

New Institutions and Transformations: Computers and Youth in Low-income urban Guatemala and Brazil

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ABSTRACT

Exposure to crime and violence, discrimination, and a structural lack of institutional support for education and human development continue to plague at-risk youth in urban poor neighborhoods of Latin America. With the increase in share of private investment in human development projects, subsidized technology centers have grown significantly throughout the region, offering a means of vocational training for youth in urban low-income areas. Literature on the problems of youth in Latin America, especially relating to violence, teaches us much about the functional use of technology in these contexts. Using in-depth qualitative research with youth participating in programs at such technology centers in three neighborhoods of São Paulo and Guatemala City, we explore the range of issues impacting the use of technology by disadvantaged youth. We find that computer centers are not only seen as a 'safe public space' for youth to occupy their time, but are also filling a void made by the lack of institutional higher education options.

Keywords

Guatemala, Brazil, at-risk youth, slums, favelas, computer centers, technology and development

INTRODUCTION

Information and Communication Technology for Development (ICTD) has grown as a significant area of research within both engineering and development studies. Within the realm of ICTD, the use of technology for education and job creation has been a key concern of technology project designers and intellectuals alike. Such work has focused on the creation of opportunities to both retrain workers from other sectors, usually agriculture (Ya'u 2005) or straight out of the secondary schooling system (De Moura Castro, Carnoy et al. 2000). Here we turn our attention to the technology use of at-risk youth at the end of schooling and living in urban low-income neighborhoods.

Issues of poverty in Latin America have had growing attention within academia, especially with the continuing problems of inequality and the rising specter of urban unrest. The idea of using technology to alleviate problems

of urban poverty in Latin America, and especially those of at-risk youth in slums was first explored in a significant effort by the CDI (Committee to Democratize Information Technology) project in Brazil. This project offered ICT training and access in *favelas* with the intention of bringing greater access to democracy to the residents, particularly at-risk youth. Studies of CDI suggested that while democratization was a stated top-down goal, youth were much more concerned about the ability to use technology for job creation (Ferraz, Fonseca et al. 2004). In this study, we continue the conversation by revisiting Brazil, adding voices from Guatemala, and specifically focusing on questions of employability.

RELATED WORK AND CONTRIBUTIONS

There is a wealth of work in various disciplines on urban poverty and on technology in Latin America, though little at the intersection of both. At the outset, it was clear from our interviews and discussions with researchers that public spaces are contested and politicized in both Guatemala City and São Paulo, the two sites of this research. Studies of public culture in Brazil have shown the use of the 'street' as a social category that represents an impersonal and masculine space of individualism and inequality, in opposition to the 'home' representing a personal and hierarchical and feminine space (Matta 1985; Gough and Franch 2005). The subsequent view of the street as a space of violence and threat grew in the next decade (Lima, Misse et al. 2000; Peralva 2000) to the point of being one of the primary social concerns of urban living in Brazil. This is partly attributed to the palpable difference between the rich and the poor and the lack of socio-economic mobility (Fernandes and Valença 2001). Urban concerns in Guatemala are fairly comparable. Problems of urban destitution have existed in Guatemala since before the internal armed conflict ended in 1994 (Connolly 1990), however studies have suggested a worsening in conditions, especially around violent crime after the political return to peace with the signing of the peace accords in 1996 (Moser and McIlwaine 2001). The problems of urban poverty in Guatemala and other parts of Central America differ from the Brazilian case in one important aspect – the relationship with the United States. By this we refer to both the broader

economic dependence on the US for exports and remittances as well as the consequences of migration and deportation of youth associated with gangs (Arana 2005).

The work on youth at the intersection of poverty and violence has looked at the issues from various aspects. One view, significantly echoed in our own work, finds that violence is seen as both normal and scandalous among young people, almost as a defense mechanism. Thus the young come to expect violence in order to protect themselves from it – the regular experience or hearing about violence is traumatizing but concurrently desensitizing (Clauss-Ehlers and Levi 2002; Winton 2005). Multiple sources cite anywhere between 50-330 youth gangs with various affiliations in Guatemala city alone (PRODEN 1996, Rodriguez and de Leon, 2000) and it is frequently cited that the most common cause of death among 15 to 24-year-old Guatemalans in 1997 was firearms (Poitevin et al., 2000), as it was for parts of urban Brazil (Waiselfisz 2008).

Our purpose here in conducting a fairly detailed literature overview is to emphasize the complexity of youth violence and consequently the challenges of any kind of social intervention. What we do find however is that the sprouting technology centers appear to have moderate successes in attracting young customers and while we do not offer a controlled study on the impacts on violence, some initial propositions are possible based on our interviews. First, we find that unlike for adults where similar free or subsidized technology centers have often failed to find users, the same is not the case with youngsters who need no economic argument to adopt technology. Technology emerges as “transformatory” compared to other kinds of vocational training and services for youth at risk. This derives in part from conversations with funders and in-country administrators of technology programs who emphasized the ‘sedentary’ nature of technology or other white collar positions, as opposed to other jobs such as motorcycle taxis, deliveries, or sales, which required a certain physical exposure. Direct membership or neighborhood affiliation with gangs often leads to physical restriction to small clusters of territories and near total exclusion from recreational areas due to dangers of association. This in turn results in youngsters spending alarmingly little time outside of school or home, shown by one study to be at approximately 0.4 hrs a day (Winton 2005). Thus the computer center as a safe neutral space, and technology skills as something acquirable with minimal exposure have been issues we are concerned with addressing.

The second contribution we hope to make through work on technology and youth is on structural and institutional issues around opportunity. Youth are increasingly ending up in gangs due to a combination of factors: masculinity, physical layout of streets and public spaces, familial cohesion, and a lack of licit economic opportunities are seen commonly throughout Latin American (Moser and

McIlwaine 2001; Kliewer, Murrelle et al. 2006). Gang membership is not only difficult to break but specifically hampered by social ostracism and a deeply antagonistic position adopted by the state (Hume 2007) and the private sector. Spatial discrimination based on applicants’ addresses within gang-associated neighborhoods is also common and a well researched topic in Latin America (Cardoso, Elias et al. 2003). Our interviews examine the issue of social opportunity in low-income neighborhoods for youths both within and outside of gangs, looking specifically at the role of the state, and the position of the community technology center within this realm.

SAMPLING AND METHODOLOGY

The results presented here are part of a larger study of technology and employability in Latin America, which looks at various initiatives across the continent providing technology services for low-income neighborhoods. The subset of the larger sample presented here is selected from research at three sites – two in São Paulo, and one in Guatemala City. Represented here is a set of 31 interviews, 17 in one site at Guatemala City, 14 in two sites at São Paulo. In each site, we started our initial sampling through a community NGO that worked with at-risk youth, and snowballed thereafter from the initial set of respondents.

In Guatemala, we were introduced to our first sets of respondents by Grupo Ceiba, an NGO that works with youths living in marginalized areas of Guatemala City. The NGO works specifically with youth at risk of or involved in gang activities and drug trafficking, usually at some stage of seeking employment or educational opportunities. Grupo Ceiba currently has four educational centers that recruit youth from the street into a job-training program called “*Empresa Educativa*” (“Educational Company”). This offers English language learning, graphic design, robotics, business management, computer repair and maintenance, and call center operation work to train and then seek employment for the youth.

In Brazil, we were introduced to youth through the Oxigênio program, which offers community technology and training centers in several neighborhoods throughout São Paulo. We conducted interviews in two neighborhoods with Oxigênio centers – Guarulhos in the north of the city near the international airport, and Americanópolis, in the southern region. A range of training options are available through the program, though at Guarulhos, the focus of the program was to teach youngsters to refurbish computers, whereas in Americanópolis, the program was primarily oriented towards using music and arts to keep kids off the street.

All interviews in Brazil and Guatemala were one-on-one interviews in Portuguese or Spanish and held either on site at the NGO or at the residence of the respondent. None of the interviews were held at public places or on the street. Expert interviews involved the management of the

respective NGOs and academics including a psychologist and an economist working on site in Guatemala City. The interviews were conducted using semi-structured instruments, iteratively developed across the sites between the researchers. This was possible because the fieldwork was done during the exact same dates, and as a general practice, all four researchers in the project exchanged notes daily on interviews and codes to narrow down interview questions based on trends emerging from across regions. The post interview analysis was done through thematic coding of both sets of interviews.

ANALYSIS

With the ever-increasing popularity of informatics among youth, it is fairly easy to attract youngsters to technology centers. Getting young people to stay in technology centers with the end goal of increasing their chances of employment is a different game. Despite the persistence of poverty — or precisely because of it — the immediate benefit of illicit economic activity is attractive, tragically more so given the uncertainty and therefore perceived “unplannable” nature of the future. This is among the biggest challenges for computer center managers or NGO staff working with youth in low-income neighborhoods.

“...it is easier for them to make 1000 quetzales (\$120) to transport a bag from here to there, that could contain drugs, guns, random things...also by killing someone. So, it is against all of this that we are fighting.”

Marco Caceres, director of the program 'Empresa Educativa' of Grupo Ceiba, Guatemala City.

We discuss here the two most prominent themes emerging from this research: first partly addressing the concerns above of Marco Caceres, is that of technology in comparison to other kinds of vocational training; and second, that of institutions and the role these play in supporting or inhibiting programs intended to serve at-risk youth.

Technology as Transformatory

“The field of informatics is a field that is very large, very diverse, and it's a field where teens are not marginalized by their personal state. We have many examples where our teens go to look for a job and because they live in a certain neighborhood or have a tattoo, they don't get the job. On the other hand, with informatics [technology], it doesn't matter if your whole body is tattooed, if you are a good designer they are going to give you the job.”

Administrator, computer center in Guatemala City

We were surprised to find some striking similarities between the ways in which technology users are viewed as acceptable social misfits, a theme resonant in western academic literature appeared fairly consistent in findings in Latin America. This could be attributed in part to an artistic

segue – from digital art and music, which draw significantly from influences within urban poor youth, and in turn offer small employment possibilities like the one mentioned above. Interestingly, technology also offers a work option with a certain degree of independence, not accompanied with the perceptions of low-wage jobs that youth from low-income neighborhoods may otherwise expect (Briceño-León and Zubillaga 2002).

Computers were considered neither unattainable, nor uncool. The perceived low learning curve, and most importantly, the tangible output with early computer use, such as with one's first experience with online browsing, makes it an easy sell even to school dropouts.

“I thought, 'Wow, I did it!' I installed the program, I turned it on, put it together. It was marvelous. I was able to do it alone, I did it! ...this wakes up a greater interest, and you want to learn more, always more.”

Andrea, new computer user, Guarulhos, Brazil.

The “transformatory” construct fits well with ideas around technology and the realm of aspiration in communities of extreme rural poverty in India (Pal, Lakshmanan et al. 2007). Past literature and our interviews exemplify the sense of faith in the ability of technology to engineer a quantum leap out of a situation of extreme disadvantage.

“Before I knew about [the computer course] I was all about being in the gangs. I thought I didn't have a future. I thought that someone would just end up killing me and my life would just be over. But it's not like that. ... I love knowing how to run a computer. I was nervous before I started.”

Raúl, mediator and former computer student, Grupo Ceiba, Guatemala City

Institutions

With government retraction from public space in slums, criminals frequently preside in an administrative role. This is particularly true in Brazil, where in our own work, the “owner” of a certain *favela* was required to authorize our work before we could proceed with any research. Given the lack of licit economic activities, the only institution, other than the gang, is religion. Not surprisingly, even churches, especially evangelical groups, have introduced technology training initiatives into their programs in slums as we found in São Paulo.

In terms of institutional education, youth in the slums had little to hope for.

“...tests to get into a free college are very difficult, so you need to study and to pass this barrier, if you don't you to pay for a private college...which won't have the level of the free college.”

Josue, Americanópolis

This is perhaps the most compelling case for technology centers among low-income youth. In Brazil, as in several other parts of the world, quality higher education has been restricted by competitive examinations, which are typically at a level of difficulty manageable only by students that come out of very high quality primary schooling, typically private schools.

Due to high costs associated even with public education in Guatemala, technology centers also serve as an alternative to formal, state-run education. Many NGOs run programs that seek to fill an educational void the Guatemalan government is unable to address, particularly for at risk youth living in marginalized areas of extreme poverty.

"... the idea was to create a curriculum design that offered kids in the street an interactive space that is different from the traditional system that is elitist and that leaves poor people tossed to the side. So we designed a proposal that included attractive elements, like computation, with what we call "a shared education" with an open space for discussion, where the students are viewed as more important and with all of this put together, the young people have felt more brought into and included into the program."

Curriculum Designer, Guatemala City

Thus the technology center plays a dual institutional role. On one hand, they come in as a low or no-cost option for skill development for the low-income. On the other, they serve as a referral network for youth to start their job search in the organized sector. This is important since not only can a slum address be a disqualifier, but furthermore the lack of social networks for many of the slum residents is also an impediment since jobs tend to come through such connections.

CONCLUSIONS

Given the spatial constraints of this paper, we were able to briefly introduce two important themes: technology as transformative and the institutional role of technology. Our findings apply to the geographical and economic conditions relevant to our sample, but we believe that the fairly comparable conditions of urban poor settlements and structural impediments through much of Latin America lends generalizability to these initial findings.

We recommend therefore that three thematic areas be examined closely in further work on technology for disadvantaged youth. First, that of computer centers as a "safe public space" for youth to occupy their time, given the inaccessibility or dangers associated with other options such as recreational parks or street plazas in the slums. Second, that of computer centers filling a void made by the lack of institutional higher education options from the state for the poor. And finally, that of situating the conception of technology and its value within the larger aspirational

environment, especially in terms of its projection as a means of social ascendancy.

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REFERENCES

- Arana, A. (2005). "How the street gangs took Central America." *Foreign Affairs* **84**(3): 98-110.
- Briceño-León, R. and V. Zubillaga (2002). "Violence and globalization in Latin America." *Current Sociology* **50**(1): 19.
- Cardoso, A., P. Elias, et al. (2003). *Urban regeneration and spatial discrimination: the case of Rio's favelas*.
- Clauss-Ehlers, C. S. and L. L. Levi (2002). "Violence and community, terms in conflict: An ecological approach to resilience." *Journal of Social Distress and the Homeless* **11**(4): 265-278.
- Connolly, M. (1990). *Adrift in the city: A comparative study of street children in Bogotá, Colombia, and Guatemala City*, Haworth.
- De Moura Castro, C., M. Carnoy, et al. (2000). "Secondary schools and the transition to work in Latin America and the Caribbean." *Sustainable Development Technical Paper, Inter-American Development Bank, Washington, DC*.
- Fernandes, E. and M. M. Valença (2001). "Urban Brazil: past and future." *Geoforum* **32**(4).
- Ferraz, C., R. Fonseca, et al. (2004). "Computing for Social Inclusion in Brazil: A Study of the CDI and other initiatives." *Bridging the Divide*.
- Gough, K. and M. Franch (2005). "Spaces of the street: socio-spatial mobility and exclusion of youth in Recife." *Children's Geographies* **3**(2): 149-166.
- Hume, M. (2007). "Mano Dura: El Salvador responds to gangs." *Development in Practice* **17**(6): 739-751.
- Kliewer, W., L. Murrelle, et al. (2006). "Violence exposure and drug use in Central American youth: Family cohesion and parental monitoring as protective factors." *Journal of Research on Adolescence* **16**(3): 455-478.
- Lima, R. K., M. Misse, et al. (2000). "Violência, criminalidade, segurança pública e justiça criminal no Brasil: uma bibliografia." *Rev Bras Infor Bibl Ciên Soc* **50**: 45-123.
- Matta, R. (1985). *A casa ea rua: espaço, cidadania, mulher e morte no Brasil*. São Paulo.
- Moser, C. O. N. and C. McIlwaine (2001). *Violence in a post-conflict context: urban poor perceptions from Guatemala*, World Bank Publications.
- Pal, J., M. Lakshmanan, et al. (2007). "My Child Will Be Respected": *Parental Perspectives on Computers in Rural India*.
- Peralva, A. (2000). *Violência e democracia: o paradoxo brasileiro*, Paz e Terra.
- Waiselfisz, J. J. (2008). *Mapa de violência dos municípios brasileiros*. I. A. Senna. Sao Paulo, UNESCO.
- Winton, A. (2005). "Youth, gangs and violence: analysing the social and spatial mobility of young people in Guatemala City." *Children's Geographies* **3**(2): 167-184.
- Ya'u, Y. Z. (2005). "Globalisation, ICTs, and the New Imperialism: Perspectives on Africa in the Global Electronic Village (GEV)." *Africa Development* **30**(1).