HP National Education Technology Assessment (NETA)
HP Education Vision & Strategy

Access + Learning = Outcomes

Total True Meaningful
Education Solution Framework

- Safety & Security
- Infrastructure
- Learning Devices
- Deployment & Support
- Learning Environments
- Content & Curriculum
- Print+ Digital
- Professional Development
- LMS & SIS
- Apps for Learning

Meaningful Outcomes

Access

Learning

Sustainability
How is the New Style of IT disrupting education?

Cloud

Mobility

Big Data

Security

Curriculum
What do we want our students to learn?

Pedagogy
How do we teach it?

Assessment
How do we know they acquired the knowledge & skills?
Sustainable Learning, Social & Economic Outcomes

A comprehensive process to vision, prepare, deploy, support and sustain education technology in schools around the world.

National Education Technology Assessment

NETF
National Education Technology Framework
Heuristics for nationwide, holistic education technology solutions.

NETR
National Education Technology Readiness
Macroeconomic, microeconomic, technical and cultural readiness assessment.

NETA
National Education Technology Analytics with Predictive Econometrics
Analytic dashboards leveraging big data & the cloud to predict meaningful outcomes.

A Global Effort Led by World-Class Advisory

Brookings Institution
CoSN
Digital Promise
Dublin City University
Duke University SSRI
European Schoolnet
Global Business Coalition for Education
Hibernia College
IEA (TIMMS/PIRLS)
ISTE
Learning Links Foundation
Meraka Institute
New Media Consortium
OECD
UAE Ministry of Education
UNESCO
UNICEF
UN Special Envoy for Education
World Bank
World Economic Forum

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National Education Technology Framework

Policy | Readiness | Deployment | Sustainability

Outcomes =

ECONOMIC LEARNING

SOCIAL

Infrastructure | professional development | managing obsolescence | security | online safety | content | formative assessments | job skills | financing | assessment | social
mobility | millennium development goals | off campus access | distribution | warranty | student training | social media | intranet & portal | personalized learning | break/fix |
damage protection | textbooks | remediation | press & public relations | devices | business community engagement | e-waste | school leadership | data security | vision |
project management office | goal setting | change management | classroom technology | servers | legacy systems | email | student demographics | university partners | marketing | regional rivalries | PISA | driving innovative teacher practices | timelines | due diligence | bandwidth | local service providers | student information system | 21st century skills | data warehouse | etc...

gdp per capita | employment | student optimism | economic
diversification | global competitiveness | participation in
government | income per capita | peace | lower criminality | TIMSS |
poverty mitigation | secondary completion rate | durable goods
market efficiency | technological readiness | innovation | boys:girls
in school | PISA math, science & reading | teacher satisfaction | interest in STEM careers
Policy

Setting desired outcomes, expectations and timing

National
Alignment with adjacent ministries
Identification of key stakeholders
Re-evaluation current policy & programs
Alignment with national strategic goals

Regions & Schools
Alignment with current school policies & procedures
Create digital school policies
Design teacher & administration acceptable use contract
Design e-Curriculum and Content policies

Students & Families
Design student & families acceptable use policies
Social media / online behavior policies & rules
Acceptable content, websites and apps
Device damage, theft & loss policies including penalties
Readiness

Are your schools ready for technology-enhanced learning?

Culture
Building effective school & system leaders
Teacher empowerment & enablement
Readiness for re-designed curricula
Systemic change management & readiness

Access
- Wireless infrastructure surveys
- Cloud access, storage and use testing
- Select, provision and deploy device plan
- Funding solution methods

Learning
- E-Curriculum and content readiness
- Learning Management System testing
- Personalization & intervention trees
- Teacher instructional & admin readiness

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Deployment

Experience counts

Configure & Confirm
- Select devices
- Build software image
- Design, build & test image
- Build deployment plan

Deploy & Install
- Train students & families
- Out-of-box events
- Manage packaging
- Recycling
- Establish “just in time” depots

Support
- Establish break/fix policies & locations
- Guides for school technology leaders
- Data security best practices
- Personal & online safety & security
- Continuing professional development

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Ensuring generations of improved outcomes.

Assessment
Create pre, post and interim assessment plans
Include social, economic and learning metrics
Connect the program to national progress
Align with national strategies & public benefits
Ensure active, effective use of technology

Build & Maintain Enthusiasm
Press and Public Relations planning
“Ribbon cutting” events
Public information portal
Cadenced assessment updates
Highlight progress & exceptional use

Manage Obsolescence
Finance with Refresh
Auto-updating OS
Manage device specifications
Reduce, Reuse, Recycle

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Outcomes

Access

Learning

Analysis

A customized, consultative analysis of your education system’s readiness for a national education technology program.
HP NETR Timeline

- Macroeconomic environmental analysis (HP LESI)
- National Vision, Goal Setting & Outcomes Analysis
- School Visits, Interviews, Questionnaires & Site Surveys
- Independent Observation & Analysis
- NETR Readiness Assessment & Recommendations Delivered

Duration: 20-45 Days
Outcomes Assessment

What are the most important indicators of improvement?

**Economic**
- GDP & GDP per Capita
- WEF Global Competitiveness Index
- Foreign Direct Investment
- Employment/Unemployed Youth
- Net Migration

**Learning**
- Internationally-comparable testing
- National testing
- Formative assessment
- Measures of Participation
- English fluency

**Social**
- Gender equity
- Primary Completion
- Graduation rate
- Access to broadband or PCs
- Government participation

**Method:** Three-tiered quantitative battery + qualitative interviews

**Respondents:** Ministry officials, private sector (employers)
Access Assessment

Is your current IT environment able to support national 1:1?

Cloud
- Learning Management System
- Student Information System
- Enterprise Resource Planning System
- Emergency Management & Notification
- Secure Access

School Sites
- Bandwidth to schools
- Bandwidth within schools
- Wireless Site Survey
- Print Site Survey
- Network capacity (Servers)

Backbone
- National infrastructure readiness
- Wireless WAN assessment
- Data Center Scaling Assessment
- Power & Environmental Impact Testing ("Assessment Assessment")

Method: School site surveys, data center review
Respondents: IT Managers, school technology coordinators, telco’s
Learning Assessment

Are your teachers ready for technology? Are your students

Students
- Importance of technology skills
- Attitudes toward schools and education
- Opinions on technology in education
- Future aspirations
- Self-reported English fluency

Teachers
- Attitudes toward technology in education
- Satisfaction with education system re: technology
- Technology ownership & comfort
- Self-reported readiness on teaching with technology
- Opinions on student attitudes toward school

Families
- Assessment of student enthusiasm for learning
- Satisfaction with education system
- Opinions on technology's place in education
- Ownership of technology & availability of broadband at home
- Attitude toward school safety

Method: School visits, classroom discussions, surveys
Respondents: Students, teachers, families
School Visits

HP learning, technology and professional development experts visit schools directly to assess their readiness for:

**Learning**
- Classroom Observation
- Classroom Discussion & Student Surveys
- Teacher Focus Group & Teacher Surveys

**Access**
- Bandwidth & Wireless Site Survey
- Facilities Survey for Power, Light & Security
- Servers & Printing Capabilities Assessment
NETR Report Contents
Presentation, recommendations and written analysis
100% HP & Ministry of Education Confidential

1. HP Learning, Social and Economic Index
2. Total Access Readiness
3. True Learning Readiness
4. Meaningful Outcomes: Priorities for improvement
5. Optional Independent observer report
6. Recommendations & final analysis
Appendix
Exhibits (All data files conveyed)
A near realtime view & analysis of access, learning & outcomes with advanced modeling that forecasts future impact
Understanding the Stakeholders
From micro data to big data, NET\textsuperscript{A} can help keep schools on track

**Teachers**

The NET\textsuperscript{A} produces easy-to-use formative (real-time & near real-time) insights that inform instruction, interventions, remediation and supplemental learning opportunities.

**Schools**

The NET\textsuperscript{A} provides school-wide outcomes and analytics delivered in hours instead of next semester.

**Systems & Governments**

The NET\textsuperscript{A} predicts the future learning, economic and social fortunes of your nation using predictive econometrics.
What data has a causal relationship with outcomes?

- Mobile Device Management
- Student Observational
- Learning Applications & Web Services
- Formative & Summative
- Instructional Observational

Determining the proper evidence of learning & relationships among indicators
Econometric Modeling
Comparing Local Data to International Benchmarks

Who are your countries regional and categorical peers? How will your students fair as voters, employees,

Data
Predicted Outcome

Learning
Economic
Social

Global
Categorinal
Regional

Meaningful Outcomes

Benchmarks
World Bank: World Development Indicators
UNESCO/EFA Global Monitoring Report
UNICEF ChildInfo
WEF: Global Competitiveness Index
OECD: PISA Results in Math, Science & Reading
Dashboard Visualizations
Predicting the Future

Communicating complex calculations in an understandable, actionable format.
Provide an experimental test bed for **instrumenting the classroom** to more effectively collect rich evidence of **improvements in learning**

- Silicon Valley
- Johannesburg
- New Delhi
STATUS UPDATE

Progress

• Dry Run almost complete
• Action Research design and coaching underway (Jan – May)

Findings so far

• Mobile 1:1 is a big leap from “carts”
• Project prompted district-wide refinement of acceptable use and data privacy policies
• Next Time: establish a “test lab” to debug software & infrastructure issues prior to actual class use
• “Time” is the most precious currency
• Formal digital testing requires mobile device controls

180 students – grade 7
6 teachers
Math, Science, English
Language Arts, Social Studies, and Special Ed
**NET^A** Johannesburg
Metropolitan Academy (with the University of Johannesburg & the Meraka Institute)

**STATUS UPDATE**

**Progress**
- Dry Run still underway (infrastructure)
- New School Year launched
- Action Research design and coaching underway (Jan – May)

**Findings so far**
- Security, electricity & internet challenges are enormous in South Africa
- New Possibilities Emerging: “Grade 12 Life Science Extension Course” hybrid online/local model
- “Time” is the most precious currency (esp. with 35 minute periods)

130 students – grade 10 -> 11 & 12
4 lead teachers; all 24 being given tablets and are participating in the training

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NET A New Delhi
Ramjas School (with Learning Links Foundation)

STATUS UPDATE

Progress

- Dry Run nearly complete
- Action Research design and coaching underway (Jan – Feb)

Findings so far

- Mobile learning supports great project based learning and extends learning beyond class
  - Water Video
  - Symmetry (math)
  - Cardio-vascular health (students & parents)
- 1:1 teaching coaching is essential initially

90 students – grade 7
4 lead teachers
HP Living Progress
Creating a better future for everyone through our actions and innovations
HP Living Progress

Human Progress
How we advance the overall health and well being of people

Economic Progress
How we help businesses and economies thrive

Environmental Progress
How we create business growth with the environment in mind

What we do (products, services & solutions)

How we do it (strategies, processes, values)

Living examples (Living Progress initiatives)
Example: ELITE Program

Empowering Teacher to Innovate and Apply ICT to Fuel Learning

Together with Chinese National Commission for UNESCO and Zhejiang University

Enlightenment, Literacy, Integration, Transformation, Empowerment
Example: HP LIFE e-Learning

A best-in-class IT and business skills solution – free and online

Supporting millions of individuals to start up and run successful enterprises

Supporting institutions to use HP LIFE e-Learning to strengthen their services

www.life-global.org
Access + Learning = Outcomes

Total True Meaningful
Thank You!