From Digital StudyHall to Digital PublicHealth

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The History of D*

- Digital StudyHall pioneered a technology and methodology for remote education with low cost digital video
- D* designated the use of the DSH platform to multiple domains
  - Digital Green (DG) for agriculture
    - Rikin Gandhi
  - Digital PolyClinic (DPC) for health
    - Anna Spessard-Mulhair
    - Julia Lowe
  - Digital Self Employment (DSE) for livelihood
    - Paul Javid
Themes and distractions

- Technologist led projects for global good
- Relationship between academic ICTD community and the NGO world
- Rapid technological and economic change
- Sustainable and scalable interventions
- How does an ICTD project succeed?
- Technology is only one component of a successful program
- Dominance of consumer/commercial technology
What is Digital StudyHall?

• Support weak schools with video content from expert teachers
• Local teacher mediates the video content
  • Based on the TVI model
  • Provide better content and support teacher development
• Important to match content with target audience
• Cost realism
DSH History: The Idea

- How can computing systems research be applied to help the very poor?
- Solve the digital content distribution problem to make distance education possible
- Concept paper, Randy Wang et al., Princeton, November 2003
DSH History: Experimentation

- Minimize cost of video playback in the classroom
- Attempt to use low cost television sets
- Target rural schools with irregular power
- Low cost video and audio production
- Develop video production tools based on open source software
DSH History: Building the Lucknow hub

- Developed content creation model with a strong school
- Recorded core content for all grades
- Teacher training workshops
- Range of different types of schools
  - Government, private, informal
- Simplification of the technology
  - DVD players instead of computers
DSH History: Microsoft Research India

- Randy Wang hired as a researcher at MSR India
  - Project remained based in Lucknow
  - Part of the Technology for Emerging Markets (TEM) group
- Development of other HUBs
  - Bangalore, Pune, Dhaka, Calcutta
DSH History: Independence

• Relationship with MSR ended in 2008
• Activities in Lucknow continued, but many hubs stopped working
• NSF sponsored study exposed challenges in working with government schools
• Randy Wang moved to Intel, Shanghai in 2010
• New set of projects developed by DSH Lucknow with a new manager
What is Digital Green?

- Video based education for farmers
- Community created videos demonstrating agricultural practices
- Facilitated showings of videos in farmer groups
- Digital Green (NGO) providing technology, training, content archive and advocacy
DG History: The Idea

- Apply Digital StudyHall to agriculture
- Formative research conducted with Bangalore based NGO (Green)
  - Promote organic farming practices
  - Film extension workers introducing practices
  - Public showings in evenings
- Rikin Gandhi started work at MSRI as a volunteer
DG History: Experimentation

- Video creation
  - Wide range of topics and video styles
- Screening methodologies
  - In homes
  - In public square
- Process
  - Hire ‘animators’ responsible for conducting showings and maintaining equipment
  - Follow up from meetings
DG History: Spin Out

- Studies measuring “cost per adoption”
  - Compare DG with extension agent
  - Emphasis on monitoring
- Microsoft identified forming an NGO as a success criteria for the project
- Support from BMGF to form NGO
DG History: Building an NGO

- Business model
  - Partner with NGOs implementing agricultural programs
  - Become trainers and managers of content and technology
- Shift focus to low income states in India
- Strengthen process model
- Process innovation:
  - Shift video creation to the community
- Technology innovation:
  - Pico-projector
DG History: Expansion

- Substantial growth
- Partnership with NRLM in India
- Exploratory projects in Africa
- Identification of other domains
  - Health, Sanitation, Nutrition, Livelihood
What is Digital Public Health?

- Digital Green model applied to community health education
- Community created video content for externally defined health messages
- Video showings in community to promote behavior change
DPH History: The precursor – Digital PolyClinic

- Digital StudyHall project conducted by interns
  - Anna Spessard-Mulhair
  - Julia Lowe
- Recorded a women’s health workshop at a clinic
- Trained facilitators
- Videos shown in groups in village houses
- Major effort to transport television and car batteries
DPH History: Building a Partnership

• PATH/DG partnership established
• DG Video Training workshop for PATH staff
• Identification of possible differences between Health and Agriculture
  • Message review
  • Evaluation of impact
  • Dissemination models
• Funding for pilot
• Identification of implementation partner
DPH History: Project Launch

- Partnership agreement
  - Determine that DPH is consistent with partners goals and capabilities
- Process definition
- Plan M&E
- Training
  - Video production
  - Dissemination
  - Data reporting
- Video production
- Dissemination starts October 1
Applying the Digital Green model to health

- Digital Green model
- Participatory process for content production
- Locally generated digital video database
- Human-mediated instruction for dissemination and training
- Regimented sequencing to initiate a new community
- Integrated performance monitoring
Surestart project

- PATH led project in UP and Maharashtra
- 2006-2011, BMGF Funded
- Community engagement to support maternal and newborn health
  - Governance and public health interventions
  - Mentoring ASHAs
- Maternal health messaging
  - Danger signs
  - Birth preparedness
  - Thermal care
  - Breast feeding
- Mothers’ group
  - ASHA led group of expecting mothers
  - Monthly meeting with activities
Bacchrawan, Raebareli, UP

- Gran Vikas Sanstham
  - Well established local NGO
  - Active since 1977
  - Demonstration site for SureStart
- High performing district
- Project will cover 20 villages with 54 mothers’ groups
- Direct continuation of Surestart
- Supervisory structure already in place
Message creation

• Health messaging developed by experts
  • Standard messaging that has been adopted by health organizations
• List of messages for a topic given to video team
  • Messages must appear in the video

Birth preparedness requires a prior identification of—
  a). Skilled, capable and eligible people like doctors, nurse and ANMs to do the delivery;
  b). Clean cloth to wrap the baby and the mother;
  c). Clean thread to tie the cord;
  d). Clean new blade to cut the cord by a trained person;
  e). important phone numbers and address of nearby hospital, ambulance and any such people who has a vehicle to carry the pregnant women in case of emergency to the hospital/doctor;
  f). Saving money for such situations.
Video creation

• GVS employees trained in video production and editing
  • No previous background
• Training includes basics of film
  • Different types of shots
• Video team had creative control on videos
• Developed story lines for videos
• Initial videos produced were of high quality
Review

- Critical to ensure accuracy of messaging
- Community advisory board created
  - Health system and community membership
- Approvals
  - Storyboards
  - Final videos
    - Community and PATH review
- Recommendations from CAB have been included in videos
- Errors in videos have been detected
Dissemination

- ASHAs trained to use videos
  - Technical training on Pico projector
  - Training in facilitation
- Videos shown in existing mothers groups
  - Substitute videos for learning activities
  - Attempt to keep format the same
Technology

• Video creation with Kodak playtouch camera
• Edit with Microsoft Movie Maker
  • (sound problems)
• Video sharing for review
• Post to YouTube
• Load on Pico projector for showings
Assessment

• How do we know if practices are followed
• DG Paradigm – practice demonstrated, follow up to see how many have adopted (with key adoption points)
• Health – not clear
• Will have ASHAs follow up on home visits
Monitoring and evaluation

- Feasibility study
  - Establish that the basic process works
  - Community acceptance
- Focus on process indicators
  - Videos created
  - Number of screenings
  - Review of messages and videos
  - Attendance
  - Performance of ASHAs

Project goal: To generate evidence on Digital Public Health as a new model for community-driven behavior change communication for maternal/neonatal health issues in a targeted region in India

Objective 1: Adapt the Digital Green model to Digital Public Health model

Objective 2: Strengthen capacity of community-based support through Digital Public Health messaging

Objective 3: Evaluate proof of concept of integrating the DPH model into a community support program
Behavior change communication

- Promoting behavior change is much more than just making messages available
- Different models of behavior change for different domains
  - Maternal health vs. lifestyle vs. agricultural practice
- DPH model complementary to centralized initiatives
Extending DPH deployments

- Groups available for health information disseminations
  - Mother’s groups
  - Self Help Groups
  - Village health and nutrition days

- Requirements
  - Community mobilization
  - Facilitation structure
  - Reason for people to receive health content
Local versus centralized content

- Why not create 20 videos that could cover all of Hindi speaking India?
  - Amortized cost will be lower
- Arguments for local
  - Variation in practices
  - Tailor to local dialect and culture
  - Respond to local needs
  - Community identification, engagement and empowerment
- Will the community prefer local content?
  - Need to do a rigorous evaluation
Handheld content delivery

• Mobile devices for content dissemination
• Household visits by nurses or community health workers often contain educational activities
• Sensitive topics can be covered in one on one visits
Evaluating impact

- Phase one: Feasibility
- Phase two: Impact
- Determine if DPH is cost effective for implementing BCC in community programs
- What are the measured outcomes?
DSH to DPH: Technology vision

- Central technical challenge for DSH was low cost digital video
- Rapid changes in technology have simplified and lowered many costs
- DG technology process adopted by DPH
  - MS MovieMaker
  - YouTube
  - Pico projectors
- Digital backchannel unrealized
DSH to DPH: Deployment model

- Organizational deployment model
  - DSH focusing on direct implementation of projects
    - Few external hubs
  - DPH starting with a model of field deployment partners

- Differences in structure between schools and community groups

- Training, video archive, technology management common to both
DSH to DPH: Content creation

- **DSH Model:**
  - Centralized content creation (educational institution)
  - Common curriculum across deployment

- **DPH Model:**
  - Community created content
  - Local content to allow message customization and increased engagement
Comments???

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