Status of Research and Graduate areas of Imagining & Making Missouri’s Future

Frank Einhellig
April 30, 2010
Research, Inquiry, Creativity Work Group

Graduate Goals

- Enrollment (Ch 2 LRP)
- Enrollment Strategies (Ch 2 LRP)
- Graduate Infrastructure (Ch 3 LRP)
- Program Development (Ch 4 LRP)
- Graduate Internationalization (Ch 4 LRP)

Graduate Enrollment

**LRP Goal:** Increase total graduate enrollment to between 3,000 and 3,500.

**Progress:** Headcount increased 19.3% since ‘05
Grad Credit Hr --UP 27.6% since ‘05

<table>
<thead>
<tr>
<th></th>
<th>Fa05</th>
<th>Fa06</th>
<th>Fa07</th>
<th>Fa08</th>
<th>Fa09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree Seeking</td>
<td>2,381</td>
<td>2,549</td>
<td>2,748</td>
<td>2,879</td>
<td>3,031</td>
</tr>
<tr>
<td>PB</td>
<td>459</td>
<td>494</td>
<td>402</td>
<td>394</td>
<td>357</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,840</td>
<td>3,043</td>
<td>3,150</td>
<td>3,273</td>
<td>3,388</td>
</tr>
</tbody>
</table>

Graduate Headcount and Credit Hour Production: Fall 2001 to Fall 2009

Benchmark Peer Universities

- U. of Northern Iowa
- Grand Valley State U.
- James Madison U.
- Towson U.
- Illinois State U.
- U. of North Carolina – Charlotte
- Wichita State U.
- Louisiana Tech U.
- Ball State U.
- U. of Texas at Arlington
- U. of Montana – Missoula

Graduate Degrees Conferred
### Graduate Enrollment: Comparison to Benchmark Peers

<table>
<thead>
<tr>
<th>Program</th>
<th>Fa09 Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration (MBA)</td>
<td>558</td>
</tr>
<tr>
<td>Master of Arts in Teaching (MAT)</td>
<td>160</td>
</tr>
<tr>
<td>Counseling (MS)</td>
<td>134</td>
</tr>
<tr>
<td>Educational Administration (MSEd)</td>
<td>116</td>
</tr>
<tr>
<td>Accountancy (MAcc)</td>
<td>112</td>
</tr>
<tr>
<td>Special Education (MSEd)</td>
<td>111</td>
</tr>
<tr>
<td>Social Work (MSW)</td>
<td>92</td>
</tr>
</tbody>
</table>

#### Headcount and Grad % of Total

<table>
<thead>
<tr>
<th>Program</th>
<th>Headcount</th>
<th>Grad % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSU (Fall 08)</td>
<td>3,216*</td>
<td>16.52%</td>
</tr>
<tr>
<td>Average of 11 Benchmark Peers</td>
<td>3,179</td>
<td>16.84%</td>
</tr>
<tr>
<td>Subset of 6 Peers /w Greater % Grad.</td>
<td>3,926</td>
<td>20.37%</td>
</tr>
</tbody>
</table>

*IPED-based data; not MSU Enrollment Services

### FALL 2009 Graduate Student Profile

- 78% Missouri Residents
- 10% Out-of-State (Domestic)
- 12% International
- 4% Minority
- 58% Female
- 32 Average Student Age
- 46% Full-time (9 or more hours)
- 20% “First-time” degree-seeking students

### Graduate Enrollment Strategies

**LRP Strategy:** Implement New Degree Programs

**Progress:** 5 master’s added since 05, plus change to DPT

<table>
<thead>
<tr>
<th>Graduate Degree</th>
<th>Year Started*</th>
<th>Fa09 Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS, Early Childhood &amp; Family Dev.</td>
<td>Fa06</td>
<td>14</td>
</tr>
<tr>
<td>MS, Project Management</td>
<td>Fa07</td>
<td>50</td>
</tr>
<tr>
<td>MS, Student Affairs</td>
<td>Fa07</td>
<td>14</td>
</tr>
<tr>
<td>MS, Criminology</td>
<td>Fa07</td>
<td>31</td>
</tr>
<tr>
<td>MS, Applied Anthropology</td>
<td>Fa08</td>
<td>16</td>
</tr>
<tr>
<td>Doctorate in Physical Therapy**</td>
<td>Sp08</td>
<td>68</td>
</tr>
</tbody>
</table>

*Programs were approved the prior year; ** Converted from masters.

**LRP Strategy:** Increase Accelerated Master’s Programs and Graduate Certificates

**Progress:**
- Accel. Master’s options have increased 64% since 2005
- Number of Graduate Certificates has doubled since 2005

**AY 05 06 07 08 09**

| Accelerated Masters Programs | 11 | 12 | 12 | 16 | 18 |
| Graduate Certificates | 9 | 14 | 16 | 17 | 18 |
| Online Graduate Sections (Fa, Sp, Su: 500-800) | 153 | 191 | 198 | 220 | TBD |
Graduate Enrollment Strategies

LRP Strategy: Increase Accelerated Masters (A.M.)

Progress: A.M. Options increased by 64%

Some upward trend on Enrollment

<table>
<thead>
<tr>
<th>No. A.M. Programs</th>
<th>Fa05</th>
<th>Fa06</th>
<th>Fa07</th>
<th>Fa08</th>
<th>Fa09</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.M. UG Students</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>A.M. Grad. Students</td>
<td>72</td>
<td>88</td>
<td>107</td>
<td>88</td>
<td>118</td>
</tr>
<tr>
<td>A.M. Student Number Enrolled*</td>
<td>136</td>
<td>184</td>
<td>191</td>
<td>175</td>
<td>181??</td>
</tr>
</tbody>
</table>

* includes graduate students and undergraduates; ** uncertainty in the number

Future A. M. & Certificate Program Development

New Accelerated Options

- M.S., Criminology
- M.A., History
- MSED, History emphasis

Passed Graduate Council

- MSED, Reading
- MSED, Special Educ – Autism Spectrum Disorders track
- MPH

New Graduate Certificates

- History for Teachers
- Screenwriting for Television and Film
- Dietetics Internship Certificate

Graduate Education Online

Degree Programs*

- M.S., Admin. Studies
- M.S., CIS
- M.A., History (American Studies Track)
- M.S., Project Mgt.
- M.S. Nursing, (Nurse Educ. Specialization)
- MSED, Elementary Educ.
- MSED, Special Education
  - Visual Impairment
  - Orientation and Mobility
- MA, Theatre**

Graduate Certificates

- Technology Management
- Post Master’s Nurse Educator
- Project Management
- Sports Management
- Homeland Security
- Orientation & Mobility
- Conflict & Dispute Resolution
- Teacher Certification
  - Blind and Partially Sighted

* Over 90% online; ** In progress

Graduate Student Support

LRP Goals: GA Stipends & Awards

- Annually raise GA’s at rate of faculty. Progress: Accomplished
- Raise GA stipend base to $8,000. Progress: Base 2010 $7,340; will be $8,000 for Fa10
- Increase flexibility. Progress: Reintroduced ¾ stipends
- Increase GA Awards to 600. Progress: Some upward trend; 24 new state-funded GA’s added Fa09*** However, some lost in other areas.

<table>
<thead>
<tr>
<th>No. of GA’s*</th>
<th>Fa05</th>
<th>Fa06</th>
<th>Fa07</th>
<th>Fa08</th>
<th>Fa09</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>458</td>
<td>472</td>
<td>491</td>
<td>494</td>
<td>498</td>
</tr>
</tbody>
</table>

* all sources—state funds, external grants, income funds; includes ¼ time.
*** 12 CNAS; 6 CHHS (BMS; MPH); 6 CHPA (CRM; ANTHR)

Graduate Internationalization

- LRP Goal: Attract International Students

- Graduate Strategies & Outcomes:
  - Introduced Missouri Outreach Graduate Opportunity Scholarships, 2006: 80 enrolled Fa08
  - International Partnership Scholarship program initiated in 2008-09 will be attractive to graduate students from partner institutions
  - Develop collaborations & partnerships: A number have been established and implemented since 05

Research Goals

- Future’s (Ch 3 LRP)
- The Research Environment (Ch. 3 LRP)
- Research and Graduate Complement (Ch. 3 LRP)
Environment to Support Research: I

**LRP Strategy:** Adopt System to Assess Productivity

**Progress:** Digital Measure Database in use across the University

**LRP Strategy:** Promote Institutional Awareness

**Progress:** Provost’s Research Forum established in 05-06 and continued though Spring 09

Environment to Support Research: II

**LRP Strategy:** Expand Space Allocation to Meet Research Needs

**Progress:** (examples)
1. COAL–Brick City - expanded creative space for Art & Design
2. CNAS – Converted to Research/Res. Support space: Kemper 116E; space behind 126; TEM 101; 449; CBLs moved to JVIC, thus realocating TEM space; Greenhouse upgraded
3. CHHS – Animal housing (PROF 368) expanded to include 364 & 367 and room divided; PROF 160c reconfigured to human factor research; MCDA 110 converted to research lab; PT 203 to research
4. CNAS – New addition to TEM planned for animal care facilities

Environment to Support Research: III

**LRP Strategy:** Return Grant Salary Savings to the Department

**Outcome:** (1) Supplemental Pay Plan introduced (Spring 07) to make “awards” to faculty generating salary savings.
(2) Other salary savings to College Cost Center; and component to Department

Environment to Support Research: IV

**LRP Strategy:** Improve Internal Research Support

**Progress:**
1. Sabbatical Leaves – AY leaves funded at 3/4th pay starting in with AY 07-08
2. Summer Faculty [research]Fellows raised to $6,000 in Su08
3. Summer Fellowships provided by Colleges to all new-hire, tenure-track faculty starting Su08
4. Several colleges have monetary awards going to faculty who submit grants
5. Statistics Institute (R-STATS) started in FY09 in CHHS to assist faculty and students

Environment to Support Research: V

**LRP Strategy:** Improve Internal Research Support

**ONGOING Incentives – University Level:**
(1) Proposal Development Funding
   - Course reassignment Funding
   - Travel-Grant funding to consult with funding agencies
   - Equipment matching fund
(2) GA fee-waiver provided through Graduate College on grant-paid stipends
(3) Graduate student Research Assistance
   - Thesis-expense funding awards
   - Student travel awards for presentation of research
(4) New-faculty equipment start-up packages have increased (Sources: Colleges; Provost; Graduate College)

Environment to Support Research: VI

**LRP Strategy:** “Future’s” Designated Focus Areas & Funding

**OUTCOMES**

**Major Equipment**
- Real-time PCR instrument
- DNA synthesizer
- X-ray Diffractometer Systems
- Dizziness/Balance equipment
- Solid-state Nuclear Resonance Instrument
- Plant Growth Chambers at Mountain Grove
- GPS system in Archaeological Research Ctr.

**Bridge Hiring of Faculty:** 1-2 yr
- Methamphetamine issues
- Agronomy - water quality area
- Chemistry – Biotechnology

**Prog. Emphasis Centers**
- Latin American, Caribbean, & Hispanic
- Ozarks culture
Future’s Emphasis Areas

<table>
<thead>
<tr>
<th>Designated in 2006</th>
<th>Revised in Fall 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amer. History and Cultures</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>Environment and Water Resources</td>
</tr>
<tr>
<td>Environment &amp; Water Resources</td>
<td>Global Perspectives with Emphasis on Asia</td>
</tr>
<tr>
<td>Global Perspectives with Emphasis on Asia</td>
<td>Health Promotion</td>
</tr>
<tr>
<td>Health Promotion</td>
<td>Health and Human Development</td>
</tr>
<tr>
<td>Materials Science</td>
<td>Materials Science</td>
</tr>
<tr>
<td>Performing and Creative Arts</td>
<td></td>
</tr>
<tr>
<td>Research on Human Development</td>
<td>Res. on Learning, Tchg, Intervention</td>
</tr>
<tr>
<td>Technology &amp; Emerging Art Forms</td>
<td>Technology and Emerging Art Forms</td>
</tr>
</tbody>
</table>

Future’s Applications and Awards

- Two RFP and award cycles (06-07; 07-08)
  - 38 proposal submitted in 06-07; 38 in 07-08
  - A couple submitted later to the Provost
- 25 projects funded
  - AY 06-07: 11 projects funded
  - AY 07-08: 14 funded
  - Project funding & time: $9,500 to $265,000; 1 to 3 years
- Total funds allocated: $2.178 million
- 4 projects completed (funding closed)

Library Resources for Research

MSU Libraries, Journal Access

**LRP Goal**: Improve Library Journal Subscriptions

**Outcome**:
- 2006: 21,033 titles
- 2010: 29,231 titles

Library Materials Budget, Supplemental Administrative Support, & Databases

<table>
<thead>
<tr>
<th></th>
<th>Recurring Dollars</th>
<th>One-time Dollars</th>
<th>Database Holdings</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2011</td>
<td>$100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY 2010</td>
<td>$5,595</td>
<td>100,000</td>
<td>181</td>
</tr>
<tr>
<td>FY 2009</td>
<td>100,000</td>
<td>100,000</td>
<td>148</td>
</tr>
<tr>
<td>FY 2008</td>
<td>100,000</td>
<td>100,000</td>
<td>141</td>
</tr>
<tr>
<td>FY 2007</td>
<td>60,000</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>FY 2006</td>
<td>40,000</td>
<td>117</td>
<td></td>
</tr>
</tbody>
</table>

MSU Libraries, Future Challenges

**Academic journal inflation**
- Moderated in 2009-2010
- Remains higher in scientific, technical, medical areas

**Specialized resources**
- Research growth; specialized programs at graduate level
- More specialized library resources will be needed

Resources for Graduate Faculty

**LRP Strategies**:
- **Increase endowed Professorships**:
  - Progress: Major expansion
- **Sabbatical Leaves**:
  - Progress: Implemented ¾ pay for AY
  - Number: No consistent change

<table>
<thead>
<tr>
<th></th>
<th>AY05-06</th>
<th>06-07</th>
<th>07-08</th>
<th>08-09</th>
<th>09-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Faculty Awarded</td>
<td>25</td>
<td>20</td>
<td>19</td>
<td>32</td>
<td>24</td>
</tr>
</tbody>
</table>
Resources for Graduate Faculty

**LRP Strategy: Increase internal Faculty Research Grants**

**Outcome:**
- Future’s Awards --approx. $2.2 m (many still in progress)
- MSU Faculty Research grant funds: Decline FY06 = $151,046 vs. FY10 = $148,774

Collaborations Extend Research and Grant Opportunities: Examples

- National Park Service Unit on campus -- a partnership to conduct vital signs monitoring of natural resources
- Great Rivers Cooperative Ecosystem Studies Unit -- gives MSU special access to NPS project support
- Plant Science collaborations with Danforth Plant Sci Ctr, UM-C, China Agricultural U., & others
- Missouri Archeological Society located on campus
- Ozarks Educational Research Initiative funded by 10 school districts working with Inst. for Sch. Improvement
- Southwest Area Health Education Center (SwAHEC)
- Jordan Valley Innovation Center

Related Information

- Grant Outcomes
- Other graduate perspectives

**FY09 MSU Grant/Contract Activity Summary**

<table>
<thead>
<tr>
<th>Unit</th>
<th># Applying</th>
<th># Awarded</th>
<th>Grants/Contracts</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff</td>
<td>Faculty</td>
<td>Submit</td>
<td>Awards</td>
</tr>
<tr>
<td>COAL</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>COBA</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>COED</td>
<td>4</td>
<td>14</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>CHHS</td>
<td>8</td>
<td>24</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>CHPA</td>
<td>4</td>
<td>10</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>CNAS</td>
<td>9</td>
<td>56</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>LIBR</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
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<tr>
<td>GRAD</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Provost</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>16</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>296</td>
<td>196</td>
<td>20,901</td>
<td>035</td>
</tr>
</tbody>
</table>

Faculty Productivity Assessment: MSU Research Grants

<table>
<thead>
<tr>
<th>Outcomes Following Fa02-Sp07 Awards*</th>
<th>Total No</th>
<th>No. Faculty</th>
<th>% Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Articles</td>
<td>74</td>
<td>44</td>
<td>75%</td>
</tr>
<tr>
<td>Books or Chapters</td>
<td>21</td>
<td>14</td>
<td>25%</td>
</tr>
<tr>
<td>Creative Works</td>
<td>9</td>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>Presentations</td>
<td>142</td>
<td>51</td>
<td>86%</td>
</tr>
<tr>
<td>Students Mentored</td>
<td>93</td>
<td>37</td>
<td>63%</td>
</tr>
<tr>
<td>Graduate</td>
<td>154</td>
<td>34</td>
<td>58%</td>
</tr>
</tbody>
</table>

* 99 recipients; 24 left MSU; of 75 at MSU, 60 (80%) self-reported; all of the 60 reported one or more outcomes above

Faculty Productivity Assessment: MSU Summer Fellowships

<table>
<thead>
<tr>
<th>Outcomes Following Su02-Su06 Awards*</th>
<th>Total No</th>
<th>No. Faculty</th>
<th>% Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Articles</td>
<td>103</td>
<td>51</td>
<td>72%</td>
</tr>
<tr>
<td>Books or Chapters</td>
<td>38</td>
<td>25</td>
<td>35%</td>
</tr>
<tr>
<td>Creative Works</td>
<td>76</td>
<td>9</td>
<td>13%</td>
</tr>
<tr>
<td>Presentations</td>
<td>200</td>
<td>50</td>
<td>70%</td>
</tr>
<tr>
<td>Students Mentored</td>
<td>104</td>
<td>24</td>
<td>34%</td>
</tr>
<tr>
<td>Graduate</td>
<td>134</td>
<td>24</td>
<td>34%</td>
</tr>
</tbody>
</table>

* 112 recipients; 18 left MSU; of 94 at MSU, 71 (75%) self-reported on productivity: 69 of the 71 reported one or more outcomes above
Correlation of MSU Faculty Research Grants & External Grants


Faculty Awarded MSU Research Grant
Fa02 – Sp07........................................ 99
Faculty* from #1 who applied for External Funding.............. 62** (63%)
Faculty from #1 receiving an external grant award............... 36 (36%)

*Named as PI or Co-PI, OSRP Records
**These faculty applied for 500 external grants; 253 awarded

Correlation of MSU Summer Faculty Fellowships & External Grants


Faculty Awarded Su. Fellowship, Su02 – Su06......................... 112
Faculty* from #1 who applied for External Funding............... 52** (46%)
Faculty from #1 receiving an external grant award.............. 37 (33%)

*Named at PI o Co-PI, OSRP records.
**These faculty applied for 352 external grants; 153 awarded

What Did MSU Initially Want Out of FUTURE’S?

• Significant RESEARCH
• Development of areas of EXCELLENCE
• Enhancement of EXTERNAL FUNDING
• Promotion of INTERDISCIPLINARY & Other COLLABORATIONS
• Stimulation of ECONOMIC DEVELOPMENT

Productivity Assessment:
Future’s Projects: Synopsis & Outcomes

• Two award cycles: 25 projects funded
  -AY 06-07: 11 projects funded; AY 07-08: 14 funded
  - Project funding & time: $9,500 to $265,000; 1 to 3 years
• 76 total faculty named on projects
  - 49 of these 76 (64%) applied for external funding as of July 1, 2009
  - 31 of the 49 received some external funds (63%)
    • 9 largest external awards combined = $1.39 million
    • 13 faculty named as PI or Co-PI on these grants

Future’s Outcomes Assessment:
Stimulating Interdisciplinary Teams

Goal: Develop interdisciplinary research

Analysis:
• 76% of proposals funded involved more than one department or academic unit; 84% involved more than one faculty member
• Interdisciplinary “teams” have coalesced and continued to be productive

Future’s Program Outcomes:
Building Research Infrastructure I

Equipment-focused Awards

• Real-time PCR instrument
• X-ray diffractometer systems
• Dizziness/balance equipment
• DNA synthesizer
• GPS equipment
• Plant Growth Chambers
• Solid-state Nuclear Resonance instrument
Future’s Program Outcomes: Building Research Infrastructure II

Bridge Hiring of Faculty - college later funds
- Methamphetamine issues (Gartin)
- Agronomy hire relative to water quality (Burton)
- Chemistry hire in Biotechnology (Datta)
- Algal ecologists (not yet hired)

Development of Centers or Program Emphasis
- Latin American, Caribbean, & Hispanic
- Ozarks culture (not technically a center)

Future’s Productivity Assessment: Stimulating External Grants
- 76 total faculty named on future’s projects
- 49* of these 76 (64%) have applied for external funding as of July 1, 2009. *OSRP applications.
  - Their application requests from 07-09 = over $25 million
- 31 (63%) of the 49 received some external funds
  - Their awarded dollar (07-09) exceeded $6 million
  - It is not possible to give a good correlation of the future’s funding with success on these external funds

U.S. Census Graduate Degree Statistics

Graduate Education Trivia from 2007: Did You Know?
- On average, over a working lifetime, someone with a master’s will earn 19% more than a bachelor’s
- Demand for college-level workers (includes graduate) continues to rise
  - However, increased globalization has reduced the U.S. share of college-level workers
  - A significant portion of projected college-level jobs are at risk!
- Master’s enrollment in the U.S. exceeds 1,000,000 (about 3X doctorate enrollment)
  - 1/3 of the master’s enrollment is in master’s-focused institutions
  - Research I have more master’s than doctorate students
  - Doctorate-granting institutions have 4X as many master’s students as doctorate
- According to NCES, total grad enrollment is expected to rise 19% over the next decade

Missouri Citizens and Missouri State University Data
- 8.6% of MO population 25 yr & over have a graduate or professional degree; 10% nationally
- Typically about 60% of MSU Freshman plan for a graduate degree. data:
  - 57.5% plan for a master’s or beyond (2005 Freshman CIRP) National Survey given at SOAR; in 2004 it was 61.9%)
  - 49.4% plan for graduate work (2006 class, ACT profile)
Graduate Enrollment Strategies

**LRP Strategy:** Increase Accelerated Master’s Programs and Graduate Certificates

*Progress:* Accel. Master’s options have increased 64% since 2005
Number of Graduate Certificates has doubled since 2005

<table>
<thead>
<tr>
<th>AV</th>
<th>05</th>
<th>06</th>
<th>07</th>
<th>08</th>
<th>09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerated Masters Programs</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Graduate Certificates</td>
<td>9</td>
<td>14</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>

**LRP Strategy:** Increase program access

*Progress:* Online course offerings up, AY05 to 09
8 degree programs 90-100% online; 8 certificates

<table>
<thead>
<tr>
<th>Fa05</th>
<th>Fa06</th>
<th>Fa07</th>
<th>Fa08</th>
<th>Fa09</th>
</tr>
</thead>
<tbody>
<tr>
<td>153</td>
<td>191</td>
<td>198</td>
<td>220</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Graduate Enrollment Strategies

**LRP Strategy:** Increase Certificate Programs

*Progress:* Doubled No. Graduate Certificates

<table>
<thead>
<tr>
<th>Fa05</th>
<th>Fa06</th>
<th>Fa07</th>
<th>Fa08</th>
<th>Fa09</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>14</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>

*Certificate programs can feed into degree program. They range from 9 to 18 credits (except Nurse Practitioner)*

Graduate Enrollment Strategies

**LRP Strategy:** Increase Online program Access

*Progress:*
- 2 Degree programs & 7 Graduate Certificates online
- 5 other degree programs 90% or more online
- Online graduate course offerings up 44%

<table>
<thead>
<tr>
<th>No. Online Graduate* Course Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>AY05</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Total Fa, Sp, Su (500-800 level)</td>
</tr>
</tbody>
</table>

Goal: Increase Education/Research Partnerships and Collaborations

**Graduate Education: New or Significant Growth**
- MAT joint degree w MSSU started March 05: enrolled 38 Fa08
- MAT offered from WP campus location
- Plant Science Dual-master’s: China Agri. U. (since 04); NWAF (May 2009)
- Established agreement with UM-C supporting PI Science doctorate students
- Growth in twinning program for MBA w ISM5, Chennai, India
- eMBA cohort students from MOU’s with 14 China universities/organizations

**Maintained, Continued, and Strengthened**
- MSU-UMC collaboration on Library Science courses
- UMC doctorate in Educational Leadership

Graduate Student Support

**LRP Goals: GA Stipends & Awards**

- Annually raise GA’s at rate of faculty: Progress: Accomplished
- Raise GA stipend base to $8,000(in 05 dollars): Progress: Base AV stipend now at $7,340
- Increase flexibility: Progress: Reintroduced ½ stipends
- Increase No. of GA Awards to 600: Progress: Some upward trend

<table>
<thead>
<tr>
<th>Fa05</th>
<th>Fa06</th>
<th>Fa07</th>
<th>Fa08</th>
<th>Fa09</th>
</tr>
</thead>
<tbody>
<tr>
<td>458</td>
<td>472</td>
<td>491</td>
<td>494</td>
<td>Estimate 515</td>
</tr>
</tbody>
</table>

*all sources—state funds, external grants, income funds; includes ½ time.*
Environment to Support Research: I

**LRP Strategy:** Adopt System to Assess Productivity  
**Progress:** Digital Measure Database in use across the University

**LRP Strategy:** Promote Institutional Awareness  
**Progress:** Provost’s Research Forum established in 05-06; continued to present

Environment to Support Research: II

**LRP Strategy:** Expand Space Allocation to Meet Research Needs  
**Progress:**  
(1) COAL - Brick City - expanded creative space for Art & Design  
(2) CNAS – Converted to Research/Res. Support space: Kemper 116E; space behind 126; TEM 101; 449; CBLS moved to JVIC, thus reallocating TEM space; Greenhouse upgraded  
(3) CHHS – Animal housing (PROF 368) expanded to include 364 & 367 and room divided; PROF 160c reconfigured to human factor research; MCDA 110 converted to research lab; PT 203 to research

Environment to Support Research: III

**LRP Strategy:** Return Grant Salary Savings to the Department  
**Outcome:**  
(1) Supplemental Pay Plan introduced (Spring 07) to make “awards” to faculty generating salary savings.  
(2) Other salary savings to College Cost Center; and component to Department

Environment to Support Research: IV

**LRP Strategy:** Improve Internal Research Support  
**Progress:**  
(1) Sabbatical Leaves – AY leaves funded at 3/4th pay starting in with AY 07-08  
(2) Summer Faculty [research]Fellows raised to $6,000 in Su08  
(3) Summer Fellowships provided by Colleges to all new-hire, tenure-track faculty starting Su08  
(4) Several colleges have monetary awards going to faculty who submit grants  
(5) Statistics Institute [R-STATS] started in FY09 in CHHS to assist faculty and students

Environment to Support Research: V

**LRP Strategy:** Improve Internal Research Support  
**ONGOING Incentives – University Level:**  
(1) Proposal Development Funding  
   – Course reassignment Funding  
   – Travel-Grant funding to consult with funding agencies  
   – Equipment matching fund  
(2) GA fee-waiver provided through Graduate College on grant-paid stipends  
(3) Graduate student Research Assistance  
   – Thesis-expense funding awards  
   – Student travel awards for presentation of research  
(4) New-faculty equipment start-up packages have increased  
   (Sources: Colleges; Provost; Graduate College)

Environment to Support Research: VI

**LRP Strategy:** “Future’s” Designated Focus Areas & Funding  
**OUTCOMES**

**Major Equipment**  
- Real-time PCR instrument  
- DNA synthesizer  
- X-ray Diffractometer Systems  
- Dizziness/Balance equipment  
- Solid-state Nuclear Resonance Instrument  
- Plant Growth Chambers at Mountain Grove  
- GPS system in Archaeological Research Ctr.

**Bridge Hiring of Faculty: 1-2 yr**  
- Methamphetamine issues  
- Agronomy - water quality area  
- Chemistry – Biotechnology

**Prog. Emphasis Centers**  
- Latin American, Caribbean, & Hispanic  
- Ozarks culture
Faculty Productivity Assessment: MSU Research Grants

<table>
<thead>
<tr>
<th></th>
<th>Total No.</th>
<th>No. Faculty</th>
<th>% Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Articles</td>
<td>74</td>
<td>44</td>
<td>75%</td>
</tr>
<tr>
<td>Books or Chapters</td>
<td>21</td>
<td>14</td>
<td>25%</td>
</tr>
<tr>
<td>Creative Works</td>
<td>9</td>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>Presentations</td>
<td>142</td>
<td>51</td>
<td>86%</td>
</tr>
<tr>
<td>Students Mentored</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>93</td>
<td>37</td>
<td>63%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>154</td>
<td>34</td>
<td>86%</td>
</tr>
</tbody>
</table>

* 99 recipients; 24 left MSU; of 75 at MSU, 60 (80%) self-reported; all of the 60 reported one or more outcomes above

Faculty Productivity Assessment: MSU Summer Fellowships

<table>
<thead>
<tr>
<th></th>
<th>Total No.</th>
<th>No. Faculty</th>
<th>% Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Articles</td>
<td>103</td>
<td>51</td>
<td>72%</td>
</tr>
<tr>
<td>Books or Chapters</td>
<td>38</td>
<td>25</td>
<td>35%</td>
</tr>
<tr>
<td>Creative Works</td>
<td>76</td>
<td>9</td>
<td>13%</td>
</tr>
<tr>
<td>Presentations</td>
<td>200</td>
<td>50</td>
<td>70%</td>
</tr>
<tr>
<td>Students Mentored</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>104</td>
<td>24</td>
<td>34%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>134</td>
<td>24</td>
<td>34%</td>
</tr>
</tbody>
</table>

* 112 recipients; 18 left MSU; of 94 at MSU, 71 (75%) self-reported on productivity; 69 of the 71 reported one or more outcomes above

Correlation of MSU Faculty Research Grants & External Grants

**Period Analyzed: 2002–2007**

- Faculty Awarded MSU Research Grant Fa02 – Sp07: 99
- Faculty* from #1 who applied for External Funding: 62** (63%)
- Faculty from #1 receiving an external grant award: 36 (36%)

*Named as PI or Co-PI, OSRP Records
**These faculty applied for 500 external grants; 253 awarded

Correlation of MSU Summer Faculty Fellowships & External Grants

**Period Analyzed: 2002–2007**

- Faculty Awarded Su. Fellowship, Su02 – Su06: 112
- Faculty* from #1 who applied for External Funding: 52** (46%)
- Faculty from #1 receiving an external grant award: 37 (33%)

*Named at PI o Co-PI, OSRP records.
**These faculty applied for 352 external grants; 153 awarded.

Collaborations Extend Research and Grant Opportunities: Examples

- Jordan Valley Innovation Center
- National Park Service Unit on campus – *a partnership to conduct vital signs monitoring of natural resources*
- Great Rivers Cooperative Ecosystem Studies Unit -- gives MSU special access to NPS project support
- Plant Science collaborations with Danforth Plant Sci Ctr, UM-C, China Agricultural U., & several other universities
- Missouri Archeological Society located on campus
- Ozarks Educational Research Initiative funded by 10 school districts working with Inst. for Sch. Improvement
- Southwest Area Health Education Center (SwAHEC)

Graduate Enrollment

**LRP Goal:** Increase total graduate enrollment to between 3,000 and 3,500.

**Progress:** Headcount increased 19.3% since ’05

<table>
<thead>
<tr>
<th>Year</th>
<th>Headcount</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fa05</td>
<td>2,840</td>
<td>3,043</td>
</tr>
<tr>
<td>Fa06</td>
<td>3,150</td>
<td>3,273</td>
</tr>
<tr>
<td>Fa07</td>
<td>3,273</td>
<td>3,388</td>
</tr>
<tr>
<td>Fa08</td>
<td>3,388</td>
<td></td>
</tr>
<tr>
<td>Fa09</td>
<td>3,388</td>
<td>3,388</td>
</tr>
</tbody>
</table>

Graduate Students
Graduate ‘Access’ Opportunities

<table>
<thead>
<tr>
<th></th>
<th>Fall 2005</th>
<th>Fall 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Degree Programs</td>
<td>43</td>
<td>48</td>
</tr>
<tr>
<td>Number of Accelerated Masters Programs</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>Number of Graduate Certificate Programs</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Number of Degree Programs Online*</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

*At least 90% online. Programs with multiple tracks may have online options available.

Graduate Degrees Conferred

Graduate Outreach

<table>
<thead>
<tr>
<th>Program</th>
<th>WP</th>
<th>Nevada</th>
<th>Noel</th>
<th>Joplin</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT</td>
<td>29</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBA</td>
<td>3</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COU</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed.Adm.</td>
<td>29</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Elem.Ed.</td>
<td></td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>MSW</td>
<td></td>
<td></td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Other Grad.</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Includes ITV: a student may be enrolled in more than 1 class