

Appalachian Strategic Planning Commission Economic Needs & Transformation Sub-Committee Report May, 2007

Vision Statement

Appalachian State University has responsibility to identify, apply, and leverage its intellectual, academic, cultural and research assets, resources, and capabilities to support, promote, and transform sustainable economic growth, prosperity, and quality of life throughout the region, state, nation, and world.

Objective #1

To encourage and engage in good citizenship locally, regionally, nationally and globally. This includes expanding and enhancing educational, cultural, and social experiences; modeling stewardship of our natural resources; working to promote and provide equitable community services, such as transportation, health care, and child care; and building healthy, sustainable, and transformative campus/community partnerships.

Activities

- Funding Appalachian's local educational, cultural, and social programs for local participation (Appalachian and Community Together, Community Arts School, Drama Programs, School of Music events and lessons, HLES community recreation program, etc.).
- Creating transparent campus/community partnerships that share facilities (Appalachian's pool with the local swim team, Valborg and Farthing theatres usage, etc.).
- Continuing to meet regularly with Town of Boone, Watauga County and other High Country leaders to share information about safety, population growth, housing and construction, transportation, and other issues relevant to the vitality of the community.
- Continuation and enhancement of awards programs (both monetary and honorary) that encourage and support transformation in our community, state, country, and world (e.g., Be Active North Carolina Appalachian Partnership Grant and Transforming North Carolina Graduate School Award).

Rationale for Activities

Appalachian State University maintains and promotes close and meaningful relationships with the Town of Boone, Watauga County, and surrounding counties not only as an employer but also as an active participant in ensuring the best quality of life for our citizens.

Units Responsible

The University in its entirety needs to work on this objective. Upper administration – the Chancellor and his Cabinet- needs to lead and model the efforts of advocacy in all of these areas.

Assessment Strategies

Work with community agencies in assessing the needs as well as cataloging assets of both the community and the university should be an on going enterprise. The use of this information then must be shared with appropriate groups that can begin to effect change on a local, regional, state, and global level. Work that is currently being done at the university level needs to be more fully publicized.

Five Year Time Line

This objective should be ongoing.

Estimate of Resources Required

Resources will primarily involve the time and energy of University administration, staff, faculty, and students. This could also include the sharing of resources such as water, facilities, etc. when allowable by law, ordinance, and/or policy.

Objective #2

To address the critical shortages of teachers of mathematics and the sciences and of qualified nurses, nursing faculty, and allied health care professionals. With its historical emphases on teacher preparation and meeting the needs of its constituents, the University will focus on recruitment, education, support, and retention of these professionals.

Activities

There should be a fourfold response to addressing the shortages of teachers of mathematics and the sciences and of nursing and allied health care professionals. (i) **Recruit** more people into these high needs areas who will see their profession as a compelling life's work. (ii) Continue to **educate**, with coherence and rigor, the students who will matriculate and graduate from these programs to become highly qualified professionals. (iii) Work purposefully at identifying areas in which these professionals need **support** and put mechanisms in place to ensure that they receive appropriate support. (iv) Diligently work to **retain** these professionals in the work force for longer periods of time. By implementing the following action plan, the mission of true transformation can be addressed. The following list of activities are coded to correspond to the area(s) each activity is expected to address: Recruit (**RC**), Educate (**E**), Support (**S**), Retain (**RT**). We also have coded the activities with **GA** if they align with activities already approved as part of the Reich College of Education's Teacher Education Recruitment Plan.

- Work with secondary and middle schools to interest students in these professions.
 - Establish a North Carolina Mathematics and Science Education Network Pre-College Program at ASU in order to get more students from underrepresented groups into the study of STEM (science, technology, engineering, mathematics) areas and thus increase the pool of possible teacher candidates in science and mathematics. (RC, GA)
 - Involve marketing professionals in developing and implementing a marketing campaign to recruit students from middle and high school levels into teacher education. (RC, GA)
 - Provide university/school Expository Series to interest students at middle school, secondary, and university levels in careers in these areas. Such a series would involve professional teachers and teacher educators sharing experiences, activities, and stories that promote teaching as a compelling career. (RC, RT)
 - Capitalize on existing programs (Summer Ventures, Teacher Cadet, Future Teachers of America, Teaching Fellows, Math Counts and other competitions, Science fairs, community Health Fairs) to recruit students into teacher preparation and health care preparation programs. (RC, S)
 - Increase the link between ASU teacher education programs with the GEAR-UP (Gaining Early Awareness and Readiness for University Programs) program. (RC, E, S)
 - Support programs similar to those described in the grant proposal (Appalachian: Merging Mathematics and Sciences in Natural Gains [AMMASING]) ASU recently submitted to the Burroughs Wellcome Fund to establish a collaboration between student-centered programs and the MELT (Mathematics Education Leadership Training) teacher-centered program in order to recruit more students into the teaching profession (RC, E, S, RT)
 - Continue to support Summer Ventures for Science and Mathematics (SVSM). SVSM is a state-wide program that recognizes that it can play a part in recruitment of students into math and science teaching careers and has issued a program-wide emphasis on encouraging participants to pursue teaching careers in math and science. SVSM has indicated that it will be tracking students to see who, and how many, end up in teaching. (RC)
- Increase enrollment in the nursing degree programs. (RC)
 - Raise public awareness, through marketing, of the availability of the BSN programs, including RN to BSN, and pre-licensure programs (RC)
 - Implement programming for the pre-licensure program (RC, E)

- Respond to feedback from CCNE initial accreditation site visit for BSN program (RC, E)
- Secure facilities that will facilitate the implementation and growth of viable programs in allied health fields (RC, E, S, RT)
 - RN to BSN program will continue to operate on three sites (E, S, RT)
 - Pre-licensure BSN program, an on-campus program will admit 40 students per year for the first cohort, then 40 students per semester thereafter (RC, E, S)
- Continue to expand resources (e.g. library, lab equipment, etc.) (RC, E, S, RT)
- Recruit and hire highly qualified faculty; 3 nursing faculty in 2008, 3 more in 2009, 3 additional faculty when the nursing masters program begins. (RC, E, S, RT)
- Implement a Master's Degree program in Nursing Education by 2011 (RT, E, S, RT)
- Add 2 clinical coordinators for radiography technology (RC, E)
- Continue to identify priorities for additional programs and personnel based on greatest need survey (RC, E)
- Retain/support students who already have indicated an interest in teaching math/science (E, S, GA)
 - Design a Mathematics/Science Teacher Education Learning Community Program that establishes a learning community with engaging educational experiences for prospective secondary mathematics and science teachers. Create two cohort groups, one for mathematics teacher education and one for science teacher education. Explore the possibility of having a residential component to enrich the learning community particularly for the freshmen year. High School seniors interested in becoming mathematics or science secondary teachers would apply for the program. Criteria and a selection process would be established. Each cohort would take linked coursework beginning with their freshmen year that consists of mathematics and education courses or science and education courses. University professors would work with classroom teachers to coordinate and teach the courses and field experiences. Each student would be matched with a university faculty/secondary teacher mentor. Appropriate field experiences would be woven throughout the program. The program director would work with faculty and secondary teachers to provide other appropriate experiences to enhance and enrich the regular program offerings. An endowment program would be established to provide scholarships for each participant in the program. (E, S, RT, GA)
- Recruit entering/existing ASU students into mathematics and science teacher education (RC, E, S, GA)
 - Establish linked courses, linking particular mathematics courses (e.g., Calculus 1) with particular introductory education courses

- (e.g., Teachers, Schools, and Learners), to expose students to the possibility of considering teaching as a career. (RC, E, GA)
- Identify funding sources to increase the number and amounts of scholarships available to math and science teacher education students. (RC, E, S, GA)
 - Establish a Western Branch of the North Carolina School for Science and Mathematics in the High Country. (RC, S, RT)
 - Increase funding for, and the number of, high quality professional development offerings for teachers (Mathematics Education Leadership Training Program, Mathematics and Science Education Center workshops, Public School Partnership, Mobile/Outreach unit of the Dark Sky Observatory, support of programs from regional service centers) and health care workers. (E, S, RT, GA)
 - Develop, promote, and offer professional development workshops that bring together middle/high school students with teachers in order to work collaboratively and hands-on with developing new strategies for teaching mathematics and the sciences. (RC, E, S, RT)
 - Publicize and promote the support already offered by professional organizations (e.g., National Council of Teachers of Mathematics, Association of Mathematics Teacher Educators, Mathematics Association of America, National Science Teachers Association, American Nurses Association, Association of Nurse Executives and their state affiliates) and licensure agencies. (E, S, RT)
 - Enhance the Southern Appalachian Environmental Research and Education Center (SAERC). The mission of SAERC is to reconcile local and regional economic development with the conservation of the headwaters of four river ecosystems. By engaging the public with this project, SAERC expects to provide experiences for classroom teachers that will (re-)energize them through exposure to interesting and significant topics and to interesting and advanced students. (RC, E, S, RT)
 - Mentoring Beginning Teachers (E, S, RT)
 - Support the ASU first- and second-year Teacher Mentoring Support Program (Reich College of Education) in which experienced teachers interact with beginning teachers to address issues the beginners identify as support issues. (E, S, RT)
 - Collaboration with professionals in the field (E, S, RT)
 - Continue to collaborate with the North Carolina Department of Public Instruction in the review and revision of curricula, licensing requirements, and professional development workshops. (ASU can provide not only collaboration but access to the implications of scholarship already available.) (E, S)
 - Continue to collaborate with professionals in the field in order to collectively assess what they need in order to not only remain in

- their positions but to grow as professionals. (Math and Science partnerships, etc.) (E, S, RT)
- Encourage collaborations between the pre-college faculty and the college/university faculty in ways that help each learn from the experience of the other. (e.g., Phil Russell, Distinguished Professor of Physics Education, is hosting a research experience for a physics teacher from Johnson City, Tennessee in summer of 2007 so that each may learn from the other; funded by North Carolina Space Grant Funds). (E, S, RT)
 - Collaborate with non-teaching professionals in the field (Catawba Science Center, Society of Professional Engineers, other math/Sci/Stat-focused corporations (E, S, RT)
 - Establish programs, such as a “Teacher Who Made a Difference,” and “Save 100,000 Lives” that will provide recognition for teachers and nurses in a public way. Many teachers and health care workers leave the field if they do not sense that their work is valued by their communities and professional colleagues. A part of this program would be to give the public, and the public school students, a glimpse into the life of a teacher and what makes him or her exemplary as perceived by students. (RC, S, RT)
 - Explore the feasibility of an off-campus Lateral Entry program for preparing teachers in mathematics and the sciences. Such a program will need to be located in an area (like Hickory) with sufficient population to make it viable. (RC, GA)
 - Explore providing on-line courses and programs. (RC, E)

Rationale for Activities

(Teachers): The quality of education in North Carolina has characteristically been quite good, due largely to the attention paid to the preparation of teachers. While the quality of teacher preparation has remained high in this state, the number of teachers being prepared has not kept pace with the needs that changing demographics have placed on teacher education programs. The following data is shocking:

1. According to the National Science Board, America will need 240,000 math and science teachers in the next decade. (Baby boomer teachers are retiring; new teachers are not finding teaching compelling enough to remain in the classroom for long-term careers; federal legislation in the form of the No Child Left Behind Act mandates reduced class sizes.)
2. During the 2005-2006 academic year, UNC (all campuses) graduated only 458 mathematics and science teachers (242 in mathematics, 216 in the sciences). This figure includes combined degrees and math/science alternative teachers. “Such a small number of graduates is unlikely to meet the expected growth of the student population in North Carolina schools over the next 7 years, underscoring the importance of continuing to recruit more math and science education majors.” (Dr. Charles Duke)

3. The North Carolina Department of Public Instruction anticipates a need for mathematics teachers in 40 new positions, in addition to the numerous replacement positions for the 2007-2008 academic year.
4. A survey of 40,000 Algebra 2 students in North Carolina found that fewer than 500 are considering teaching as a career.

In a memo to University Chancellors, University of North Carolina President Erskine Bowles calls the situation “alarming,” and refers to current levels of teacher education graduates in mathematics and the sciences as “unacceptable.” In this memo, President Bowles states that “Turning out more teachers, better teachers, more math and science...teachers is a significant priority of this University. I have made a commitment that we **will** meet this challenge.” (emphasis added)

In the spring of this year, the Reich College of Education responded to President Bowles’ call for increasing the number of teachers prepared at Appalachian State University with a comprehensive *Teacher Education Recruitment Plan*. This plan, which was submitted and approved by the North Carolina General Administration (GA), was developed to include many of the strategies and activities which are included in this document for the Strategic Plan. We advocate that the Strategic Plan capitalize on the opportunities already afforded ASU by the GA to increase the number of mathematics and science teachers.

(Nursing/Allied Health professionals): North Carolina, like other areas of the United States, is experiencing a shortage of qualified nurses and allied health professionals. As with teacher preparation, the quality of the preparation is not at issue but the quantity of newly-licensed professionals is not keeping pace with the number of positions that need to be filled. This issue is compounded by the aging Baby Boom generation in ways that the teacher shortage is not. As people from this generation age, their requirements for health care are increasing at an alarming rate. Many of the professionals currently in these fields are from that generation, and as they are retiring or leaving the work force, they also are adding to the need for highly qualified health care professionals; i.e., they are adding to the patient load in an already overburdened system. Whereas with teacher preparation the programs are in place to be able to handle more students, with nursing and allied health, the programs already are matriculating as many students as they can. Nursing and allied health can better address the need for more professionals if the facilities, faculty, and infrastructure are increased.

In short, the critical need for teachers of mathematics and the sciences can be better met if more people are in the pipeline – facilities are in most cases already adequate. The critical need for nurses and allied health care professionals can be better met if the facilities and faculty are increased.

Units Responsible

A substantial number of these activities and initiatives should fit within the existing Mathematics and Science Education Center, and many of the recruitment activities described should be coordinated with the new office of the Director of Teacher Recruitment. The purpose and support for the Mathematics and Science Education Center would need to be expanded to adequately meet these additional responsibilities. The targeted academic departments on campus (Mathematical Sciences, Biology, Chemistry, Computer Science, Geology, Physics, Statistics), Reich College of Education (Public School Partnerships, Curriculum and Instruction, Field Experiences and Student Teaching), and the newly-formed Department of Nursing also will carry responsibility for these initiatives. This will require commitment, both in resources and in prioritizing such programs, from upper administration (Deans, Provost, Chancellor) in order to ensure the transformation the action plan outlines. We will also require productive relationships with middle and secondary schools and their administrators, community groups, legislators, and professional organizations (e.g., Society of Professional Engineers) in order to successfully implement this critically important action plan.

Assessment Strategies

Some of the proposed activities already are in place, and can be monitored by taking a look at their existing evaluation plans. For others, the evaluation plans need to be developed. With regard to the four main components of our proposed efforts, we suggest the following assessment strategies.

- Develop and administer surveys to be used with public school students in the counties that have the highest percentages of students enrolled at ASU (e.g., Forsyth, Mecklenburg, Wake, Watauga). Such surveys will be designed to uncover numbers of students intending to enroll in teacher education and nursing/allied health programs.
- Track entering freshmen to see (i) how many enroll in teacher education and nursing/allied health programs of study, (ii) how long they continue in those programs, and (iii) what causes them to either continue in their programs or to leave their programs.
- Track existing programs with regard to how their activities are resulting in students enrolling in teacher education and nursing/allied health programs. Assessment of establishment of new programs (MSEC Pre-College Program, Marketing of Teacher Education, Expository Series, Linked Courses/Learning Communities, Lateral Entry,) will, in the short term, be restricted to examining progress made toward their establishment and what factors are facilitating or hindering their establishment.
- Implement focused research and evaluation projects undertaken by University faculty in order to better understand factors that play a part in teacher and nursing/allied health care workers' support.
- Examine Faculty Activities Reports and existing initiatives' working plans and annual reports for work relating to the proposed activities

- Examine teachers' and nurses/allied health care workers' retention in their careers. Design and conduct a survey to uncover teachers and nurses/allied health care workers who have remained in their positions after involvement with one or more of the programs we propose in this action plan.
- Conduct follow-up case studies of select professionals to more deeply understand the factors that led to their decision to remain in their chosen career.

Five Year Time Line

Year 1

- Establish a pre-college program of the MSEC.
- Initiate Expository Series, collaborative recruitment strategies, recruitment-based professional development workshops, recognition programs, linked courses, SAERC.
- Develop promotional materials, with the aid of marketing professionals, for use with recruitment efforts in general.
- Begin planning for the Mathematics/Science Teacher Education Learning Community Program.
- Establish focused study groups on feasibility of Learning Communities, off-campus Lateral Entry program, on-line degree programs in math and science teacher education, further collaboration with schools and communities.
- Collaborate with the NCDPI and the professional organizations mentioned above.
- Hire 3 new faculty for nursing program.

Year 2

- Hear reports from the feasibility study groups.
- Implement the Mathematics/Science Teacher Education Learning Community Program.
- Hire 3 new faculty for nursing program.

Year 3

- Begin implementing programs recommended by the study groups.
- Hire 3 new faculty for masters in nursing program.

Years 4 & 5

- Use data collected to evaluate and revise plans.
- Continue implementing activities

Estimate of Resources Required

MSEC Pre-college program (\$200,000/year)

Marketing of Teacher Education (\$200,000/year)

Math Science Preservice Teacher Education Learning Community Program (\$2 million endowment, along with annual \$200,000 university contribution of senior faculty line for program director, support staff, and operating expenses)
Hiring new nursing faculty (\$69,000 + 22% benefits per faculty)
Building new Allied Health facility (\$60,000,000)

Objective #3

To provide more relevant and timely support for external constituencies, both public and private, including education and training, economic analyses, applied research, and direct economic development support.

Activities

- Encourage departments and colleges to more closely align their respective curricula, grant applications, applied and sponsored research initiatives, etc., where appropriate and practicable, with the needs of the local, regional, national and global economies, as determined through external engagement and through ongoing faculty research and study.
- Identify and “inventory” ASU’s primary assets and resources with economic transformation potential, design an overarching economic transformation structure for the University, increase faculty and student awareness of opportunities to be more involved in “real world” economic and community development projects and activities, and develop a comprehensive internal and external economic transformation strategy to be approved and championed by the Chancellor.
- Publicize and get "credit" for the many academic, economic, cultural, social, etc. contributions that ASU makes in improving the region’s quality of life. Such contributions, particularly by "rural" campuses such as ASU, are often undervalued and underappreciated by the public in general. Greater public awareness of the good we already do is needed.
- Encourage academic units to consider revising existing performance "metrics" for ASU faculty and staff to promote and reward activities that serve the economic transformation goals. Contribution to the goal should become a relevant factor in personnel decisions relating to hiring, advancement, promotion, tenure, etc.
- Monitor, track, and communicate data relevant to local and regional and statewide economic performance (new jobs, new investments, new company formation, etc.).

Rationale

The new “Economic Transformation” strategic goal for the UNC system has been defined by the UNC Board of Governors as follows: “Economic Transformation:

As fundamental to its mission, strengthen and extend the University's contribution to transforming the economy of North Carolina through basic and applied research, innovation and creativity, transfer of new knowledge, application of best practices, and high-quality degree programs."

Units Responsible

Chancellor's Office (to accept, incorporate, institutionalize and communicate the importance of economic transformation within ASU's mission statement and program of work), the Appalachian Regional Development Institute, and all academic units on campus.

Assessment Strategies

Grants and external funding applied for (and funded), external engagement by faculty and students.

Five Year Timeline

Year 1: Complete inventory of assets and resources with economic transformation potential.

Year 2: Develop strategies for each college for each of the activities above.

Years 3-5: Implement strategies.

Estimation of Resources Required

A new direct report to the Chancellor responsible for economic transformation should be created. This office would be advised by a campus-wide, interdisciplinary, interdepartmental council selected from among the faculty, staff, and possibly students. A minimum half-time senior administrative position in each dean's office should also be devoted to outreach and economic transformation. The total incremental cost is estimated at an average of \$50,000 per school/college or \$300,000 total per year to start increasing by approximately 5% per year.

Objective #4

To promote a culture of entrepreneurship with the Appalachian State University community; encourage more entrepreneurial thinking and the development of new entrepreneurial ventures by students, faculty and the citizens of northwestern North Carolina.

Activities

- Develop and support more entrepreneurship programs, both academic and co-curricular. Provide support for ASU's Center for Entrepreneurship.

- More proactively reach out to incoming students to improve basic financial and economic literacy and to help educate them on the importance of entrepreneurship and global awareness, possibly through the emerging core curriculum program.
- Engage the private sector to help develop, fund, promote and deliver new entrepreneurship initiatives.

Rationale

College students in North Carolina and all across America are increasingly interested in entrepreneurship as a career option. They've seen family and friends succeed in business. They're captivated by the stories of young founders of companies like Yahoo and Google. Plus, they realize that in our changing economic environment, entrepreneurship often offers the best path to happiness and success. More and more young people are starting businesses immediately upon graduation. Most others plan to work for small to medium-sized organizations. A recent survey of faculty and students at ASU revealed that 86% of business students and 73% of non-business students had thought about starting a business, but perhaps more importantly, more than 1/3 of business students and 1/6 of non-business students said their *primary career aspiration* was to own their own business. That translates into approximately 3,000 students at Appalachian State right now who seriously want to be entrepreneurs.

The economy of northwestern North Carolina as well as the entire state is increasingly dependent on entrepreneurship as a major economic driver. More than 80% of new jobs are created by entrepreneurs. Appalachian State can play a lead role in providing educational opportunities to encourage more entrepreneurial activity throughout the region.

Units Responsible

Chancellor's Office (to accept, incorporate, institutionalize, and communicate the importance of entrepreneurship within ASU's mission statement and program of work), the Walker College of Business Department of Management (to support curriculum development for both business and non-business students), Center for Entrepreneurship (to support co-curricular activities, outreach and research), and other academic units whose students often pursue entrepreneurial careers.

Assessment Strategies

Business and non-business students enrolled in entrepreneurship courses, new enterprises started by students, alumni (as identified by the Alumni Association), faculty and staff.

Five Year Timeline

Year 1: Secure start-up funding for Center for Entrepreneurship. Fully implement new entrepreneurship concentration in the College of Business. Hire

assistant director for the center. Develop new co-curricular and outreach programs.

Year 2: Offer minor or concentration in entrepreneurship to non-business students. Expand co-curricular programs. Develop freshman experience. Hire additional faculty member.

Year 3: Secure permanent funding for the Center for Entrepreneurship through capital campaign.

Years 4-5: Continue and expand academic and co-curricular programs.

Estimation of Resources Required

At least two additional entrepreneurship faculty members need to be added to support demand (one search currently underway). The Center for Entrepreneurship needs to be funded at a minimum of \$100,000 per year. The total incremental cost is estimated at \$205,000 per year to start increasing by approximately 5% per year. 25-50% of the total is expected to be supported through private giving.

Objective #5

To increase global awareness among students, faculty, and staff with the expectation that every Appalachian student should have a significant global experience.

Activities

- Provide a broad range of affordable opportunities for all ASU students to engage in meaningful international experiences, including, but not limited to semester abroad programs, courses with integrated international components, dual degree programs, short-term studies abroad, international internships and working with multicultural communities in North Carolina.
- Encourage and reward collaboration and partnerships abroad to increase the breadth and depth of relationships with universities and other potential public- and private-sector partners.
- Recruit more international students, both degree-seeking and exchange students, to attend ASU, thereby broadening the diversity of the campus population and providing more contacts between ASU students and people from other cultures.
- Provide more opportunities for ASU faculty to engage in international development, teaching, research and service. Reward faculty for participating in these activities.

Rationale

As Thomas Friedman has so aptly written in the last paragraph of “The World is Flat”:

“I cannot tell any other society or culture what to say to its own children, but I can tell you what I say to my own: The world is being flattened. I didn’t start it and you can’t stop it, except at a great cost to human development and your own future. But we can manage it, for better or for worse. If it is to be for better, not for worse, then you and your generation must not live in fear of either the terrorists of tomorrow, of either al-Qaeda or of Infosys. You can flourish in this flat world, but it does take the right imagination and the right motivation.”

Units Responsible

Chancellor’s Office (to accept, incorporate, communicate and institutionalize globalization within ASU’s mission statement and program of work), the Office of International Education & Development (to provide leadership operational support for international initiatives), and all academic units on campus.

Assessment Strategies

Faculty engaged in international activities, students spending time abroad.

Five Year Timeline

Year 1: Assess faculty interest, experience and contacts in international activities. Develop strategies and incentives to engage more faculty in international activities. Secure additional funding for each college to develop new programs.

Year 2: Designate minimum half-time senior administrative position in each college. Develop college-level strategies for internationalization. Solidify existing international relationships and develop new ones.

Year 3: Conduct pilot programs in new areas (see activities above). Create campus-wide campaign to raise global awareness and encourage student participation in new and existing programs.

Year 4-5: Evaluate pilot programs. Institutionalize programs and relationships in each college.

Estimation of Resources Required

Increase funding to the Office of International Education and Development to expand international initiatives. Financial resources should also be committed to each school so that a minimum half-time senior administrative position in each dean’s office can be devoted to support international activities, working in close coordination with the Office of International Education and Development. The total incremental cost is estimated at an average of \$50,000 per school/college or

\$300,000 total per year to start increasing by approximately 5% per year. Some of this can be expected to come from grants for new program development.

Resources Reviewed by this Committee

- Video PowerPoint (<http://www.glumbert.com/media/shift>) [used in our presentation]
- Notes from ASU Graduate Council Meeting—September 19, 2007
- ASU Teacher Education Recruitment Plan 2007-2010
- The Status of North Carolina's Math/Science Teacher Pipeline (Carolina Context, February, 2007)
- Preparing NC Teachers for an Interconnected World (from North Carolina in the World Preservice Teacher Education Study Group for Preparing North Carolina Teachers for an Interconnected World (January, 2007) (Pam)
- Pre college Program in math/science with a focus on minorities & women (Phil J)
- Rising above the Gathering Storm
- Concerns about Teacher Education (President Bowles' memo dated 3/15/07 to Chancellors)
- IHE Recruitment of and Support for Math & Science Teacher Candidates
- Golden Leaf Foundation (Mike on board of directors)
- Information about Nursing and Health Occupations (Karen)
- Selected PowerPoint Slides UNC Economic Transformation Efforts (9/20/06) [Handouts from Economic Transformation Council]
- Responding to the Need: Economic Transformation Measures for UNC System (10/21/06) [Handouts from Economic Transformation Council]
- Discussion Update on Metrics for Economic Development (12/5/06) [Handouts from Economic Transformation Council]
- Appalachian Enterprise Center (Mike)
- "Transforming Higher Education: A Competitive Advantage for North Carolina" (Emerging Issue's Forum at NC State 2/07) (Bryan Toney, Economic Transformation Council)
- Entrepreneurship and Economic Development Initiatives at Appalachian State University
- Economic Transformation Council - Economic and Community Development at the GA level (Lorin Baumhover, ASU representative; Mike & Bryan, ASU alternates)
- Energy/Environment inventory (Dennis, Adelma Huntley)
- Internationalization and entrepreneurship (Bryan)
- Economic Development Commission for Watauga County (Jason)
- Boone Chamber Committee of 100 (Jason)
- Volunteerism (ACT office)
- Appalachian & The Community Together (ACT) Program Overview & Role of Community Partner Coordinator (Handout from Todd Mortensen, ACT Community Partner Coordinator)
- Appalachian Summers/Opera Workshops/Turchin Center
- College of Education 3 million arts grant in area schools

**Appalachian Strategic Planning Commission
Economic Needs and Transformation Sub-Committee
2007**

Michael A. Almond, Chancellor's Office & ARDI
Dick Crandall, Computer Information Systems
Susie Greene, Student Development
Dennis Grady, Political Science/Criminal Justice
Gordon Hensley, Theatre & Dance
Phil Johnson, Math/Science Center
Doug Jones, Mathematical Sciences
Greg Lovins, Council Liaison/Business Affairs
Linda McCalister, Public School Partnership
Karen Reesman, Nursing
Phil Russell, Physics & Astronomy
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