Agile, Adaptable and Accountable

Diana G. Oblinger, Ph.D.
The world keeps changing. It is one of the paradoxes of success that the things and ways which got you where you are, are seldom those that keep you there.

—Handy, 1995
Agility

Agility is the ability to sense and respond to change

- **Sense**: Are you aware of significant changes in your environment?
- **Strategize**: Are you able to develop a plan to respond to the change?
- **Decide**: Can you commit to the plan?
- **Communicate**: Are you able to get the word out to everyone who needs to know?
- **Act**: Are you able to follow through efficiently?
How has the world changed?
The world is flat

• The world has moved from “command and control” to “connect and collaborate”

• Technology and capital will remove all barriers, boundaries and restraints to global commerce

• Competitiveness is tied to having a really smart population

• There is no limit to the number of idea-generated jobs in the world

• Be skillfully adaptable and socially adaptable

—Friedman, 2005
## Growth in service sector

<table>
<thead>
<tr>
<th>Country</th>
<th>% worldwide labor</th>
<th>% service sector</th>
<th>25 year % growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>21.0</td>
<td>35</td>
<td>191</td>
</tr>
<tr>
<td>India</td>
<td>17.0</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>US</td>
<td>4.8</td>
<td>70</td>
<td>21</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.9</td>
<td>39</td>
<td>35</td>
</tr>
<tr>
<td>Brazil</td>
<td>3.0</td>
<td>53</td>
<td>20</td>
</tr>
<tr>
<td>Japan</td>
<td>2.4</td>
<td>70</td>
<td>40</td>
</tr>
</tbody>
</table>

—IBM, 2005
New divisions of labor

• Expert thinking: identifying and solving problems for which there is no routine solution
  — Pattern matching
  — Metacognition

• Complex communication: persuading, explaining, interpreting information
  — Negotiating
  — Managing
  — Gaining trust
  — Teaching
  — Building understanding

— Levy & Murnane, 2005
Logical, linear, analytic thinking is indispensable, but no longer enough. Detecting patterns and opportunities and creating emotional beauty provides a competitive advantage.

—Pink, 2005
Successful intelligence

• Analytical intelligence
• Creative intelligence
• Practical intelligence

--Sternberg, 1996
Necessary workplace skills

• Leadership
• Teamwork
• Problem solving
• Time management
• Self-management
• Adaptability
• Analytical thinking
• Global consciousness
• Communication skills

Worldwide growth in higher education

- 90 million students enrolled in higher ed. (2001); growing to 160 million (2025)
- Drivers:
  - demand for higher education
  - number of young people
- 20 million more students in China by 2020 if proportion of students increases from 6% to 19%
- 11 million more students in India if participation rate increases from 5% to 8%

—Perkinson, 2002
Who are our learners?
Student profile

• **58%** are women
• **39%** are 25 or older
• **34%** are students of color
• **34%** are married and/or have children
• **11%** are single parents
• **43%** attend public or private not-for-profit colleges
• **40%** attend community colleges
• **8%** attend private for-profit colleges

—ACE, 2006
Projections for 2015

- Growth to 16 million students
- 31% of growth will be older students
- Minority enrollment will reach 37.2%
- Hispanic undergraduates will become the 2nd largest student group, growing to 15.4%
- Asian-Pacific Islanders are the fastest growing minority at 86%
- More than half of the increase will be in 5 states

– Humphreys, 2004
### Not traditional anymore

<table>
<thead>
<tr>
<th>Traditional student</th>
<th>Contemporary student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies full time; 0% work</td>
<td>Over 70% of students work</td>
</tr>
<tr>
<td>18-22; no family responsibilities</td>
<td>41% over 25; many with families</td>
</tr>
<tr>
<td>Lives on campus</td>
<td>Commutes to campus</td>
</tr>
<tr>
<td>Homogeneous student body</td>
<td>Diverse student body</td>
</tr>
<tr>
<td>In top 10-25% of HS class</td>
<td>In top 50% of HS class</td>
</tr>
<tr>
<td>Completes BA in 4 years</td>
<td>Completes BA in 5-6 years</td>
</tr>
<tr>
<td>Stays at college initially entered</td>
<td>Transfers among institutions</td>
</tr>
</tbody>
</table>

– Marcy, 2002
What does it take to be successful?
Education ≠ content

- Rapid knowledge growth
- The information pace is too rapid for the current model of learning
- Learners will move into different—possibly unrelated—fields over their lives
- Personal knowledge is comprised of a network
- Informal learning is eclipsing formal learning
- Capacity to know more is more critical than what is currently known

—Siemens, 2005
The new basic skills

• Cognitive flexibility
• Creativity
• Knowledge transfer
• Adaptability

—Ramaley & Haggett, 2005
Successful advising

- Selecting classes
  - Take some small classes
  - Choose groups of classes, not just single courses
  - Writing and engagement

- How to study outside of class
  - Small, independent study groups

- Get involved
  - Strong correlation between academic success and involvement

- How to allocate time
  - Keep a time log

- Advice on personal growth and development

—Light, 1992
Educational value from:

- Challenging ideas & people
- Active engagement with challenges
- Supportive environment
- Real-world activities
- Social activity
- Unbounded by time or place

–Terenzini, 2005
How are we doing?
**Indicators**

- US students are near the bottom internationally by 12\textsuperscript{th} grade in math
- US students are at the bottom internationally by 12\textsuperscript{th} grade in science
- South Korea graduates as many engineers as the US (only 1/6\textsuperscript{th} the size of US population)
- By 2010 more than 90\% of all scientists and engineers will be living in Asia
- Declines in US patents and scientific articles
Educational attainment

- **#1** in percent of population that are college graduates
- **#13** in percentage of students who go on to college
- **#10** in 2-year college going rate
- Canada, Japan, Great Britain, and Korea have increased BA attainment rates significantly; the US rate is unchanged

― Mortenson, 2003
Unfulfilled opportunity

• **1/3** of teenagers drop out before graduating from high school

• **50%** of African-American and Hispanic students do not graduate from high school

—Kelly, 2005
## Preparation for college

<table>
<thead>
<tr>
<th>Skill</th>
<th>Faculty</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students not well prepared for college</td>
<td>84%</td>
<td>65%</td>
</tr>
<tr>
<td>Students not well prepared in writing</td>
<td>44%</td>
<td>10%</td>
</tr>
<tr>
<td>Students not well prepared in math</td>
<td>32%</td>
<td>9%</td>
</tr>
<tr>
<td>Students not well prepared in research skills</td>
<td>49%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Only 51% of high school graduates who took the ACT had the reading skills needed to succeed in college or job-training programs.

—Sanoff, 2006; Hoover, 2006
Remediation and risk

63% of 2-year and 40% of 4-year students take remedial courses

<table>
<thead>
<tr>
<th>Remediation</th>
<th>Percent Earning BA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any remedial reading</td>
<td>36%</td>
</tr>
<tr>
<td>1-2 remedial math courses</td>
<td>45%</td>
</tr>
<tr>
<td>2 or more non-math remedial courses</td>
<td>49%</td>
</tr>
<tr>
<td>One other remedial course</td>
<td>61%</td>
</tr>
<tr>
<td>No remedial coursework</td>
<td>76%</td>
</tr>
</tbody>
</table>
First-year dropouts

56% of dropouts from 4-year institutions leave before the start of their 2nd year

<table>
<thead>
<tr>
<th>Academic difficulty</th>
<th>30-35% leave college after the first year for academic reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment difficulties</td>
<td>Even academically gifted and socially mature students have difficulty making the transition</td>
</tr>
<tr>
<td>Learning</td>
<td>Learning predicts persistence; student who learn find value and stay</td>
</tr>
<tr>
<td>Finances</td>
<td>Students are unable to bear direct and indirect costs of college or financial needs change</td>
</tr>
<tr>
<td>Involvement</td>
<td>Students feel lonely, isolated, unable to establish connections; important predictor of student persistence</td>
</tr>
</tbody>
</table>

—Tinto, 2005
Swirling and double-dipping

60% attend more than one institution

<table>
<thead>
<tr>
<th>Trial enrollment</th>
<th>Experimenting with transfer to another institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplemental enrollment</td>
<td>Supplement or accelerate program with courses from another institution</td>
</tr>
<tr>
<td>Rebounding enrollment</td>
<td>Take courses concurrently at two institutions to expand course availability or scheduling</td>
</tr>
<tr>
<td>Serial transfer</td>
<td>Students make one or more transfers, including reverse transfer (i.e., from 4-year to 2-year institution)</td>
</tr>
</tbody>
</table>

—McCormick, 2003
Time to graduation

Of the million full-time degree seeking students in 4-year institutions, those who will graduate in 4 and 6 years.

― Carey, 2005
Uneven graduation rates

6 year graduation rates at 4-year institutions

- All: 57%
- African-American: 40%
- Latino: 47%
- Asian: 65%
- Native American: 39%
- White: 60%

– Carey, 2005
College proficiency

• <50% of graduates at 4-year institutions rated proficient in all 3 categories

• <25% of graduates at 2-year institutions rated proficient in all 3 categories

• 20% of graduates at 4-year institutions rated at or below basic level in quantitative literacy

• 30% of graduates at 2-year institutions rated at or below basic level in quantitative literacy

– Lipka, 2006
• Our fast connections are slower than in many other countries
• 20% of the US has no way to get broadband access

—Lacy, 2005; Abboud, 2006
What is at stake?
Trailing other developed countries on education measures may reduce US economic growth by as much as a half percentage point a year.

—Kronholz, 2004
Lower levels of education

If current trends are left unchanged

<table>
<thead>
<tr>
<th>Work force with less than high school diploma</th>
<th>Work force with bachelors degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000: 16.1%</td>
<td>2000: 17.1%</td>
</tr>
<tr>
<td>2020: 18.5%</td>
<td>2020: 16.4%</td>
</tr>
</tbody>
</table>

– Walters, 2005
Decline in workforce income

If educational gaps remain

• Per capita income will decline 2%

• In the past 2 decades per capita income has increased 41%

• Declining personal income would cause a decrease in the national tax base

– Kelly, 2005
College counts

- College graduates are healthier and are more positive
- College graduates are more active—and well-informed—civically and politically
- Graduates are more critical, reflective and sophisticated thinkers
- Graduates display greater autonomy, independence, leadership, and self-esteem
- Graduates face increasing competition from ambitious, intelligent people all over the world

– Bok, 2005; Pascarella & Terenzini, 2005
Creating a learner-centered environment
Enrollment in class is not a proxy for real student engagement.

―Ramaley & Haggett, 2005
Learner-centered

Focuses attention on:

• What the student is learning
• How the student is learning
• The conditions under which the student is learning
• Whether the student is retaining and applying learning
• How current learning positions the student for future learning

—Weimer, 2002
<table>
<thead>
<tr>
<th>What works</th>
<th>Collaboration</th>
<th>Accelerated study</th>
<th>Interdisciplinary study</th>
<th>Learning community</th>
<th>Beyond classroom</th>
<th>Co-curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small group &amp; peer discussion; integrate social &amp; academic support</td>
<td>5-6 week courses</td>
<td>Make connections across differences</td>
<td>Link courses among a common student cohort; collaborative approach</td>
<td>Service learning and co-ops effective in enhancing conceptual &amp; practical</td>
<td>High correlation with educational attainment, leadership, cultural awareness, independence</td>
</tr>
</tbody>
</table>
Learning effectiveness

- Mosher, 2005

<table>
<thead>
<tr>
<th>Learning Methods</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td>42%</td>
</tr>
<tr>
<td>Networking</td>
<td>30%</td>
</tr>
<tr>
<td>Workshops</td>
<td>10%</td>
</tr>
<tr>
<td>Manuals &amp; instruction</td>
<td>5%</td>
</tr>
<tr>
<td>Mentoring/coaching</td>
<td>5%</td>
</tr>
</tbody>
</table>
Distributed cognitive apprenticeship

- Learning by doing
- Learning by joining a community of practice (though legitimate peripheral participation)
- Enculturation into the values and practices of the community
Elements of learning environment

- Group learning
- Assessment
- Experiential learning
- Reflection

--Crawley, 2004
Collaboration

• SCALE-UP: Student Centered Activities for Large Enrollment Undergraduate Programs
• Class time spent on tangibles and ponderables
• Problem solving, conceptual understanding, and attitudes are improved
• Failure rates are reduced dramatically
• “The job is not to teach physics but to teach thinking.”

--Beichner & Saul, 2003
Social

- Students spend more time out of class than in it
- “Capture time” is particularly important for non-residential students
- Learning occurs through conversations, web surfing, social interactions
- Team projects
- Spontaneous interactions
- Mingle, share, make connections

Images courtesy of MIT
Questions to consider

• Do we assess student progress toward goals such as critical thinking, quantitative skills, writing?
• Are funds available to enable instructors to experiment with new teaching methods?
• Are results evaluated and publicized within the faculty?
• Do new faculty receive training in classroom teaching? Does it include exposure to T&L research?
• Do we ask students what they think they have learned, not just whether they like the professor?

—Bok, 2005
Effective learning organizations

• Constantly assess their work
• Look for new ways of overcoming weaknesses
• Evaluate innovations
• Adopt methods that work; discard those that don’t

—Bok, 2005
The goal is an organization that is constantly making its future rather than defending its past.

—Hamel & Valiksngas, 2003