quality education to its vast young populace. There are frequently documented cases of teacher absenteeism, the dearth of textbooks and other teaching and learning materials, poor facilities and the use of rote learning methods, all of which deprive children of opportunities for the kinds of teaching and learning they need (Drèze & Sen, 2002). Rather than waiting for governmental and institutional change and resolve, some agencies have embarked to provide new, radically different learning environments. One such initiative is Hole-in-the-Wall (HiWEL) (http://www.hole-in-the-wall.com/). HiWEL has received a number of international awards for its work in improving computer literacy and the quality of basic education in out-of-the-way and out-of-the-mind locations in India and Cambodia and has also been used in a Commonwealth Connects project in Uganda.

With a focus on breaking away from the traditional confines of the school, HiWEL strives to provide unconditional digital access through computer-equipped Learning Stations in playgrounds and other out-of-school settings with the underlying belief that children take ownership of their learning, and learning is driven by the children's natural curiosity. It is posited that this can pave the way for a new education paradigm and be the key to providing literacy and basic education and bridging the digital divide in remote and disadvantaged regions.

Nicholas Negroponte of MIT has likened the HiWEL Learning Stations to 'shared blackboards' which children in underprivileged communities can collectively own and access to explore, learn, collaborate, brainstorm, come up with exciting ideas and express themselves. This work has triggered new dialogue on learning outside formal schooling in which the child is both the learner and the teacher. Within these free and open learning environments, it is envisaged that children will collaborate and learn in complex and innovative ways.

However, while the HiWEL initiative is commendable, it raises many questions. Is collaborative learning a natural or a taught process? Is informal and public learning inherently more equitable and democratic? What kinds and depths of learning are achievable? What, if any, is the role of the teacher in this process? What are the benchmarks for success and failure and how do these differ from those in conventional learning? What is the underlining curriculum within these informal learning spaces? And is this approach sustainable?

The author's witnessing of the failure of HiWEL Learning Stations in Almora, a district in the Kumaun region in the Central Himalayas, provided her with an opportunity to consider

these questions in a specific socio-geographic context. She was engaged in an eight-month qualitative ethnographic study of computer usage in the region when she chanced upon the remains of this initiative and had the opportunity to draw on people's recollections of it. Given HiWEL's popularity among development practitioners, it was surprising to discover that despite significant investment of time, resources and effort, this particular project had ground to a halt and seemingly, had barely touched the community. Only two years after the project's implementation, there was low community memory of it.

HiWEL's promising results elsewhere continues to give it legitimacy in combating educational disadvantage. However, it is worth bearing in mind that there is little documentation on HiWEL other than that which originates from the HiWEL researchers themselves. The absence of independent empirical research on this work does not warrant out-of-hand dismissals of its worth and potential, but the failure of this project in Almora strengthens the case for posing the questions above.

The ethnographer as archeologist

On a narrow lane off the main street of Almora township, just past the typical motley of tea stalls, fruit vendors and displays of Kumauni woollens, there stands a four-walled cemented structure in which there are three gaping holes. It could easily be mistaken for one of the many local construction projects that have run out of money and been abandoned. But for the researcher, the ethnographer become archeologist, this abandoned Learning Station served as a relic of private-public sector computer-based initiatives that was in need of excavating.

A similar but more recent technology demise had occurred at the nearby village of Hawalbagh where the Learning Station stood in ruins, eyes closed to the world. Both sets of kiosks were in the compounds of government intercolleges (high schools). The one in Almora was on the pathway leading up to the boys school, while the one in Hawalbagh was in the co-educational school playground. They were all that remained of this particular Hole-in-the-Wall experiment.

HiWEL was started in 1999 by NIIT[1], a joint venture company between NIIT and the International Finance Corporation. It started with a simple idea. A computer was embedded in a wall between the NIIT office in Kalkaji, New Delhi, and a neighbouring slum area to see what use the local children would make of this without instruction or guidance[2]. A touchpad was built into the wall and a Windows NT operating system was installed on the PC. A video camera was placed on a nearby tree, to record the children's activity.

The children that came to explore this computer had little formal education. Fewer still had ever been exposed to a computer or material in English. And yet within eight months, they had learned all the mouse operations and could open and close programs, surf the Net and download games, music and video. When asked how they did this, they said they had

taught themselves (Mitra, 2004). Dr Sugata Mitra, the pioneer behind this project, defined this new mode of learning as 'minimally invasive education' (MIE), claiming that it "uses the learning environment to generate an adequate level of motivation to induce learning in groups of children, with minimal, or no, intervention by a teacher" (Mitra et al., 2005, p.2). It is claimed that such learning gains freedom from the shackles of formal schooling as well as language, class, and other conventional barriers to creative growth. Over the years, this idea has captured the world's imagination and triggered a romance which tells of learning free from the restrictions of formal schooling and children liberated through self-learning (Mitra, 2003). Its numerous national and international efforts have attracted funding, media coverage and publications, spawning ingenious means and ways of equipping villages with these playground computer kiosks. Stories have emerged of children inventing their own vocabulary to describe computer symbols - for example, calling the desktop hourglass countdown timer *damru* (Shiva's drum). The fact that the kiosks were designed with only enough legroom for children (Mitra, 2000) was seen as signifying that children who were normally relegated to the background in schooling were now at the centre of the enterprise. Romance became full blown passion as we leaf through accounts of children flocking to kiosks, teaching themselves and others to paint, play games and music and check out their horoscopes. In their voyages of discovery through computers, they discovered learning *as* fun. Even the novel 'Q&A' on which the 'Slumdog Millionaire' movie was based was inspired by the HiWEL initiative. The author, Vikas Swarup, says "My book is about hope, optimism and triumph of the human spirit. I was inspired by the Hole-in-the-Wall project. . . That got me fascinated and I realised that there's an innate ability in everyone to do something extraordinary, provided they are given an opportunity." (Economic Times, 2009).

So what went wrong in the case of Almora and Hawalbagh?

Digging up the past

Contact with members of the local community revealed the fate of these two Learning Stations. The Almora kiosk, inaugurated in October 2002, had met an untimely death within a few months of its opening due to vandalism. One HiWEL member subsequently described it as the only Learning Station ever to be closed even before the trial period was over. The Hawalbagh kiosk, launched at the same time, fared somewhat better, surviving until it became inactive in 2007. A village 'caretaker' had been appointed to look after the equipment while the kiosk lay dormant, but it appeared that the New Delhi-base HiWEL team was unaware of the reasons for the Hawalbagh standstill and was awaiting enlightenment on this matter. The researcher volunteered to assist HiWEL by enquiring into the status of its kiosks and was given the necessary contact details.

In Almora township, given the short life of the Learning Station due to vandalism, few people including the students had any recollection of the project. Walking down the winding path leading up to the school one afternoon, the researcher came across a group of

teachers sitting around in the playground reading newspapers and chatting. It was exam time and they had come out for a break. One of the senior teachers took the lead in answering the questions on what went wrong with the kiosk:

> It was a good idea but . . . I'll tell you, they spend so much money on computers and such little on taking care of it. They gave the keys to the *chaukidar* [watchman] and told him to clean it and take care of it. Now you tell me why should he take care of it? He doesn't get paid for it at all. He sleeps here below and works at the school so why should he go up and stay up just for this?

Another teacher interjected:

> The problem is that there is no instruction given. It's okay if people are computer literate but when most people here are computer illiterate they need guidance and instruction. In our school we have a full lab where we instruct children. This kiosk thing went on only for a month or two and then it stopped but even though it stopped working we kept getting the bills for months and then only recently they took the computers away and moved it to Hawalbagh for something.

Almora has a population of around 30,000 and is a centre for adventure tourism. Hawalbagh is a small village with a population of about 600. There is rampant unemployment here because there is little industry. The majority of the population depends upon subsistence agriculture. As in all government schools in these regions, Kumauni is spoken widely but Hindi is the medium of instruction and English is taught from 6th grade onward. The local agricultural research centre employs a third of the population in Hawalbagh on an intermittent basis. There is only one primary school, one government intercollege and one private school in the area.

More than 50% of the students attending the government co-educational intercollege school where the remains of the HiWEL Learning Station stood came from neighboring villages. Talking to them revealed few insights. They were either unaware of the kiosk or acknowledged its existence with a shrug of the shoulders, as if accepting its fate as part of the general state of things or commented that they 'just played around' with the computers. The teachers also showed a general lack of curiosity over, or concern for, the fate of the kiosk. They observed that the computers had been in use for some time, but then usage stopped. They recalled a few boys using these kiosks, but "usually for things like games, that's all." The caretaker on the other hand, a young man in his 20s, was more informative. He had been employed by HiWEL but not paid to support or maintain the equipment and had not heard from the organisation in months. He said:

> The students mainly came from the inter-college and sometimes nearby colleges. At that time, it was going well…like 4-5 years…students were using it because their colleges did not have any computers and it was free. They [HiWEL] put a full time instructor there at the site to guide students. They [students] did a lot on their

own together but once in a while they would ask the instructor for help. But when the electricity bill did not get paid for a while, the authorities cut it off. I told them [HiWEL] to pay but they did not get back to me. So I just put the computers in a safe room and locked it for now. They are still there.

Sharing this feedback with people at HiWEL yielded the responses that there was need to 'empower the community' to take care of the Learning Station and that there had been an expectation that the *sarpanch* (village head) would take care of it but he had failed to do so. Three hundred rupees (about eight US dollars) per month was all that was needed to sustain this Learning Station. The providers saw their role as 'handholding' for the first three years, beyond which time they expected the community to take over the baton.

It is easy to become caught up in the usual development politics of community participation and corporate responsibility. However, this does not help in establishing the reasons for the romance turning sour, a romance which *should* have gone right, *should* have had a happy ending. After all, who doesn't want to see children take over the driver seat in their own learning for a change?

To gain insights, the researcher turned her attention to the pillars of HiWEL - free and open informal public learning, unsupervised access, collaborative peer learning and self-guided learning - and delved into the relationships of informal and formal education, perceptions of computers, and social processes of in- and out-of-school learning.

School as you go

The concept of free learning is not simply concerned with liberation from long-standing inequitable access to education. It entails the transformative capacity of learning that is more dialogic and less didactic (Freire, 1998). It disregards hierarchies and formal structures and promotes the alluring proposition that learning can take place anywhere and with anyone. It does not take much stretch of the imagination to draw linkages between such advocacy and the HiWEL experiment in removing education from the prerogative clutches of the teacher and the school.

Writers such as Illich (1971) and Friere (1970) argue that schools are unlikely candidates for achieving egalitarianism in society and advocate 'deschooling.' The classroom can be seen as a suffocating as well as a nurturing environment. Through the school, the state attempts to achieve consensus on the voice of wisdom and learning deemed necessary for the socialisation of a new generation. A school is therefore as much a conceptual as a concrete creation. The organisation of learning through such a single agency is seen as a political act. Foucault's 'school as prison' analogy has become a well known emblem of the forces at play in creating learning spaces to assemble and shape human thought and action (Foucault, 1977). The four walls promise to close in at any time and this promise of fear, it is supposed, can drive schooling far more powerfully than any alternative vision.

Thereby, school is perceived to be as much an instrument of political will as an embodiment of a vision of democracy.

So it is not surprising that HiWEL's free and open learning should excite many. It holds promise of a 'minimal interventionist' grassroots approach to education with maximum benefit. Learning escapes the claustrophobia of school walls and overcomes the years of injustice in educational provision in countries such as India where the provisions for and expectations of so many children are low (Arora, 2006a). In Almora itself, stories abound of teachers handing over the keys to the classroom to senior students while they stay at home or undertake other work.

Of course, we are attracted to the promise that children *can* learn and *do* learn with no or little supervision using computers in environments free from the constraints of schooling. But sadly, in the case of Almora and Hawalbagh, what we witness is free learning go into free fall. So the question must be asked: is there such a thing as *free learning*, is it possible to escape schooling and more importantly, is it desirable? Would fate of the kiosks have been different if there had been more supervision? And would this have meant less or more freedom in learning?

The vandalism of the kiosks at Hawalbagh and their neglect at Almora suggest that too much freedom may be a bad thing. Or is this why HiWEL, while aiming for independence from schools, was compelled to choose sites on the school compounds - for reasons of monitoring and safety? (Mitra, 2004). Or again, were they out of doors because schooling is viewed by them as a contained virus that should not be allowed to escape its bounds?

HiWEL uses computer literacy, English language and other academic achievements as yardsticks for its learning (Inamdar & Kulkarni, 2007), similar to education institutional benchmarks. Thus while pedagogical expectations are said to be 'invasive' on child-centered growth, HiWEL strives to match and even exceed such curricula goals. It assumes that a lack of teacher supervision inevitably leads to peer-teaching and learning (Mitra, 2005), and that the self-organising learning orchestrated by children is inherently better, more liberating and more egalitarian than in formal schooling. So this approach suggests that teachers should stay away to encourage children towards free learning. It sees the computer as a tool of liberation and learning for children but does not take into account its varied possibilities as well as its symbolic status of nationhood in India with its hard-earned Silicon Valley status. The extent to which institutions are willing to let go or participate in letting go such "instruments" of power and persuasion is worthy of investigation.

Private distance from public education

Mitra (2004) argues that free access to outdoor-located PCs is all it takes. To be fair, if HiWEL had involved teachers in the usage of the kiosks in these trials, it would have defeated the purposes of the project. Such is the teaching tradition in these schools that

there is a high likelihood that the teachers would have instructed, reprimanded, corrected, directed and tamed the spirit of the children. They would have done what they were trained and required to do, convert the children into pupils, disciples of learning. There would have been little spontaneous self-directed or group learning. Playing games and music downloads would have been supplanted by Excel charts and PowerPoint. The limited access to the few computers in the schools would have further imposed constraints on learning and the timetable schedules and curriculum demands would have dictated the nature and pace of learning.

However, in the case of the Almora and Hawalbagh kiosks, what happened was that institutional indifference led to complete abdication of responsibility. Arguably, the suggestion that teaching can be 'invasive' does not help HiWEL's case either. Indeed this may be why the concept of 'minimally invasive education' did not appeal to many of the teachers. Often, when encountering change, it is not just the lack of incentives to participate in such learning that inhibits schools but the loss of control and fear of the unknown. It is the perceived 'mis-education' that they could inadvertently be participating in that cements their indifference. Indifference, however, should not be mistaken as disinterestedness. On the contrary, schools are deeply interested in all matters of education as they continue to sieve through for the public what constitutes as learning. Thereby, "invasiveness" can be perceived from both directions –HiWEL pushing schooling away while schools view HiWEL's interventions as possible violations of their turfs.

Schools do not stay on the periphery and a lot of effort is needed to stay out of their peripheral vision. It is the nature of the beast. Schools do not learn to move themselves, they learn to move others. So projects such as this which insist on staying on the periphery barely get help. They need to interact and participate with the schools and with the government bodies that manage them to engage in the politics of educational change.
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This is why there has been a shift in HiWEL's approach over the years as it has attempted to earn legitimacy amongst funders and practitioners by proving that it can do what formal institutions can do in regard to literacy, basic education and so on. But then, as HiWEL's goals align more with those of the state, its claims are compromised and can be perceived as a threat to or marginal to, the status quo in schooling.

Also, are there problems with the suggestions of 'learning as fun' using computers?. In India, the computer has supplanted the traditional images of the nation - the malnourished child, the sacred cow, the slow moving elephant trying to outrun the Asian tiger, and so on. The computer promises to blaze the pathway for the new generation, the 'netizens', as they gear themselves up, no longer to simply work in the back-offices of multinational corporations, but at the forefront of innovation. So will institutions easily let go of their grasp of such a symbol in the name of 'fun?' Does the casual placement of this artifact with no overt agenda outside the public school present a fundamental problem?.

Playground kiosk democracy

Mitra (2000, p. 221) also opines that 'accidental or incidental discoveries if repeated within a collective environment leads to learning'. Thus HiWEL follows a constructivist Vygotskian (1978) approach to learning. It espouses peer-collaborative learning as the root to active construction and invention of ideas. Mitra & Rana (2002, p. 222) suggest that 'the learners determine their own learning outcomes', pointing to the spontaneous emerging collectives of children as they are drawn to the kiosks - touching, feeling, fiddling with the computer and surfing the Internet. So it follows that placing kiosks in playgrounds is not just a means of attracting children, but is symbolic. It makes the statement that learning with computers in this way *is* free learning, learning *is* play, and play *is* possible by all children, and accessible to all in such public environments.

HiWEL is not alone in celebrating collaboration and play in learning. Much research has gone into demonstrating that self-structure and self-motivation for learning is embedded within play (Butler, 2008; Opie & Opie, 1969; Sutton-Smith, 1979, 1997). Rather than learning individually, HiWEL sees 'collective learning efforts' as more natural and rational for children as they play together with the computer and share ideas and strategies for learning. The children 'form their own social networks at these Learning Stations, which facilitate information to percolate from the perceived leader(s) to various learners" (Dangwal, Jha, & Kapur, 2006, p. 296). The assumption is that children will organise themselves into leaders, connectors and novices, create linkages and share their learning. HiWEL goes so far as to state that this democratic learning circumvents barriers such as age, caste and class and that 'there is also no gender restriction as there may be in certain social situations" (Mitra, 2005, p. 80).

However, dynamic asymmetries in people's behaviour is the nature of the game, or as Lave & Wenger, (1991) would have us believe - 'it's all there ever is.' Evidence from HiWEL's own experiments suggest that there are often fewer girls than boys accessing these kiosks (Mitra, 2003). The researcher's own six-months' experience with Hewlett-Packard supported community computer kiosks in rural Andhra Pradesh showed that these were primarily used by boys flocking to play games (Arora, 2005). These kiosks quickly gained the reputation as "play stations" in the locality, creating a further disconnect from schools. Often, the same group of boys dominated these spaces. The point here is to not dwell on sex inequality in computer usage or gender dynamics with technology (see, e.g., Solomon, Allen, & Resta, 2003; Thurlow, Lengel, & Tomic, 2004), but to suggest that collaborative learning is not necessarily democratic or egalitarian, especially amongst children. In fact, it may be shown that peer collaboration does not necessarily improve learning and can have a detrimental effect on educational processes and outcomes (O'Donnell & King, 1999; Tudge & Winterhoff, 2006). Spaces such as playgrounds certainly cannot be disassociated from social practice so HiWEL's placing of computers in playgrounds may not only breed collaboration but competition and discrimination.

Placing the Learning Stations in school playgrounds may be seen as avoiding or challenging existing structures, expectations and patterns of behaviour. The intention is

that they should be close to, but not part of, the formal education settings. But schools, like temples, are loud proclaimers of their beliefs, and even their compounds reflect these. Playgrounds are not neutral, value-free spaces. Their provision came to being at the turn of the 19-20th century and stemmed from the notion of controlling children by providing a safety valve for their 'idleness' (Chudacoff, 2007). In the US, they were designed to serve immigrant and working-class boys who would otherwise be lured to far less moral spaces such as pool halls and penny arcades. Boys and girls were segregated and closely supervised and the intent was to instill virtue through play and to extend the arm of morality by gifting freedom with control. In other words, playgrounds were a manifestation of the benign dictatorship of adults over children.

Today's playgrounds, while evoking a sense of free movement for children, are still often spaces of acculturation and socialization. They are one of the few spaces where children can interact with their peers on their own terms with minimal adult supervision, freely exercising their choice to discriminate, to decide who to talk to, when and for what purposes (Hart, 1979; 1993; Pellegrini, 1995). But such choices can come with unwanted behaviours - cruelty, distancing, and bullying, often as a direct consequence of competition in schools. Hence, they can be places for discriminative learning, where play becomes privileged through processes of elimination and control. Much is written about the disadvantages of the rigidity and uniformity of the traditional classroom, but it may also offer a more benign, neutral and well-structured environment for equitable learning.

Conclusion

HiWEL as an experiment has been an important initiative. It has evidenced the ingenuity of children and their capacity for self-learning through play and experimentation, something which is all-too often lost in much traditional schooling in India. It has shown that it has the potential to provide educational opportunities for those denied formal schooling, enhance and extend formal schooling, and remind schools of their purpose and duty to the community. It has even shown that children can be the 'pundits' of the new digital age.

However, HiWELs' connotation as an 'experiment' denotes its temporary situatedness and specificity of purpose. But as well chalking an alternative pathway to free learning, HiWEL is also becoming more institutionalised, more structured in its design and operations, and more reliant upon the use of schooling mediators to assist the children in their learning. The admission of more formal means into its informal spaces and processes is needed for the purposes of funding, efficacy and social acceptance. This change provides the opportunity to question the underlying assumptions and beliefs of HiWEL and some of the contradictions between its philosophy and practice.

One of the problems for HiWEL is that it is now driven by the need to seek legitimacy and funding from the state while building its identity on the dismissal or minimisation of the role of the state in education. Another is that schools tend to look to their own interests

rather than those of the nation or community. So HiWEL as an institution also needs to facilitate the revitalisation of public education. Its concepts and approaches need to make the public schools uncomfortable, to remind them that they are accountable to their communities. Even the Freirean approach, concerned with the liberation of education, is still deeply tied to the concept of formal education as an equaliser for society. Also, just as in society writ large, learning involves competition as well as collaboration. Autonomous learning with computers without some monitoring and mediators may continue to face resistance both on the grounds of ensuring educational order and that all children have equal access and opportunity for computer access and learning. So there is need for HiWEL to imbibe both teachers and pupils with a desire for egalitarian learning.

Any failure to achieve this will be a reminder that the sublime doesn't come easily.

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