

Breaking Barriers with ICT

Charta 77 guides Czech paraplegics back to work

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The ICTD field is filled with individual success stories extolling the benefits of ICT access and fluency. These stories are often highly influential because they are rhetorically powerful, memorable narratives that create lasting frames to contextualize and interpret other data. Unfortunately, they are often driven by the demands of public relations as opposed to rigorous analysis.

When the goal is to share the story of a super star and tug heart strings for PR purposes, important details can be omitted. To understand how ICT programs work for *typical* trainees, to spread narratives that illuminate deeper dynamics and to amplify broadly useful lessons, stories should be researched and constructed with intention and rigor.

CIS is developing a methodology and story series that attempts to tap the rhetorical and qualitative explanatory power of detailed, contextualized, and personalized ICT case studies. While tension may sometimes exist between the PR desire to feature certain cases of success and the critical researcher's commitment to rigor, a methodology built on intensive questioning and storytelling rich in the right details can uncover and communicate evidence of successful programs.

By crafting exemplary stories, by developing and disseminating useful methodological tools and by training NGO managers and grant makers in these techniques, CIS aims to shape a research framework that can fulfill the PR needs of NGOs and donors with stories that accurately represent realities in underserved communities. Properly constructed, evidence-based stories can serve the ends of rigorous analysis and public relations.

This paper is an example and an experiment in this methodological landscape.

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Mark West is an ethnographer whose international research and work in the development field is based in South Asia and in Central and Eastern Europe. Mark's fieldwork has centered on the use of critical ethnography to bring a more participatory connection between local communities and international development projects.

In South Asia, Mark's research and work focus on the resistance networks of rural Dalits, or "untouchables," with a particular interest in the grassroots campaigns of barefoot lawyers. In Central and Eastern Europe he has worked to improve the transparency and communications of newly developing court systems. Since 2007, Mark has begun conducting fieldwork with the CIS on the economic and social impact of ICT programs in marginalized communities around the world.

Mark has served as a rule of law consultant with the United States Agency for International Development in Eastern Europe, and as a Human Rights Field Mentor with Stanford Law School. He holds a J.D. from the University of Washington, and is a Ph.D. Candidate in the School of Communication and Department of Anthropology at Northwestern University.

There is an elevator in Honza's *panelak*, but it stops one floor short of his family's home – a cozy apartment in a tall concrete housing project in the suburbs of Prague. Those last ten steps make all the difference for Honza, a paraplegic, and he rarely goes out.

A strapping six-foot tall high school senior, he is no longer the child his parents once carried on their shoulders. Yet as one of the Czech Republic's thousands of paraplegics, Honza relies on his parents to do just that: carry him down a flight of stairs to the elevator, and then down another flight from the lobby of the *panelak* onto the streets of Prague.

When he does leave, one place Honza goes to frequently is the Microsoft-funded Paraple training center in Prague. For Honza Bajtek, and thousands of classmates in fourteen centers served by the "PCs Against Barriers" program, ICT lessons provide an opportunity to develop new technology skills and find jobs. But not only that: they also are an opportunity for a new lease on life. For isolated paraplegics, the mouse and keyboard represent an important gateway to social inclusion and the world of work.

For over a decade, one of the Czech Republic's most esteemed charities – Charta 77 – has dedicated a large portion of its energies to bringing ICT to people with disabilities. PCs Against Barriers has formed a centerpiece of their programs to assist Czechs like Honza, and Microsoft Unlimited Potential grants have



Students in the Paraple training center practice programming in a Python lesson led by Prof. Frantisek Vacek of the Czech Technical Union. Prof. Vacek, or Fanda, has taught for six years at Paraple. Many of his students re-enter the workforce.

enabled their programs to grow: new classrooms, new curriculum, software licenses, and the modern equipment necessary to make the lessons accurate simulations of the working world beyond the

classroom in a supportive environment. But shaping the learning environment is only half the battle. For Czech paraplegics, just making it through the door is often too much of an adversary to withstand.

A Cityscape of Barriers

Carrying their nearly grown son up and down the top flight of stairs is not the weightiest challenge for Honza's parents – that chore is their loving duty. The trouble is that they have jobs and are trying to make ends meet in the middle class, post-communist Czech Republic, and it's next to impossible to coordinate all their son's needs between the home and the city. All this is compounded by emotional trauma of a young man facing life anew in a wheelchair; the result is that Honza rarely leaves his room.

In these training centers enrollees learn about those who came before, who built self-confidence, then ICT skills, and who ultimately snagged the brass ring: a job.

In cities throughout the world, life is hard for people in wheelchairs. For those navigating societies in transition, such as the countries of Central and Eastern Europe, finding gainful employment with upward mobility is an extremely difficult challenge. For those with spinal injuries, the challenges are even greater. A damaged spinal cord often paralyzes the hands, rendering the simplest act of a high school student like Honza – holding a textbook – impossible.

Out on the job market, the challenges grow. Beyond the initial barriers of leaving the apartment, and then the building, basics of navigating city life cannot be taken for granted by people with disabilities: stepping down a sidewalk curb, hopping on a tram, entering bathroom stalls, reaching the coin slot of a metro ticket machine. Prague is not teeming with disability-equipped vans, nor is it stocked with employers renovating offices to accommodate the working lives of paraplegics

For the newly disabled, PCs Against Barriers offers hope. In these training centers enrollees learn about those who came before, who built self-confidence, then ICT skills, and who ultimately snagged the brass ring: a job. They also hear the stories of those who stumbled, and rose again. Honza listens to these testimonials at his training center, Centrum Paraple. If he is like one third or more of Paraple grads, he too will join the workforce one day soon.

Secrets of Success

The keys to Paraple's successful employment record are several. First, the center is part of a multi-service facility which also provides housing to those attending trainings, thus helping students overcome the significant barriers of commuting. The low-cost dorm rooms (about \$20 per night) help students focus on their lessons, and access wheelchair-friendly services. Second, the facility serves many aspects of paraplegic life: physical rehabilitation, social outings, summer and winter sports such as canoeing and

skiing. This holistic approach helps each activity reinforce the others while recognizing the socialization needs of the students.

The third secret of success is the way the ICT courses are taught. Skilled and caring trainers cover a wide range of topics, from basic Microsoft Office familiarity, to Internet courses, to graphic design lessons, to advanced programming. These courses are each woven into a long-term curriculum that follows the slow recovery process of paraplegics. Rather than rushing the students, or offering fragmented and abstract lessons, the program instead pushes the participants to look at the information society in a new way. They teach the playfulness of computers, and the beauty of graphics, and sell these tools both as fun as well as the keys to the students' new professions. Instructor Frantisek Vacek, who goes by Fanda, has been teaching at Paraple for six years and explains: "If it is beautiful, someone will buy it."

From Bleak to Bright: A Future Working in the Information Society

At a recent mid-December meeting at Paraple – located in a wooded suburban setting, and serving paraplegics with both physical rehabilitation and vocational training – Honza watched quietly as his classmate Pavel described a possible future. Pavel Kral is one of the dozens of students of Paraple ICT classes who have gone on to find jobs with their new skills. One year before joining the Paraple classes, Pavel was lying in bed facing a future resigned to a wheelchair, and with limited use of his hands. "I had a car accident," Pavel recounted on the day before the second anniversary of his injury, just before Christmas. "And life..."



Two years ago Pavel fractured two vertebrae in his neck and was paralyzed from the waist down after a car accident. Today Pavel has a new career and a positive attitude about life: he designs websites for NGOs and soon will teach fellow paraplegics the magic of web design.

There was a brief silence, and then Pavel's interpreter added, gently, "...just changed."

"Yeah," Pavel agreed with a smile. Wearing a faded black heavy metal T-shirt, and regularly pulling his brown shoulder-length hair from his eyes, Pavel described his fractured sixth and seventh vertebrae and damaged spinal cord. With just as much self-assurance, he described how he made his first sale of a website just over a year later.

Pavel has since sold five more websites in less than a year, and along the way he has used the proceeds to buy a better computer

and invest in his small business. The next step in his business plan is to buy his own server so he can cut out the middleman by hosting websites.

Coupled with his modest disability check, Pavel makes more than enough to live on with the websites he designs and sells. When asked about his first paycheck Pavel lights up, and is quick to explain that it wasn't just the money that made the difference for him. It was the way of working: the creative process, the ability to be his own boss, to work when it suits him, and – most important – to be a contributing member of society from the confines of his wheelchair and apartment building.

"If it weren't for these courses I wouldn't know where I would have learned this."

Pavel, on the ICT classes at Paraple

Like so many of his newly paraplegic brethren, Pavel must overcome both the physical limitations as well as the psychological blow of the lost mobility. With the limitation of movement comes a separation from society. But in the Information Age, a desktop computer and

Internet access erode that separation and bring the world into one's bedroom or home office. Pavel describes his world in the *panelak*: "Internet is my life," and search engines are "my best friend."

In addition to being his best friend and a critical theater of his lived world, search engines and connectivity are also important vehicles for Pavel's employability. Pavel has been affected not only by the lessons in Java and Python, but also by the non-profit organization that delivers them. Thus far Pavel has directed his skills at non-profits, designing his first six websites for NGOs and now working on a seventh website for a pre-school. A sample of Pavel's work is <http://www.osdigitus.cz/> – a website for a professional association of personal assistants for people with disabilities. As Pavel reflects back on the six classes he's completed at Paraple, he finds them indispensable. "If it weren't for these courses I wouldn't know where I would have learned this."

How It Works: Getting a Job

Before his accident Pavel was employed as an automotive designer, assisting the construction of car chassis through plans that required the limited use of computers. A return to that line of work is not possible for Pavel because it requires visits to different sites which are not accessible with a wheelchair. When he learned about the ICT training series at Paraple he realized this was an opportunity to develop new skills which might lead him back into the workplace.

What Pavel hadn't realized was that this new profession – as a web designer and, soon, as a programmer – would be much more satisfying than his previous job. "It wasn't creative work," Pavel recalls of his old position. Now he is inspired, and he is his own boss as well. "If I go to bed after working on some problem, and then I wake up at four o'clock in the morning with the solution, I can just go right back to work."

During his first year of physical rehabilitation Pavel had begun to experiment with graphics at home, and he came to realize this could lead to something. He began with introductory exposure to the Microsoft Windows operating system and core productivity software, such as Microsoft Word and Excel. Then, he embarked on three one-week courses in graphic design, completing certifications in Adobe Photoshop, InDesign, and Illustrator. He then moved on to a second wave of programming courses, studying PHP, Java, and Python. Pavel says that he also looked into other online classes in graphics, but they were the equivalent of about \$1000 for three days, while the one-week courses at Paraple initially cost much less, and are now free with the support of European Union funds and donors like Microsoft Unlimited Potential.

Pavel, like many entrepreneurs, began his new career by working with what he knows best: service organizations. He had so much contact with disability assistance charities during his rehabilitation that he used those contacts to sell his new skills. Next he plans to expand beyond his website design and programming career by adding a training shift to his busy work schedule. Pavel wants to teach a little at Paraple, passing along some of his earlier car design skills, and give back some of what he has been given. His trainer – Fanda – thinks that Pavel, and other paraplegics like him, would be ideal trainers because they relate so well to the situation of their students while also modeling success.

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*Pavel, on the benefits of ICT
Self-Employment*

While Fanda does find Pavel exceptional in his motivation and desire for learning, he does not consider Pavel’s ability to find work atypical. Fanda, who is also an Assistant Professor of Engineering at Czech Technical Union, has taught more than a hundred students in his years at Paraple and has seen many who have traded their e-skills for employment. It’s not always easy, and requires gumption and persistence. Fanda described how one student was hired to take paper designs for ceramics and use Adobe Illustrator to convert them into digital designs. Fanda noted that this contract job only lasted two months, but the student persevered and eventually landed a full-time job. He recounted another story of an older gentleman named Mr. Benda who struggled with the new way of working but eventually also got a job at a firm.

Overall Fanda divides the types of students into three categories: those who are just checking out the classes as part of their overall rehabilitation program, those who are interested but fail because of other barriers in their lives, and a third group for whom the classes become “the key to their future.” This third group is roughly one half of the students Fanda sees. Dozens of students in his classes have gone on to find work – sometimes in a firm like Mr. Benda, and others through self-employment like Pavel.

Pavel affirms Fanda’s estimates of those who find jobs. Pavel reports that at least ten classmates from his six courses are now either employed in the ICT field or have used their skills to find work in other arenas. Although he is in touch with some of his colleagues, Pavel adds with a sly grin that it’s not a

good idea to stay too close: “It’s a very competitive business (web design). We’re friendly but we don’t talk too much about work.”

A Marathon Not a Sprint

Fanda emphasizes that the success of ICT training for people with disabilities lies in its ability to sustain interest and participation over a period of years. “It’s a marathon,” Fanda explains. A single class, or a few months of immersion, is not enough. Training programs need to take into account the time



Prof. Frantisek Vacek, left, shares a light moment with his student Pavel after a morning lesson. “Paraple,” which means umbrella in Czech, serves as safe place for people with disabilities working their way back into mainstream society.

required for paraplegics to make the commitment and follow through. Students need the ability to try and fail; they need many opportunities to experiment and to learn from others who share their unique situation.

By slowly building confidence, and adding more and more building blocks, they can – after a year or two – find themselves in a position to succeed. As Fanda explains, “A piano teacher cannot just place the notes in front of you and say ‘play.’ It takes time.”

The broader business community also needs to join the process, says PCs Against Barriers director Eva Hajduskova. While there are several nascent programs to connect employers in the Czech Republic with disabled workers, they are currently underutilized. A “Job Fair” portal for CVs provides an opportunity for businesses to find disabled job applicants, but it is not well used by companies. Likewise, the University 4G funded by IBM provides specific training for employers on how to staff particular positions with disabled persons, and it needs to expand. Eva explains that there is an increasing public awareness of the

“citizenship” duties of employers. In fact Czech law requires that businesses either hire people with disabilities or buy out of their obligation by contributing to a fund. Too often businesses choose the buyout.

For Honza, who is just beginning the marathon, ICT is the key to graduating from high school. His teachers have arranged to instruct him through online lessons, with meetings only once a month. And

through his classes at Paraple he is able to see the possibilities of a future career in the growing information society.

It is a long road ahead for isolated people with disabilities in the Czech Republic like Honza. But there is hope in the concrete results modeled by Pavel and the other graduates of trainings conducted at centers like Paraple. The key lies in turning the computer into a source of creativity, a tool which can empower the trainee to use what resources he or she has to create magic: a keyboard, a mouse, and new knowledge. And building employability around those new skills. Recalling his first paycheck, Pavel explained that – though substantial – it wasn't the amount of the salary that most moved him. It was "the satisfaction of my employer. Knowing that they were happy with my work made me most satisfied." By using their creativity to help others, and to pay the bills, Paraple graduates learn that they can do much more than they had ever expected. The self-knowledge and self confidence then translates into flexibility and resilience, keystones to making progress in the difficult job market of Central and Eastern Europe.