

## **K-12 Education**

Charge: This activity helps prepare a better working force in Indiana. IUPUI should be the leading teacher training institution in Indiana. Does a MAT degree with a reasonable number of credit hours exist? Considerable funding available in the math-science areas.

Team: Charlie Barman, Carl Cowen, Andy Gavrin, Khaula Murtadha, Philip Seabrook, Uday Sukhatme, Jeff Watt and Oner Yurtseven

Current status: This group chose to focus on steps to improve teacher training in mathematics and science. Approximately eleven students enrolled in mathematics undergraduate program and T2T teacher education with specialization in science education. MAT program is dormant at this time.

### Action Item Recommendations:

- Double enrollment in science and mathematics teacher education by 2009
- Admit undergraduate students to the teacher education program in the first year to improve both recruitment and retention
- Improve advising of undergraduates in science and mathematics teacher education to improve retention

### Implementation Strategy:

- ✓ Improve School of Education website
- ✓ Recruit students in first year math and science courses
- ✓ Collaborate with ITCC in recruiting math and science education students
- ✓ Restructure undergraduate teacher training program to increase flexibility and include first and second year courses
- ✓ *Comment: Fiscal impact minimal; Urban Center for the Advancement of Science/Mathematics Education (UCASE) has funding to accomplish these objectives*

## **K-12 Education Action Team Summary**

### **Current Status**

- The committee met 5 times
- Three items were identified as issues requiring immediate attention
- Recommendations were made to deal with the three issues

### **Recommendations/suggestions**

- The School of Education web-site needs to be reviewed to make it more “user friendly” to high school seniors and non-education students.
- Develop a more coordinated plan for recruitment and retention at the school and university level, including the advisement of science and mathematics education candidates.
- Restructure the secondary education program so that students in mathematics and science are provided with courses in teacher education in the first two years of their coursework.
- Invite to campus faculty from the University of Texas and UC-Davis to discuss their plan for working with potential teacher education candidates that are freshman and sophomores.

### **Implementation**

- The Assistant Director of UCASE Operations, Dr. Kim Nguyen, is currently working on a plan for recruiting science and mathematics majors into the Teacher Education Program. The Administrative Assistant for UCASE is working with the School of Education technology personnel to update the School of Education web site to make it more “user friendly.”
- UCASE invited the co-director of the UTEACH Program, Dr. Lawrence Abraham from University of Texas at Austin, to visit the IUPUI campus and share his expertise on student recruitment and retention and to explain the features of the UTEACH Program.
- A four year plan has been drafted to allow potential science majors to complete their degree and teacher certification in four years. In addition, one of the main priorities of UCASE in the next academic year is to find ways to modify the secondary science teacher certification program to make it more attractive to potential candidates.

## **Report from the K-12 Action Team**

The K-12 Action Team has met 5 times. We have had some very lively discussions about science and mathematics education. However, the following three items have emerged as requiring immediate attention.

1. A more coordinated effort of recruitment and retention needs to take place at the school and university level. Although these efforts go beyond the scope of our committee, several suggestions were made with respect to this item. For undergraduates, a Cadet Teacher Corps program could be established with local high schools to interest students at an early age into teaching science/mathematics. Stronger ties also need to be developed with Ivy Tech State College to attract their students into teacher education. In addition, a two semester course should be established to focus on science/mathematics education for students in their first two semesters at IUPUI. At the graduate level, we need to develop relationships with business to identify individuals that are retiring or are the product of “down sizing.” These individuals may have the necessary credentials to qualify for the Transition to Teaching Program (T2T). The Indiana Workforce Development Office is also a potential source of T2T candidates.
2. The procedures of advising undergraduates into science and mathematics education need to be consistent. Kim Nguyen, Assistant Director of UCASE Operations, is organizing a meeting to discuss the advisement issues.
3. The way candidates are admitted to the Teacher Education program may be an impediment to recruiting potential STEM students. Currently, STEM students are not admitted until their junior year. By this time, they may have already decided to pursue other areas of STEM related fields. It is recommended that the School of Education implement a new way to attract potential STEM students. There needs to be a way to provide courses related to teaching and learning that can be taken in the freshman and sophomore years. For example, a F200, introduction to teaching course, should be developed for first semester freshman and second semester freshman could take Adolescent Psychology. Courses like H341, foundations of education, and General Psychology could be taken in the second year to not only fulfill the social studies general education requirement, but to also provide additional information related to secondary students and learning.

Based on the above items, the following recommendations have emerged:

- The School of Education web-site needs to be reviewed to make it more “user friendly” to high school seniors and non-education students.
- Develop a more coordinated plan for recruitment and retention at the school and university level, including the advisement of science and mathematics education candidates.

- Develop stronger ties with Ivy Tech State College to attract potential teacher education candidates, especially those interested in teaching mathematics and/or science.
- Develop relationships with business to identify individuals from STEM related fields that are retiring or the product of “down sizing.” They could be potential teacher education candidates for the Transition to Teaching (T2T) program.
- Restructure the secondary education program so that students in mathematics and science are provided with courses in teacher education in the first two years of their coursework.
- Invite to campus faculty from the University of Texas and UC-Davis to discuss their plan for working with potential teacher education candidates that are freshman and sophomores.