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Proposal for an Inter-disciplinary Position in Neuro-Developmental Disabilities

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According to the 2004 Autism A.L.A.R.M. issued by the Department of Health and Human Services and the American Academy of Pediatrics (AAP) 1 in 166 children currently have an autistic disorder, and 1 in 6 children have a developmental and/or behavioral disorder (Geier & Geier, 2006). Special Education and Communication Disorders are one of the few groups of researchers on campus readily equipped to address issues in neuro-developmental disabilities; they are presently training and licensing graduate students to work with these populations. The two departments jointly seek a dedicated faculty member who would strengthen their already established research strand and grant track record in the acquisition of external funding for research, teaching, and outreach services, including the training of doctoral students who go on to become both our leaders and researchers. The new tenure track faculty member would reside in Special Education, combining the fields of special education and communication disorders through an interdisciplinary research focus in the area of neuro-developmental disabilities.

Proven Excellence of the Amherst Campus in the Given Research/Teaching Area

Special Education and Communication Disorders possess the hallmarks for competitive success. They have a positive funding and publication trajectory. Over the past 12 years the Special Education faculty has acquired nearly \$4.2 million in grants and contracts. Each of the U.S. DOE grant cycles had 65 proposal applications or greater of which only 20 were highly ranked by external reviewers from Research I universities and were funded annually. A portion of the \$4.2 million is a result of recent collaboration between the SOE Special Education faculty and faculty from Communication Disorders in SPHHS: *Training School Speech-Language Pathologists to Maximize Oral Communication in Children with Autism* (CFDA 84.325K, \$733,433) and *The Training of Leaders in Speech Language Pathology as Effective Collaborators in the Public Schools* (CFDA 84.325D, \$799,602), and *Training School Speech Language Pathologists to Assess and Manage Communication Skills in Children with Autism* (CFDA 84.325K, \$796,809). These research-to-practice grants include investigations into efficacious evidence-based practices that lead to informed educational decision-making. Special Education also has had successful inter-departmental collaborations within the SOE, acquiring three OSEP Leadership Personnel Preparation (84.325D) grants: *Excellence in Collaborative Educational Leadership for School Improvement, Opportunities, and Results for Educating Students with Disabilities from Diverse Backgrounds* (\$799,860); *Special Education Administration at a Crossroads: Training Special and General Education Administrators to Provide Educational Programming for All Students with Disabilities from Diverse Backgrounds* (\$781,774), and; *Linkages: Training Special Education Administrators to Meet the Changing Needs of Children & Youth with Disabilities from Diverse Backgrounds* (\$620,000).

The Special Education and Communication Disorders faculty have also been instrumental in shaping their professions through leadership as journal editors, journal reviewers, board members of their professional organizations, and conference program chairs in addition to their extensive outreach at the local, state, and federal levels. (Please refer to individual faculty vitae in Appendix A).

External reviewers have held Special Education and Communication Disorders in high regard. The external reviewers stated the following in the most recent AQAD review for Special Education in

2005, “In general, the level of research productivity and grants is exceptional...It is of note that faculty edit (or co-edit) two prominent and widely distributed special education journals. Faculty members have a record of on-going publications, and the program has sizeable U.S. Department of Education personnel preparation grants. Beyond the special education majors, the program helps students from across the SOE understand educational, law, and policy issues related to disability.”

As part of the National Council for the Accreditation of Teacher Education, Special Education received national recognition in 2008 as part of the accreditation process. The external reviewers stated, “The University of Massachusetts is commended for their thorough understanding of the program assessment process. Assessments were clearly aligned to standards, rubrics contain well defined levels for candidate performance, and data are usable and reported in a manner that directly reflects the assessment rubrics.”

Communication Disorders, through receipt of national accreditation, has received the highest recognition by the American Speech, Language, and Hearing Association (ASHA). Moreover, the 2008 U.S. World and News Reports ranked the University of Massachusetts' Speech-Language Pathology Program and the School of Education Program in the top 30 and top 50 programs in the country, respectively. The Departments of Communication Disorders and Special Education Concentration are recognized for their excellence in teaching and research.

The School of Education does not have undergraduate majors due to the educator licensing structure that requires undergraduates to earn a degree in the arts and sciences prior to entry into a teacher education program. The Department of Communication Disorders is comprised of approximately 300 declared majors on the undergraduate level. Of these, approximately 32% are from out-of-state, from states as far away as Indiana and Arizona. Given its prestige and high ranking on a national level, the undergraduate and graduate programs are very competitive. The number of students enrolled in required and elective undergraduate courses in the Department of Communication Disorders ranges from 75 to 175 students per class. The graduate program in Speech Language Pathology is especially competitive in that over 250 applicants apply for admission annually to fill only 25 positions as first year graduate students. The Special Education program enrolls 15 first year graduate positions and 5-7 post-masters positions each year. Both programs attract graduate students from across the country, including California, Florida, Oregon, and Washington. The programs also attract Fulbright and international scholars from countries as distant as China, Dominica, Greece, Iceland, India, Morocco, and South Africa.

It is widely recognized that the fields of special education and communication disorders face serious shortages of college and university faculty (Castle & Arends, 2003; McLeskey, Tyler, & Flippin, 2003; Smith, Pion, Tyler, Sindelar, & Rosenberg, 2001). Smith, et al. (2001) found that the number of doctorates currently conferred by special education and communication disorders programs across the nation cannot keep pace with vacancies. Since 1992 there has been an average of 250 special education assistant professorship positions advertised with 27% of these positions going unfilled for a two year period of time (Castle & Arends, 2003). Since UMass Amherst Special Education is the only public land grant program to offer the Ed.D., which is a research-focused degree and UMass Amherst Communication Disorders is the only public land grant department to offer the Ph.D. in the Commonwealth of Massachusetts, we are well positioned to continue to provide a competitive advantage in attracting the best and brightest graduate students to these fields.

Interdisciplinary/Transdisciplinary Nature of the Project

The number of children with multiple and complex communicative disabilities being served in the public schools have increased significantly over the past decade. In Massachusetts, the occurrence of all disability types in the schools grew less than 12% over the decade from 1992 - 2003, but the number

of school-aged children with autism rose 634% over that same time period (Hollenbeck, 2004). As school budgets shrink, more school systems are unable to afford to send children with multiple and complex communicative disabilities and special needs to private specialized schools. Thus, the burden of providing services to these students is falling more onto inadequately prepared school staff, including school speech-language pathologists (SLPs) and special educators. Yet, there is a critical shortage of special educators and SLPs in this country, especially in the schools (National Clearinghouse for Careers in Special Education). Demand for special educators and SLPs grows as rates of autism and other disabilities requiring special assessment and treatment techniques grow. Approximately 26% of SLPs reported lack of training for working with special populations as an important barrier to job satisfaction in schools (American Speech-Language-Hearing Association 2002).

Few SLPs receive specialized training for school settings. In a recent survey, school speech-language pathology supervisors reported that only 35% of graduate students are properly prepared for the classroom aspects of a school clinical practicum. Deficits were noted in the students' knowledge of curriculum and instruction and curriculum-based assessment, and in their skills at developing educationally-relevant goals and integrating their interventions into collaborative educational settings.

Special Education and Communication Disorders engage in focused empirical research while offering students clinical and field based experiences that address the needs of those from birth through adulthood. The Special Education faculty has a history of collaborating with the Communication Disorders faculty on research projects and grants, especially concerning autism. We envision a continued and even more tightly linked collaboration in the area of neuro-developmental disabilities, e.g. autism, cerebral palsy, muscular dystrophy, multiple sclerosis, William's syndrome, and a host of numerous other genetic, chromosomal and teratogenic syndromes with communicative, learning and physical disabilities. This research would complement the ongoing research in Special Education and Communication Disorders in the related areas of literacy, learning disabilities, assessment, behavior, and technology. This is a much needed area of focus given the increasing incidence of autism spectrum related disabilities, as well as other neuro-developmental disabilities (Grier & Grier, 2006). In addition, research in this area would strengthen our commitment to evidence-based practices, student progress monitoring, and the use of collaborative educational models.

Given that the SOE and the Department of Student Development and Pupil Personnel Services (SDPPS) will serve as the home for the new hire, the Dean of SOE, Christine McCormick, and the Chair of SDPPS, Richard Lapan, have submitted letters of support, although not specifically requested in the RFP, for a faculty hire in neuro-developmental disabilities. The Dean of SPHHS and Communication Disorders Department Chair will submit letters of support upon request. (Please refer to Appendix B). This will increase our collective ability to support our research and our graduate students, some of whom are already enrolled with a commitment to this area. The added resource of a faculty member in neuro-developmental disabilities will help to buttress our research and institutionalize course offerings that are now in demand but have not formally been adopted. In addition, we will be able to offer a full complement of licenses to our students by adding the severe/profound disabilities license. The only space we require will be an office to house the new faculty member. We do not foresee any other space demands because of continued use of existing space. .

We are not recommending a split position across two departments; the faculty home would be in Special Education. The faculty member, however, will teach courses for both Special Education and Communication Disorders to which students in SOE and SPHHS will have access. The department sponsoring the course will receive the student FTE. In the event the course is cross-listed, each department will receive the FTEs for the corresponding enrollments. Since this is a shared faculty

commitment in the sense of teaching and participation in joint research efforts, allocation of effort, evaluation, and support will be managed through the home department for Special Education, in consultation with Communication Disorders.

Willingness of Departments/Schools/Colleges to Support this Direction with their Own Resources

As previously mentioned, Special Education and Communication Disorders presently have two ongoing joint research-to-practice grants totaling \$1.6 million that support ongoing research in the area of neuro-developmental disabilities, specifically autism, which are related to this proposal. This funding represents a commitment to the institutionalization of activities related to these efforts through increased enrollments and procurement of funding from multiple sources, such as Carnegie, Spencer, Ford, Dewitt-Wallace, etc. and other government agencies (NIH, NSF, IES, etc.). The collaborative grants have supported 25 masters students to date. The newest grants will support 22 masters students and 7 doctoral students to pursue work in this area. The associated resources also support 6 faculty affiliated with these grants. In addition to supporting our research agendas, these grants support our teaching and service efforts. Special Education has supported 23 doctoral students in the past and 10 doctoral students currently through their \$2.2 million in US DOE OSEP leadership research-to-practice grants.

Established Leadership for Initiative on Campus

There are currently four SDPPS faculty in Special Education. One does research in the area of assessment and behavior management. Another's area of focus is Language and Literacy with extensive expertise in quantitative research methodologies. A third does research in reading and behavioral interventions, juvenile delinquency, interventions for adolescents, and large-scale data set analysis. A fourth's research and teaching interests are in developing the capacity of school leaders, collaborative leadership, the use of data and professional standards in establishing resource priorities, and cultivating meaningful ties with stakeholders to further support academic learning and social growth for their children with disabilities and their families. Although Special Education faculty have been successful in procuring funding, it is clear that to be successful in the future will require additional faculty capable of inter-disciplinary collaboration across concentrations, departments, and colleges/schools within the university.

The research and teaching areas of several Communication Disorders faculty relate to issues highly relevant to special education, and more specifically to neuro-developmental disorders. Three have engaged in collaborative research and training focusing on Autism Spectrum Disorders with Special Education faculty. Two specialize in learning disabilities and literacy disorders, including differential diagnosis of children who come from linguistically diverse backgrounds. Two faculty are affiliated with the Center for the Study of African American Language, which is housed within the Linguistics Department. One is engaged in research comparing the language development of children with genetic syndromes (Williams syndrome, Duplication 7q11.23). One specializes in communication technologies for persons with severe to profound communication difficulties, including children with neuro-developmental disorders.

Ability to Attract Funding from Federal, State and Private Sources

Our strategy is to continue to win grants using our competitive position. The U.S. DOE, Office of Special Education Programs has \$88.2 million is available in personnel preparation research to practice grants annually. As noted above, collaborations within and between Special Education and Communication Disorders have already yielded several million dollars in funding from this source. Communication Disorders faculty have experienced success procuring support from NIH and the Autism Speaks Foundation in the past. The Institute for Educational Sciences has earmarked over \$82 million is

earmarked specifically for special education related research. We anticipate a further increase in research productivity in neuro-developmental disorders by seeking funding through IES as well as the NIH, NMH, and NSF in this area. Some of the current grants awarded to Communication Disorders were the direct result of successful mentoring by senior faculty in Special Education. The acquisition of additional research funds will foster our continued scholarship, and will solidify the positions of Special Education and Communication Disorders as national leaders. Current and future grants place us in a strong position to mentor junior faculty so they are reasonably assured of being successful. Funding from these various sources will provide more opportunities to recruit and support graduate students in Special Education and Communication Disorders.

Prospects that the Project will Establish or Confirm UMass Amherst as the Leader in the Proposed area of Scholarship, Research or Teaching

The most likely scenario given our track record to date is that the addition of a faculty member with expertise in neuro-developmental disabilities will strengthen the departments and schools, as well solidify our commitment to collaborating with the campus community, which is central to the joint mission of Special Education and Communication Disorders. It will also help us to achieve the following initiatives:

- Increase our capacity to broaden our focus in the area of neuro-developmental disabilities.
- Increase our capacity to acquire funding for research in neuro-developmental disabilities from both private and public sources.
- Enable faculty to access the +\$300 million available annually in U.S. DOE monies alone for research.
- Further develop existing collaborations between Communication Disorders and Special Education in the areas of literacy, learning disabilities, assessment, behavior management, and autism, which are considered to be areas of strong growth in both fields
- Admit and support more graduate students to meet the Commonwealth's shortage of highly qualified public school special educators and speech and language pathologists.

We are confident that we can achieve our goals through a single tenure-track faculty hire. This hire will not only lead to the acquisition of grant funds but eventually lead to the development of a national center dedicated to neuro-developmental disabilities that is fully supported due to our external funding efforts. The only internal changes we feel are necessary based on past interdepartmental and school collaborations involve a commitment by the university to continue to work toward streamlining the RFP process for interdisciplinary collaborations across departments and schools/colleges. Once the proposals are approved for funding, the process for allocating resources would also benefit from streamlining. With the hire of the requested neuro-developmental specialist, and these internal grant process changes, we will be extremely well positioned to make highly significant national and international interdisciplinary contributions to research, training, and outreach in the identification, assessment, and treatment of persons with neuro-developmental disabilities.

Evaluation Plan

Our efforts will undergo close scrutiny through our employment of the CIPP evaluation protocol. (Please refer to Appendix C).

References

- Castle, S. & Arends, R.I. (2003). Faculty supply and demand in education. *Journal of Teacher Education*, 54, 112-121.
- Geier, D., & Geier, M. (2006). Early Downward Trends in Neurodevelopmental Disorders Following Removal of Thimerosal-Containing Vaccines. *Journal of American Physicians and Surgeons*, 11, 1, 8-13.
- Smith, D.D., Pion, G., Tyler, N.C., Sindelar, P., & Rosenberg, M. (2001). *The study of special education leadership personnel with particular attention to the professoriate*. Final report submitted to the U.S. Department of Education, Office of Special Education and Rehabilitation Services, Office of Special Education Programs, Washington, D.C. Project Number: H920T970006-00A.

Appendix C – Evaluation Plan

Our explicit plan for assessing the effectiveness of the investment over time will follow a logic model linked to project goals. The Context, Input, Process, Product (CIPP) model, developed by Stufflebeam et al. (1971) is a comprehensive evaluation protocol that involves data collection for continuous management and program improvement. Typically, to make adjustments and modifications as needed and to determine if goals have been met, this model requires both formative and summative evaluation and data collection from all individuals involved. Because of its comprehensive nature and decision-making orientation, the CIPP model is appropriate for evaluating the effectiveness of the investment. Evaluation data will be used to (a) determine the effectiveness of research, teaching, and outreach efforts; (b) evaluate external funding efforts; (c) determine the extent to which goals are met; (d) adjust and modify benchmarks and activities ; (e) improve mentoring; (f) determine how effectively collaborative partnerships are working; and (g) increase channels of communication.

CIPP Evaluation Approach

Context evaluation. The primary objective of the context evaluation is to determine if the needs are being met by (a) identifying and evaluating critical program elements; (b) determining if organizational and administrative policies and structures are meeting the needs of faculty, students, and staff; and (c) targeting areas where improvement is necessary. Results of context evaluation activities will be used improving the context of our efforts. Data to determine the effectiveness of these goals will be collected through: (a) evidence of grant awards; (b) research publications; (c) conference presentations; and (d) courses developed that complement research focus.

Input evaluation. Input evaluation will focus on how we use resources to meet our goals. Data from input activities will be used to determine if the financial support we have received is resulting in increased funding opportunities, the development of courses related to the research focus, scholarly experiences, research opportunities, and other professional development, and mentoring throughout the program.

Process evaluation. Process evaluation helps ensure that benchmarks and activities are accomplished as scheduled, resources are used in an efficient manner to support activities, and activities satisfy project goals. Process evaluation will employ multiple methods to assess different aspects of the project. Data collected during process assessment will be used to examine the degree to which there is professional collaboration and engagement.

Product evaluation. Product evaluation is used to measure, interpret, and judge how well the goals have been achieved. Outcomes will be measured against stated objectives. Data from the product evaluation will contribute to decisions about institutionalization and modifications or changes in focus that may be required. Data for the context evaluation will be collected from multiple sources; AFRs, teaching evaluations, vita, review through tenure decision year, and chair and dean reviews.

Both formative and summative evaluation techniques will be used for product evaluation.

Formative evaluation techniques will involve continuous monitoring of progress using both quantitative and qualitative indicators that inform decisions about necessary modifications and revisions. Formative evaluation activities will include a hybrid mixture of actual and electronically enhanced activities.

Summative evaluation techniques will help to assess data-based outcomes. Summative evaluation activities will include concrete measures of outcomes related to the research area of focus. These measures will help to inform decision-making.

Review of Evaluation Plan

When implemented as described, our data-based evaluation plan will yield information which will help assess success on three levels: (a) diversity and quality of our efforts, (b) progress related to stated initiatives, and (c) the overall effectiveness.