

## Responsible Design for Social Change: Designing HIV/AIDS Prevention Curriculum in Southern Africa

Mike Zender, MFA; Kami Ecker, MA; Al York

### Abstract

There is nothing less responsible than designing something irrelevant. Recognizing this, designers' interest in socially responsible design is growing. There are certainly social needs that can be addressed. Consider that HIV/AIDS has been particularly devastating to many nations in Africa. The small African nation of Swaziland has a reported HIV/AIDS infection rate of 42%. Dr. Banu Khan, head of the National AIDS Co-coordinating Agency in Botswana, has said that southern African nations such as Botswana and Swaziland are facing extinction. Among the major forces cited as contributing to the acute prevalence of AIDS in Africa are personal worldviews and cultural attitudes toward sexual practices held by sub-Saharan Africans. Despite spending millions on HIV/AIDS prevention, many attempts to modify worldviews and sexual practices to stem the spread of this disease have been disappointing. Enter design. This paper reports on a classroom-based mixed-methods research project for the design of an HIV/AIDS prevention curriculum for Swaziland. The aim was through education to transform Swazi worldviews and attitudes toward sexual practices. The curriculum, called *iMatter*, reaches elementary and middle school children while they are still forming their conceptual and cultural identity, and before they adopt sexual practices. *iMatter* was developed using a user-centered, evidence-based design process involving a global team of researchers, educational specialists, faculty, student designers, and indigenous experts. In 2005 a faculty/ student team from the University of Cincinnati (UC) traveled to Swaziland with funding support from UC and the Hope Education Foundation to conduct field research. The subsequent design concepts created by the students were used in the deployed versions of *iMatter* which continues development through on-going research in Swaziland.

As a result of the work in Swaziland, *iMatter* is currently being deployed throughout the nation of South Africa with support of a 5 year U.S. President's Emergency Plan for AIDS Relief (PEPFAR) grant. In partial fulfillment of that grant, in the first nine months of 2009 5,198 teachers were trained to use *iMatter* and 845,828 students received it. Initial outcome measures, based on a 2009 survey of 793 students: 389 study group and 404 control group, are promising. A 5 year longitudinal study will continue to measuring outcomes and guide future design development.

This article concludes by outlining processes for culturally relevant design development, proposing a model for classroom engagement in cross-cultural design that focuses on human need, and recommending that design education routinely engage students in socially conscious, person-centered, evidence-based design activities.

### Key words:

big/small track; graphic/communication design research; user-centered design; design education; global issues; ethics; human service

## Responsible Design for Social Change:

### Designing HIV/AIDS Prevention Curriculum in Southern Africa

Mike Zender, MFA; Kami Ecker, MA.; Al York

Design is clearly exploring socially relevant directions today. A March 2010 international design congress in Barcelona organized papers into these themes: design for all, design for local development, design thinking, ecodesign, multiculturalism, design as economic activator, and user centered design. Note the number that focus on social themes. The theme of this AIGA conference is response\_ability with a focus on ethics, sustainability, and design education. This paper seeks to answer two questions posed by the conference organizers: "How can we (should we?) create students who feel a responsibility to their world?" and, "What is our response\_ability to serving society and community?" This paper outlines an answer to the first question: how can we make responsible students. A story from our research experience suggests an answer to the second.

*My design students and I arrived in Mbabane, Swaziland with start. In what seemed just two blocks, our surroundings changed from mud hut - to glass and steel high-rise - then just as quickly back to mud and thatch. Our cultural introduction the next day was just as great a jolt. We already knew the country had 42%+ HIV/AIDS prevalence rate, an average life span of 6 years after infection, and the potential of being the first human nation to go extinct. Native Swazi Kevin Ward told us what we didn't know: that tens of thousands of AIDS orphans lived on their own, raised by an oldest sibling, often a 10 or 11 year old girl who would trade sex for food to feed herself and her brothers and sisters. Some of us were skeptical. Some were shocked. All were baffled.*

*The next day we drove out of the capital to start our field research with visits to a rural clinic and an orphanage. We bounced for two dusty hours first on paved, then on dirt roads. We saw clusters of mud and thatch grass homes. Shades of muted brown and ocher and wheat were punctuated by spots of bright red and green. It was beautiful. Our driver stopped to pick up a local guide. We parked near an open field in a hollow of land where 30 - 40 children were playing in small groups. We welcomed the chance to stretch our legs but wondered how much longer it would be until we got to the orphanage. Two boys sat in a tree watching several others play soccer. While most of the future soccer stars were barefoot, two shared a single pair of rubber boots: one boy wore the right boot, the other the left!*

*After a bit I asked our driver how much longer until we would arrive at the orphanage. He said, "This is it." Just a empty field. No houses, kitchens or beds. Forty orphans. Half with AIDS. None with parents. No adult caregivers, except perhaps a 10 year old sister somewhere.*

*After playing and talking with the orphans for about an hour we had to leave for the clinic. The kids were smiling. We were not. After driving a little further I instructed the driver to stop at a lonely intersection to get gas. Standing at the pumps was a girl in a torn red sweater, perhaps 10 years old. She gestured for food and then solicited me for sex.*

The American faculty and students from this trip are all safely home in the USA now. Reflecting on the conference organizers question, should design students and faculty feel a responsibility to help the little girl in the red sweater? Do graphic designers have the ability, the response\_ability, that can make a difference in her life? Can she make a difference in ours?

### D i s c o v e r y   R e s e a r c h

There are great issues awaiting a response. Consider that HIV/AIDS has been particularly devastating to many nations in Africa. The small African nation of Swaziland has a reported HIV/AIDS prevalence rate of 42 percent. Dr. Banu Khan, head of the National AIDS Co-coordinating Agency in Botswana, has said that southern African nations such as Botswana and neighboring Swaziland are facing extinction (McGregor, 2002). The HIV prevalence in Swaziland had its roots in the common HIV and AIDS epidemic drivers such as: multiple partners, unprotected sex practices, early sexual debut, and high viral load. Discovery research conducted in 2004 by Duane Crumb, an HIV/AIDS Education Specialist, for the Hope Educational Foundation (Hope Edu.) had identified reasons for the 42 percent prevalence rate, the highest in the world, not as being biological, but cultural in nature. Specifically, discovery research suggested that the existing culture in Southern Africa failed to teach children about their individual value.

Young people are among the hardest hit by the epidemic and at the same time, young people present an opportunity for halting it because they are amenable to change. In the words of an African proverb, "It is easier to straighten a tree when it is still young than when it is old" (Tienrebeogo G., 2003). As a consequence, school-based HIV prevention programming, starting as early as primary school, has been viewed as a necessary step to protect the general population from further infection (Gallant, 2004). Several findings support this conclusion. First, over 65% of primary school entrants throughout sub-Saharan Africa reach grade 5 (UNAIDS, 2001). This means that primary schools represent a single location where the largest proportion of young people (approximately 50%) can be reached. Second, studies in different locations support the conclusion that most youth in sub-Saharan Africa initiate sexual activity while they are still of school age, whether or not they are in school (Kaaya, 2002). Third, the importance of initiating prevention programming in primary schools is evident from the conclusions of review of interventions demonstrating that those conducted prior to sexual debut are the most effective in reducing rates of sexually transmitted infections (Grunsheit, 1997).

Hope Education Foundation envisioned a multi-level curriculum to change self-destructive cultural attitudes with each curricular module building on the concepts and ideas of the previous while at the same time being able to be used as an independent tool.

### C o n t e n t   D e v e l o p m e n t

Subsequent study confirmed that young people's attitude about themselves, their community, and their future affects their voluntary participation in risky behavior. Moreover, youth who lack self-confidence in their right to protection are less likely to resist sexual exploitation by others. Based on the initial research and subsequent investigation, curricular content was crafted to teach the value of persons, the importance of preparing for life, the impact that choices have on the future, the value of the infected, and the facts associated with HIV. The older curricula would focus more intensely on the details of the disease while the younger focus on the worth of the individual and the infected. The slogan *I Matter* was chosen to communicate the concept of value as it applies to the individual as well as to the entire community.

## D e s i g n   R e s e a r c h

Having framed the problem in attitudinal terms that could be addressed through prevention education, and having drafted conceptual answers, the next question was how to deliver this counter-cultural message in a culturally effective way. Recognizing that Swaziland lacked indigenous capacity to develop such curriculum, Hope Edu. approached the University of Cincinnati School of Design to research and explore innovative means for communicating the message of *I Matter* respectfully, relevantly, and effectively. In Summer Quarter 2005 a class of 12 fourth year Digital Design majors were given the design of *I Matter* as a studio class project. UC's design students are in a five-year program that integrates one and a half years of professional work experience, called co-operative education, with four years of classroom instruction. Students are engaged in work and school year round, enabling them to complete this combination of work and school in five calendar years.

We adopted evidenced-based design practices throughout the project. Recognizing that Americans probably lacked the cultural insight necessary to effectively design for Africans half a world away, a field research trip was planned as part of the class. The purpose of the trip was outlined by faculty and Hope Edu. staff as follows:

Conduct qualitative research to appreciate the relevance of proposed content and to identify how to deliver it in ways users would appreciate through:

- Interviews with Swazi AIDS victims, students, parents, orphans, government officials;
- Site visits at health clinics, hospitals, schools, community centers, in urban and rural settings;
- Collections of information, data, statistics, public messages;
- Personal stories.

Gather material for developing AIDS prevention campaign materials through:

- Photography;
- Video;
- Journals;
- Audio recordings.

Communicate with team in Cincinnati via:

- Networked Communications.

Work as a team by:

- Applying principles of collaboration;
- Cultural sensitivity, kindness, compassion, self-sacrifice, and personal maturity;
- NO arrogance, individualism
- Service.

The trip's purpose dictated a field team with diverse skills ranging from photography, videography, sound recording, ethnography, observational skills, organizational and process skills, technical skills, and project management abilities. Students voluntarily applied to go on the trip. Faculty reviewed applications and selected students to go based on grade, student maturity, special skills or abilities, and the need for team balance. While a great part of the trip cost was to be underwritten by Hope Edu, up to \$15,000, selected students and faculty also applied for funding from UC. Each student subsequently applied for and received a \$500 Globalization Grant from UC Institute for Global Studies and Affairs.

Prior to the trip, students were given preparatory instruction. UC Institute for Global Studies and Affairs provided 1 hour of training for international travel. Advice included how to stay healthy: only consuming cooked or peeled food; how to stay safe: travel in pairs, be aware of surroundings; and how to protect your passport: take several copies! The student code of conduct was reinforced as being applicable overseas and the authority of the faculty was confirmed. Emergency plans were laid and lines of emergency communication were shared.

Hope Edu. personnel provided a cultural introduction to Swaziland, an overview of the discovery research, and *I Matter* message concepts.

Classroom cultural preparation included: Socratic discussion on issues of life, cultural valuations of life, social responsibility, and design's ability for social impact. Classroom project preparation included: equipment preparation, role assignment, workflow agreement (processing images and data), and network communications agreement connecting the student field team with the team remaining in Cincinnati.

A team of eight 4<sup>th</sup> year students and two faculty traveled to Swaziland June 27 through July 6, 2005. Hope Edu. worked with local Swazi Kevin Ward to arrange cultural introduction, food, lodging, and all ground transportation in Swaziland. The field research conducted included:

#### Cultural immersion

Presentations, discussion, Q&A on Swazi culture and the epidemic in Swaziland by native Swazis, visits to a living culture center, the Swazi national museum, and markets.

#### Field Research Locations

Field visits to two rural orphanages / care centers, a rural clinic, urban & rural schools, an urban hospital, an urban HIV/AIDS care facility, government officials for health and education.

#### Field Research Methods

Video tape interviews of HIV/AIDS victims, government officials (education and health), students (elementary, middle, high school levels), 3000+ photos, journals, and field notes.

Daily findings were communicated with students in Cincinnati via internet café in Mbabane, Swaziland. Responses and questions from the Cincinnati team helped direct the field team.

#### Findings

Overwhelming problem with multiple causes: economic poverty, homestead farming mixed with transient workforce (truck drivers, working remotely in S. Africa, lonely men sending money home), cultural sexual practices (Spring celebration – dancing before the king); cultural beliefs (ancestor worship, arbitrary and mysterious sources of power ancestors and witch doctors, resignation to fate); lack of land ownership; non-empirical a-scientific worldview doubting the correlation of cause and effect; oral tradition forms of learning.

The primary educational strategy of this trip was experiential learning through cultural immersion during which we employed a variety of primarily qualitative research methods. We learned different things from different approaches, each method having a particular strength and distinct result. What follows is not a comprehensive list of findings, but a few examples of research methods, discoveries, and the results of each.

#### Method

Interviews with HIV positive adults

#### Discovery

In an adult victim interview we learned that men often have to travel to earn a living driving a truck or working in a mine, often staying away from home for days and even months at a time, and that they may establish multiple families in various locations. This had a cultural precedence because some tribesmen hunters once traveled to multiple wives who tended herds in various locations.

#### Result

The team gained sensitivity to multiple sources of problem from personal perspective, giving a face to the interaction of current economic reality and historic worldview.

#### Method

Data gathering: news story of planting with gloves causing AIDS

#### Discovery

While the team was in Swaziland, a newspaper story broke reporting that an NGO's workers had, in the process of encouraging the planting of improved crops, worn gloves and that it had become widely believed among the Swazi population that the worker's gloves had cursed the food causing widespread 'sickness.'

#### Result

The team realized that the worldview of Swazi's was in large measure non-empirical, non-scientific lacking an intuitive belief in cause and effect. We awoke to the reality that a rationalistic, scientific explanation of disease would not work as a primary changer of attitudes, resulting in the conviction that rational arguments with clear bullet points would *not* work, but that telling stories might.

#### Method

Personal interaction with AIDS victims: playing with children at Lighthouse

#### Discovery

While spending an afternoon playing with AIDS orphans, one 8 – 10 year old boy was sitting to the side, obviously very sick, too sick to play. We learned that after his mother died of AIDS he had been chained in the cesspool of an outhouse by his stepfather. A UC student (Eddie Sun) who had done professional caricatures at an amusement park, did several sketches of the boy, cheering him up and making him the center of positive attention by his peers.

#### Result

The team experienced firsthand the communication should not be numbers or visualizations, and not a scientific explanation, but incite personal engagement with very personal issue.

#### Method

Observation in rural high school

#### Discovery

While visiting students informally and between classes, a very sick young man sat alone, in the back corner of the class. When asked, his peers sneered and said, "He's sick."

#### Result

The team observed the rejection, ostracism of the sick, and the denial of others facing the problem.

On return to Cincinnati the field team briefed the Cincinnati team and this combined group of twelve students jointly completed the processing of audio, video, and photographic data gathered in the field. This integration of the two teams through shared review of the field work served to both unify the team and to re-study the material. The processing of field data included mechanical issues such as format and date/time/location information as well as assigning data to conceptual categories. Using the data as a shared resource, designers began concept development using group brainstorming exercises, role play, and individual design analysis. Concept review and analysis clustered concepts into themes:

#### Stories

STRATEGY: communicate through narrative stories

TOOL: write stories placed in a Swazi cultural context to deliver the content

#### Characters

STRATEGY: an integrated program will be most effective

TOOL: use consistent characters to tell stories and integrate the program

### Games

STRATEGY: get children to make decisions that matter

TOOL: a decision based game that has alternate paths

### Student Engagement through Animation

STRATEGY: get children participating in the creation of the message

TOOL: create hand made a flip book telling the curricular story

### Posters

STRATEGY: combine individual and together = community and collaboration

TOOL: patchwork quilt poster concept

Review of concepts by Hope Edu., faculty, students, and Swazis colleagues led to a focus on story telling, using fictional characters, as two key strategies for communication. This approach was verified by supplementary research affirming that oral cultures, such as that in Swaziland, communicate through stories. A key resource in this research was Walter Ong's seminal book, *Orality and Literacy* (Ong, 1982).

Some students worked individually, some in teams, to develop prototypes of design concepts. The seven prototypes reviewed by Hope Edu. in the final class included: comprehensive branding for *iMatter* with logo, color palette, book and typographic formats; three story-based animations; two games, and an awareness campaign. Following completion of the class project, one of the field team members, Chrissie Talkington, was hired as a co-op student to work at Hope Edu. for 14 weeks to help integrate the most promising design concepts into a single prototype book to be printed in low quantity for field testing.

## P r o d u c t   D e v e l o p m e n t

Hope Edu. directed the development and production of upper primary curriculum for field testing. Each student book was designed to emphasize the positive elements of Swazi culture such as respect for elders and the art of storytelling. Because of the important role of grandmothers within Swaziland, the curriculum employed a character who is a wise grandmother as the storyteller teaching life skills to her grandchildren. Each lesson contained a story that addressed a topic children face on a daily basis in Swaziland. Games and activities followed each lesson/story. Topics included the following:

- Life is special and valuable
- Uniqueness
- Others and me
- Making good choices
- Staying away from bad things
- Planning for a future
- Respecting my body (discusses good touch, bad touch, and abstinence)
- Taking care of my body (discusses HIV)
- Taking care of others (discusses stigma)
- Being a good friend (discusses overcoming stigma)

Each lesson was illustrated in traditional African context, using culturally relevant clothing, animals, and metaphors. Educational consultant Dr. Alvis Harthern supervised the didactic approach. Jeff Holder, children's TV writer, wrote the copy. Jeric Acayen and Raymond Masuecos in Manila, Philippines made the final illustrations. Kami Ecker of Hope Edu. managed the project.

## F i e l d   T e s t

In the June and July 2006 two volunteer teams of 10 – 12 Americans traveled to Swaziland to field-test the curriculum in three rural and four urban schools. The American teams met each morning with volunteer Swazi teachers to instruct them in the use of the material and to go over the day's lesson plan. Swazi teachers were used to negate the effects of westerners

presenting sensitive cultural content. Special volunteer teachers were used in place of students' normal teachers to neutralize the impact of resident teachers' methods and potential inappropriate sexual relationships they may have with students that could affect outcome measurements. The volunteer Swazi teachers taught five of the ten curriculum lessons in one week, one lesson each day. Teachers administered pre and post tests of students, asking identical questions in randomized order, to measure attitudinal change. The outcomes were promising with a measurable impact on key attitudes.

A specific example of what we learned in the field study helps illustrate what we gained from the process.

#### Method

Classroom Presentation of Curriculum

#### Discovery

The use of the word "Precious" applied to children in one of the stories was not understood.

#### Result

The word precious was found not to be applied to children in Swazi culture. In fact, we were told that while a special livestock animal might be called precious, small children would not be. The chapter title "Precious" and other use of the word 'precious' applied to children had to be replaced in the curricula.

#### Method

Co-design

Sit with one student or maybe a small group and have them identify the words they aren't familiar with. Then to have them help identify what word that they know can be used to replace it.

#### Discovery

Students are invaluable sources of content editing for children's curricula.

#### Result

The team improved translation and content in the appropriate language.

#### Method

Observation

Place 2 – 3 observers in the classroom every day during lesson presentation, each responsible for recording different aspects of the interaction: student engagement including body language, questions, interaction between students and between students and teachers; teacher performance including lesson communication difficulties, successes, engagement with students, special methods; and environmental factors including classroom facilities, noise, equipment, distractions, classroom comfort.

#### Discovery

Students were clearly uncomfortable with discussion, and fearful of giving wrong answers. Concern developed that students might shut down when the curriculum came to discussion of sensitive sexual issues. We observed a switch or stick was often part of the equipment in the classroom and learned it was used to correct learners giving wrong answers.

#### Result

Over several days students quickly adapted to more open discussion format used by the *iMatter* teachers. We learned that we would either need to supply special *iMatter* teachers, or train existing teachers. We learned that once elementary school students were comfortable with the teachers the students not at all bothered discussion of

sexual topics. For example, we found that referring to “private parts” was a comfortable and understandable way to communicate sexually explicit content to Upper Elementary students.

#### Method

Literacy Test

#### Discovery

Students were unable to complete a standard literacy test after 45 minutes.

#### Result

The team realized that the problem was not with the students, who clearly could read and comprehend the material, but with the test.

### P i l o t P r o g r a m a n d S o u t h A f r i c a R o l l O u t

Following the field test and revisions based on it, the revised curriculum was launched in a pilot program for Swaziland. In 2006 Swazi nationals with an aptitude for interacting with students about difficult life issues were recruited to implement the Upper Primary *iMatter* curriculum in elementary schools. These individuals went through one week of training to learn how to teach the *iMatter* curriculum. Topics covered during the training included:

- Reading “*HIVHope for the Nations*”, a book on HIV prevention
- Training and discussion about HIV information
- Instruction on how to interact with children in a classroom setting
- Practice teaching each of the lessons

Over 2,200 students from grades 4, 5, and 6 from 8 schools in the HhoHho region were involved in the program in the last term of the school year. It was determined that the materials were too difficult for the grade 4 students. The concepts, vocabulary and activities were too advanced.

Simultaneously, product testing was being conducted on another version of *iMatter* for Lower Primary Students. Concepts and vocabulary were revised based on the findings. And it was determined to be a better product for the grade 4 students.

#### KEY LESSONS LEARNED FROM SWAZI PILOT PROGRAM

- Each lesson required a minimum of an hour. At times we were only given 30 minutes per lesson. This was not enough time.
- Some schools were interested in content that would last for the entire term and possibly be even more than once a week.
- It is acceptable to talk in detail about HIV and sexuality among the Upper Primary students. This was content that would not have been appropriate for the same age child in the US.
- The curriculum could have had more games.
- The English in the Lower Primary *iMatter* book needed some simplification.
- Students in grade 4 should receive the books for Lower Primary students.
- The illustrations in the books were essential.
- Having story-based lessons was appropriate for the culture and enjoyed by the students.
- The students in first grade had very low English reading levels to the point where it wasn’t even worth providing them with the books. Their native language was Siswati, and they could not even understand English very well.

- The Ministry of Education was insistent that the books be in English, the preferred language of education, rather than Siswati.
- Focus groups with high schools students reinforced the belief that starting with elementary schools students was essential.
- Although the Ministry of Education fully supported the program, they did not have resources to help with the costs.

Two stories from the *iMatter* Pilot program illustrate initial positive outcomes (names have been changed):

Thandi is 14 years old. She participated in the *iMatter* program at school and found the lesson about caring for others especially relevant. Before the lessons from *iMatter*, Thandi was afraid to touch her mother. But after being encouraged by her *iMatter* teacher, she decided to help her sick mother who was suffering from TB. She bathed her mother and cared for her. Thandi also encouraged her mother to go to a voluntary counseling and testing location for a blood test. Upon going, Thandi's mother learned that she was HIV positive and so was able to receive the proper medication. Her mother's health improved greatly and she was able to work at a local textile factory.

Nomcebo is young girl of 13 years. She said that she used to allow her friends to touch her body anyhow and everywhere when they were playing. Sometimes she would play the part of being a mother when they were playing "mother and father" games. The boy, who was referred to as the "father," would touch her private parts when they had sent the children away to the shop. The "Parents" would have casual-sex under the concept "we are playing just a game." She says she is thankful for the *iMatter* program because she almost became pregnant when it went beyond playing. After learning the lesson about "Respecting My Body," she realized that she should not be playing such games. After the lesson and a very challenging warning of her *iMatter* teacher she decided to stop. She even told her friends to stop such games. She has vowed to protect her body from any abuse (bad touch) and has even had a blood test.

#### OVERVIEW OF INITIAL SOUTH AFRICAN PROGRAM

Beginning in 2006 Hope Education (HE), in cooperation with Reaching a Generation (RaG), a community-based South African organization, began a process to adapt the Swazi developed *iMatter* program to South Africa. The South Africa program is centered on teaching/training children in public schools. The teacher program uses Life Orientation (LO) teachers focusing on HIV prevention and the development of teaching skills necessary for teaching LO. The teachers are trained to deliver the age appropriate, child-centered curriculum, *iMatter*. These programs were tailored to South Africa in cooperation with the Department of Education. Begun as a pilot program in the Free State province in August 2006, the program targets children in grades 2 to 7 with HIV prevention education and life orientation skills. The mandatory subject of Life Orientation, a class designed to teach practical skills to children and equip them to make healthy choices, provides a structured framework in which to present the *iMatter* curriculum. Life Orientation "is concerned with the social, personal, intellectual, emotional and physical growth of learners."

The *iMatter*, 10 lesson, age-appropriate HIV prevention material focuses on HIV prevention by targeting the underlying causes of the epidemic. These underlying causes were identified through field research and include: lack of self-worth, diminished value of individual life, failure to consider consequences, failure to plan for the future, and the importance of making good choices at each stage of development. The Foundation Phase book is for Grade 2 –

Grade 3 and the Intermediate Phase book is for Grade 4 – Grade 7. Both editions include lessons on the value of human life, the importance of making good choices, the difference between good and bad touch, ways that HIV is transmitted and can be avoided, and ways to avoid stigma. Although similar subjects are discussed in each edition of *iMatter*, the format varies in an age appropriate manner. The Foundation Phase *iMatter* book has very short stories to accommodate the young reader. A more detailed version of the same story is included in the Foundation Phase *iMatter* Teacher's Guide allowing the teacher to even further emphasize the main points of the story. The Intermediate Phase *iMatter* book contains longer stories for a more advanced reader while the Intermediate Phase *iMatter* Teacher's Guide reinforces the lessons with many discussion questions and learning activities.

The initial program objectives included:

Increase the capacity of the 6,631 Life Orientation teachers to promote HIV prevention through abstinence and faithfulness.

Reach 850,000 total learners with a message that promotes HIV prevention through abstinence and being faithful.

In the first year, October 2008 through September 2009 the program reached 5,128 teachers and 845,828 learners. Learners were assessed with a survey in September 2009. A survey was conducted in the districts of Letsjweleputswa and Thabo Mofutsayana in Freestate, South Africa among 5th and 6th graders who had studied the *iMatter* curriculum and a comparison group of 5th and 6th graders who had participated in Life Orientation training but not *iMatter* in their schools. In this survey the comparison group was simply a demographically similar group of children who were participating in whatever training was being offered in their schools at the same time as the *iMatter* students, without controlling for when their training started or ended.

#### I n i t i a l   O u t c o m e   R e s e a r c h

The *iMatter* curriculum was designed to teach the value of persons, the importance of preparing for life, the impact that choices have on the future, the value of the infected, and the facts associated with HIV/AIDS. These attitudinal changes and knowledge were crafted to affect long term behavioral change and produce a consequent reduction in the spread of HIV/AIDS. Therefore, to insure that the designed product was achieving these aims, and was not irrelevant, we designed initial outcome research to measure attitudinal change. *iMatter* Surveys were developed to assess the effectiveness of the *iMatter* materials in changing attitudes. The student learner survey assessed the effectiveness of the *iMatter* content based on the following research objectives:

1. Measure children's knowledge of and attitude toward the abstinence and being faithful messages.
2. Assess frequency of behaviors among children that may be precursors to HIV risky behaviors.
3. Determine children's self-confidence to limit their HIV risky behavior and to see their choices as having an effect on their future.
4. Measure personal attitudes about HIV, including children's feelings toward others with HIV.
5. Analyze children's connectedness, or friendships, with others, which is a protective factor against risky sexual behavior.
6. Assess children's intentions to stay away from HIV risky behavior in the future.

7. Identify the level of accurate knowledge children have about HIV transmission, as well as prevalence of misconceptions regarding HIV transmission.
8. Specifically measure children's understanding of concepts taught in the *iMatter* curriculum regarding interpersonal relationships, moral behaviors and attitudes, understanding of who is at fault when there is "bad touch," perceptions of personal value, and having goals for the future.
9. Measure children's understanding of various HIV transmission risk factors/behaviors.

### Study Design

The study design was a pre / post test evaluation of the *iMatter* curriculum with learners and teachers in a random sample of South African schools.

The pre-training sample was done from September 7 to 11, 2009. The post-training sample was conducted October 27 to November 7, 2009, after *iMatter* had been taught in each of the test schools. (Pre training and post training refers to the time before and after the *iMatter* training was conducted, but the comparison group was also surveyed at the same times.) The sample breakout is as follows:

#### Comparison Group: N= 617

<b>Letsjweleputswa</b>	<b>Pre Sample N=309</b>	<b>Post Sample N=308</b>
Reitzpark (5 <sup>th</sup> grade)	43	43
Reitzpark (6 <sup>th</sup> grade)	42	42
Dr. Mngoma (6 <sup>th</sup> grade)	56	50
<b>Thabo Mofutsayana</b>		
Phinduzame (6 <sup>th</sup> grade)	43	47
Mohlakaneng Intermediate (5 <sup>th</sup> grade)	17	18
Mohlakaneng Intermediate (6 <sup>th</sup> grade)	8	10
Bethlehem Intermediate (5 <sup>th</sup> grade)	47	45
Bethlehem Intermediate (6 <sup>th</sup> grade)	53	53

#### Test (iMatter) Group: N=489

<b>Letsjweleputswa</b>	<b>Pre Sample N=248</b>	<b>Post Sample N=241</b>
Saaiplaas (5 <sup>th</sup> grade)	45	42
Saaiplaas (6 <sup>th</sup> grade)	37	36
<b>Thabo Mofutsayana</b>		
Realtile Intermediate (6 <sup>th</sup> grade)	32	32
Impuchuko Public School (5 <sup>th</sup> grade)	51	50
Impuchuko Public School (6 <sup>th</sup> grade)	50	48
Tsheseng Primary School (6 <sup>th</sup> grade)	33	33

### Significance Testing

Significance testing was conducted at the 5% level between the *iMatter* and comparison group, and between the pre and post samples. Significant findings that are considered to be meaningful are reported. For the *iMatter* group, a sample of 248 yields a maximum standard error of +/- 6.2%. For the Comparison group, a sample of 309 has a maximum standard error of +/- 5.6%.

## Survey Results

The following conclusions are based on an analysis of the research findings of the pre and post training surveys that were conducted among *iMatter* learners and a comparison group (see Research Methodology, first paragraph).

1. Significantly more of the *iMatter* group (70%) said they would tell others to wait until marriage to have sex than the comparison group (62%). The percent was even higher among 6<sup>th</sup> graders: 76% in the *iMatter* group vs. 62% in the comparison group.
2. The *iMatter* group showed significant improvement in their understanding, from the pre sample to the post sample, about three risky behaviors: "Your chances of getting HIV/AIDS are higher if you go to the city to earn money as a prostitute;" "Your chances of getting HIV/AIDS are higher if you are paid to have sex with someone" and "Your chances of getting HIV/AIDS are higher if you are pressured by someone to have sex."
3. The *iMatter* group indicated a lower frequency of behaviors (holding hands and kissing their boyfriends/girlfriends), which may be precursors to HIV risky behavior.
4. *iMatter* learners showed significant improvement on three Social connectedness variables that are a protective factor against engaging in risky behaviors: "I want to go to school most days;" "I often spend time with my friends;" and the likelihood of telling their friends when they feel bad.
5. Significantly more of the comparison group (61%) indicated they are afraid of getting HIV & AIDS than the *iMatter* group (50%).
6. There was improvement in the *iMatter* group's attitudes about social stigma associated with HIV & AIDS with significantly more of the comparison group (21%) strongly agreeing that HIV and AIDS is punishment for having sex or bad behaviour than the *iMatter* group (14%).
7. The majority of children in both groups feel empowered in terms of making good choices and understanding the impact of their choices, abstaining from sex before marriage and being faithful to one partner in marriage.
8. The *iMatter* learners showed improvement in their likelihood of talking to someone if a person tries to touch them in a bad way.
9. Among *iMatter* learners, there was improvement, from the pre sample to the post sample, in their understanding that HIV can spread to babies before or during birth with significantly more of the *iMatter* learners (72%) agreeing with this than the comparison group (64%).
10. Significantly more *iMatter* learners (35%) disagreed with the statement "I am the same as every other person on earth" than the comparison group learners (23%). There was also significant improvement in the *iMatter* learners in response to the statement "I lack goals for my life," with significantly more stating they strongly disagreed (17%) in the post sample than in the pre sample (7%).
11. In regard to moral beliefs, the majority of children in both groups agreed that they feel sorry when they tell a lie, and disagreed that it is ok to steal sometimes.

The average age of the children in the survey was 12 years old, with the sample approximately evenly divided between boys and girls.

## C o n c l u s i o n

Returning to the original questions posed by the conference organizers, we believe designers do have a responsibility to serve society, and that by incorporating a cross-cultural experience into design curricula graduating design students will have the response\_ability to do so. That design students can successfully bridge a cultural divide and gain enough understanding of a culture to develop a culturally relevant product to address those needs is supported by all the initial outcome measures. The *iMatter* project is an example of how design education can prepare more responsible and response\_able designers through: discovery research focused on other persons' needs; development of design students' empathy; multi-disciplinary teamwork; concepts founded on others' needs rather than designers' intuition; and evidence-based design practice including field testing and outcome measurement. We believe our students grew through this experience and that students' growth through cultural immersion is generalizable, and not restricted specifically to this project. We can envision several benefits that design programs might gain by incorporating cross-cultural experiences into their curricula, but these experiences will involve making changes: some trivial, others profound.

### Global/Cross-cultural

First, we suggest that design education directly engage students in cross-cultural experiences: to broaden the designer, to sensitize the capacity for empathy, to cultivate innovative capacity.

### Design Service vs. Professional Advocacy

We request that graphic design education shift from solely or primarily servicing clients, toward advocating for people. God knows the little girl in the red sweater needs an advocate. Project sponsors or clients should not always automatically have the last word. The client is not always right, the person is.

### Personal Outcomes

We propose that graphic design education shift so that it begins and ends with the person: inspired by real human needs, answerable to real outcomes. This will require educational practices combining a user focus with evidence-based design practices. As part of this we suggest design education remove the word 'consumer' from our educational vocabulary as outmoded and inappropriate and replace it by 'person.' We are not dealing with demographics or targets or audiences or consuming units but with individual people: touching hearts and affecting minds.

### Evidence-Based Design

We propose that design education become more evidence-based, routinely including field tests and outcome measures in the educational process.

### Future Strategy

Moreover, we humbly offer that as a design strategy for the future health of the design professions, we need the little girl in the red sweater. She can awaken us to realities we have never known. Looking into the face of desperation can awaken a designer from creative slumber. If innovation springs from a goal surrounded by obstacles, then obstacles become an ally, and a life of ease an enemy. We recommend that designers surround ourselves by people around the world who are encountering great obstacles. This will strengthen our creativity and build our capacity for innovation to the benefit of all.

An Architecture colleague at UC, Michael Zaretsky, wrote of architectural design responsibility, "Any consideration of a design decision that doesn't come from an understanding of its constructability, transferability, energy performance, programmatic flexibility, structural performance, pragmatic flexibility and cultural appropriateness is an irresponsible decision by any measure." (Zaretsky, 2010) The same can be said for socially responsible graphic design. Graphic design decisions not based on an empathetic understanding of the worldview, culture,

learning style, functional literacy, emotional state, valued traditions, economic realities, social pressures, and deep needs of individuals are irrelevant. Let us design relevance.

### A c k n o w l e d g e m e n t s

The authors acknowledge the support of the Hope Educational Foundation, the UC Institute for Global Studies and Affairs, and the United States President's Emergency Plan for AIDS Relief (PEPFAR). We also acknowledge the work of Duane Crumb who did the initial research and ELITE RESEARCH who designed and Beckie Sills who supervised the outcome assessment. Finally, we recognize the immensely creative work of twelve student designers: Laura Alcott, Kristopher Climer, Sean Duffy, Joshua Emerson, Sean Travis Gresens, Justin Hardesty, David Kroner, Dave Oyler, Shannon Reiss, Nolan Stover, Yi-Lin (Eddie) Sun, Chrissie Paige Talkington; and two faculty: Owen Brock, and Mike Zender.

### R e f e r e n c e s

- Engleberg, Gary; Meijer, Suzanne; Tiendrebeogo, Georges. (July 2003). Life skills and HIV education curricula in Africa: Methods and evaluations. *SD Publication Series, Office of Sustainable Development Bureau for Africa*.
- Gallant, M. M.-T., Eleanor. (2004). School-based HIV prevention programmes for African youth. *Social Science and Medicine*, 58(7), 1337-1351.
- Grunsheit, A. (1997). *Impact of HIV and sexual health education on the sexual behaviour of young people: A review update*.
- Kaaya, S. F. F., Alan J. Mbwambo, Jessie K. Schaalma, Herman. Aaro, Leif Edvadr. Klepp, Knut-Inge. (2002). Review Article: A review of studies of sexual behaviour of school students in sub-Saharan Africa. *Scandinavian Journal of Public Health*, 30(2), 148-160.
- McGregor, L. (2002, Monday, 8 July 2002). Botswana battles against 'extinction' As delegates meet in Spain, the world's worst-hit country tries a new initiative against the epidemic. *The Guardian*.
- Ong, W. J. (1982). *Orality and Literacy* (reprint 1988 ed.). London: Routledge.
- Tiendrebeogo G., M. S., Engleberg G. (2003). *Life skills and HIV Education Curricula in Africa: Methods and Evaluations*.
- Zaretsky, M. (2010). Research Informing Design: A Zero-Energy Health Center in Rural Tanzania.