E-Learning as Vehicle for Social Transformation: Evidence-based Results from the Philippines

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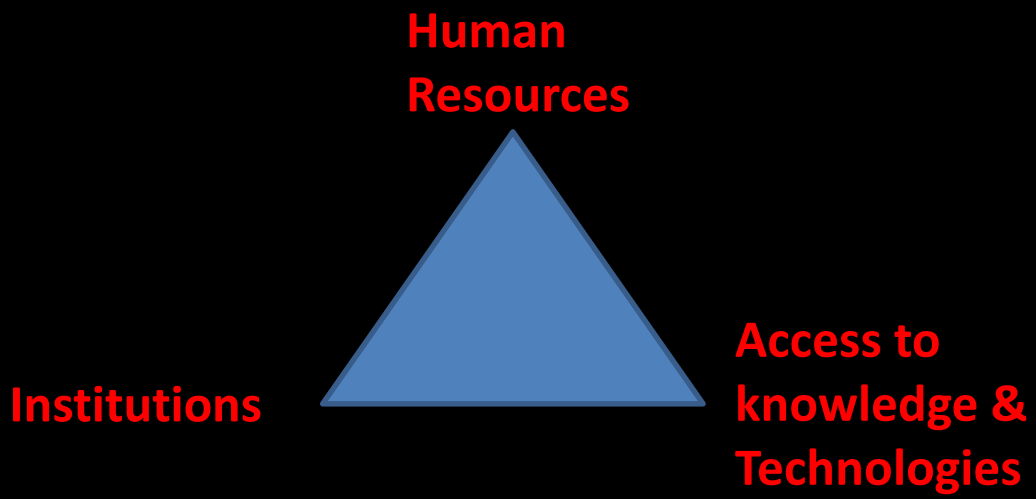
Background/Context





Robie (2007)
For development to be feasible, society must be conducive to change.



E-Learning: Vehicle for Social Transformation





Murthy & Mathur, 2008

E-Learning

- Socially relevant messages
- Media convergence

Needs
Benefits

Transform
Change

Individual
Community
Society

Rationale



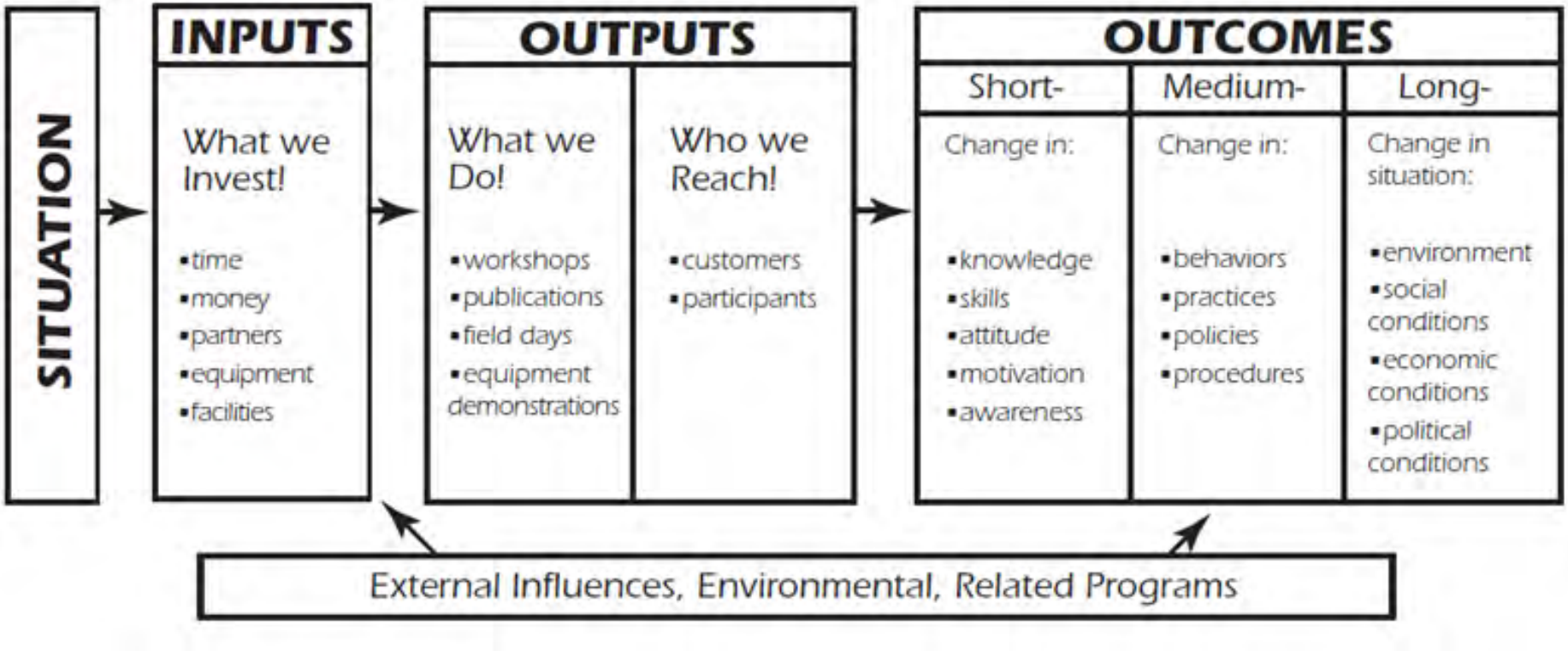


Five years after implementation, no assessment of e-learning outcomes

Research Objectives

1. Determine inputs, outputs, and outcomes of e-learning from users' perspective
2. Map out evidences of e-learning among its users

Theoretical Framework



Logic Model (Cawley, 1997)

E-learning of the Agricultural Training Institute





Crops
Livestock & poultry
Marine & fisheries
Organic agriculture
Social technologies

- **Online certificate course**
- **Open to the public (24/7)**
- **Free**
- **Digital learning resources**
- **e-Extension coordinator as regional administrator**
- **Started 2007**
- **15,409 enrollees (2008-2014)**
- **10,000 graduates**
- **33 online courses**

Research Methods & Data Sources





1. Survey
   - 273 randomly selected e-learners

2. Focus group discussion
   - 35 purposively selected e-Learners
   - Agricultural extension workers
   - Pangasinan
   - Albay
   - Agusan del Norte
   - Cagayan de Oro City
   - Bukidnon

3. Instruments & data sheets
   - Questionnaire
   - FGD guide
   - Transcriptions

INPUT: Time

- **72%** completed one module of online course in an hour
- **33%** each worked on module morning, afternoon, and evening
- **65%** finished online course in a month

In less than a month:
50% - finished 1 module
35% - 2 modules
15% - 3 or more

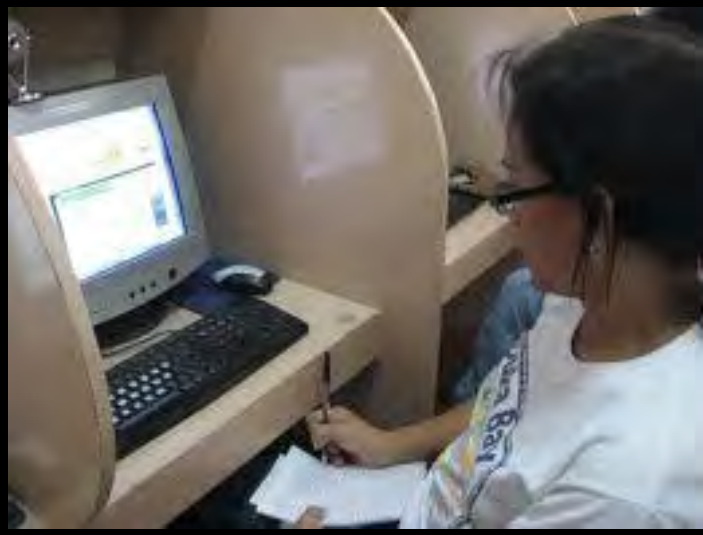
INPUT: Money





Money

- 63% of users did not spend money
- 35% spent money (computer rental; internet fee)



INPUT: Equipment and Facilities

51% did not own computer
48 % own computer

Non-owners
45% access computer at office
38% internet shop/cafe

OUTPUT: Who were reached





User type
47% agricultural extension workers
25% students

Age
61% 25-54 years old

Civil status
48% single
50% married

77% college graduates
65% **Female**
45% **Male**

OUTPUT: What activities were done





Working on online module

- Visiting e-Learning web site
- Texting or SMS
- Viewing video tutorials on You Tube
- Accessing reading materials

OUTCOME: (96% increased knowledge)





Evidences

- *Can give satisfactory, credible answers & explanations to farmers' queries*
- *Sufficiently equipped to deliver lectures to farmers*
- *Can explain symptoms & control of banana diseases to farmers*
- *Can provide "advice" to farmers*
- *Helped pass agriculture board exam*

Outcome: (73% attitude change on e-Learning)





Evidences

- No pressure or stress in e-Learning
- Challenging to use computer for learning
- e-Learning is addictive
- Satisfaction with course completion
- Motivated to learn more about farming
- Confident to share information to farmers

OUTCOME (87% change in skill or practice)





Evidences

Crops

- *Practiced organic vegetable farming*
- *Planted & harvested yam in 200 sq m lot*
- *Established 3 greenhouse structures near office*

Livestock

- *Started production of fodder grasses and legumes for my goats*
- *Applied moonsoon handling in goat's housing*

Organic fertilizer

- *Constructed vermicomposting facility & currently maintaining it in own garden*
- *Produced 100 bags of vermicast*
- *Started vermiculture project in community sponsored by municipal mayor*
- *Introduced vermicomposting to farmer who is now supplier of vermicast*

Policy Outcomes

Proposed e-Learning Policies of ATI

1. **Make e-learning an official and lifelong ATI program (85% agree)**

Reasons

- *Fits in with **predominance of ICTs** for learning*
- *Makes learning **accessible***
- ***Easy way** to learn*
- *Provides **quality education***
- *Beneficial, inexpensive, paperless t*
- *Creates **multiplier effect** on learning*
- *Learn technology and **share to others***

Proposed e-Learning Policies of ATI

2. **Do not charge fees for e-Learning courses (79% agree)**

Reasons

- *ATI has **mandate** to train and provide information on agriculture and fisheries to people who need it most so they can improve their production, livelihood, and well-being.*
- *E-learning can **attract students** who will be future agricultural providers.*
- *Charging **fees will discourage** people interested in e-learning but cannot afford it.*

Policy Outcomes

Other Proposed Policy Guidelines for e-Learning

24% The e-learning courses should be offered to all kinds of stakeholders in the community.

20% A course evaluation should be included at the end of each course.

14% A student should be enrolled in one online course at a time.

13% If a student fails a course, he/she may retake or re-enroll it.

12% A course should be finished or completed within six months.

Outcomes from FGD results

Outcome Area	Evidences
Short term	
Attitude	More self-confidence, trust Willingness to share knowledge Morale boosted on computer usage Useful content Appreciation of e-learning Interest to learn online Better quality of learning
Knowledge	Increased knowledge Knowledge refreshed Knowledge updated
Skills	How to reduce banana pest How to design vermicomposting plot How to construct greenhouse How to formulate feed for goats How to do artificial insemination How to crossbreed goats

Outcomes from FGD results

Medium term	
Behavior/Practice	Community trainers/lecturers Advisory services to farmers Advocacy for community adoption of technologies Community projects – vermicomposting, organic fertilizer, goat, swine Organizing groups for project implementation Linking projects to LGUs for support
Policy	Set aside regular budget for e-learning promotion, advocacy and sustainability Make e-learning compulsory for AEWs with at least two courses completed in a year Conduct continuous, regular promotion and advocacy of e-learning courses Create a regular pool of agents to consistently review, polish, update, and proofread e-Learning content

Mapping Evidences of Change

E-LEARNING

INPUT

Minimum time

Least effort

Minimum money

Computer and internet access

OUTPUT

People reached

Agricultural extension workers
Young to middle age
Female & male
Married & Single
College graduate

Activities

Online learning
Visit to web site
Viewing video
Texting or SMS
Accessing online PDF references

Individual OUTCOME

Positive attitude toward self & e-learning
Increased, refreshed, updated knowledge
Technological skills acquired

Community OUTCOME

Trainer/Adviser
Change advocator
Community project implemented
Community groups organized for project implementation
Linking project to LGU

Policy Outcome

Proposed policy guidelines for e-learning

IMPACT

Social

Economic

Political

Environment

Policy support/ implementation

CONCLUSION

The ATI's e-Learning provides an alternative form of learning that is accessible, efficient, effective, relevant to needs, and can be sustainable.

E-learning produces a multiplier effect with knowledge shared to farmers.

Policies should be crafted and disseminated to ensure sustainable operation of e-Learning.

CONCLUSIONS





Local application or adaptation of content or technologies gained from e-Learning is a critical factor.

Evidences of results of e-Learning from users' experiences and perspectives can open opportunities for sustainability and upscaling of the program.





THANK YOU VERY MUCH!