WHERE ARE WE?
A STATE OF THE COLLEGE REPORT
According to the latest TEA data, Aggie teachers work in 756 Texas school districts, in all 20 regions and 211 counties. That’s more than 10,000 former students currently working in Texas public schools as teachers, school counselors, principals and senior administrators. 78 of the active superintendents in the state graduated from Texas A&M.

Texas A&M is now a member of the 100Kin10 initiative. This nonprofit organization aims to train and retain 100,000 STEM teachers by 2021. We were invited by the organization to join. A joint application with Engineering and the College of Science was approved in Spring 2016.

U.S. News and World Report ranked our college as 39th in the nation among education graduate schools. Additionally, the Special Education graduate program was ranked 18th in the nation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>39</td>
</tr>
<tr>
<td>2015</td>
<td>48</td>
</tr>
<tr>
<td>2014</td>
<td>52</td>
</tr>
</tbody>
</table>
OTHER NEWS

- New Human Clinical Research Facility Building
  - On target for completion December 2016/January 2017
  - Rick Kreider will transition out of his HLKN Department Head role to become the Executive Director of this facility

- System Teaching Fellows
  - Other A&M schools identify their teaching needs in early spring
  - We advertise those opportunities and collect applications from PhD candidates who are almost finished
  - System schools provide a mentor, decent salary, and assistance locating housing. We help pay for moving costs.

- Faculty Awards
  - Jay Woodward - 2016 Texas A&M University Association of Former Students Distinguished Achievement Award for individual student relationships.
  - Raphael Lara-Alecio –
    - 2015 Regents Professor
    - SEC Faculty Achievement Award and was the Texas A&M University nominee for SEC Professor of the Year.
  - George Cunningham – named a Fellow of the National Academy of Kinesiology
  - Ron McBride - Curriculum and Instruction Honor Award from the Society of Health and Physical Educators.
  - Christine Bergeron - College/University Master Dance Educator of the Year by the National Dance Society.
MORE FACULTY AWARDS

- Alexandra Pooley – 2016 National Dance Society Young Dance Professional of the Year Award
- 2016 Climate Awards – Shanna Hagan-Burke, Jay Woodward, and Windy Hollis Turner
- Pat Goodson - Paul Anderson Award at the Textbook and Academic Authors’ Association
- Shanna Hagan-Burke – 2015-2018 University Professorships for Undergraduate Teaching Excellence
- Jeffrey Liew, Nathan Clements - 2015 AFS Distinguished Achievement Award – College Level
- Dean’s Development Council Awards
  - James Fluckey – 2015 Extraordinary Service Faculty Award
  - Adam Barry – 2015 Outstanding New Faculty Award
  - Jeffrey Liew – 2015 Outstanding Mentor Award
  - Justin Smith – 2015 Outstanding Staff Award
- Yolanda Padron – 2015 Texas Association of Bilingual Education Higher Education Award
- Kelly Wilson - American School Health’s 2016 Outstanding School Health Research Award
- Janet Hammer – 2015 Presidential Professor for Teaching Excellence Award, the most prestigious A&M award in Teaching
- Beverly Irby – Living Legend Award from the National Council of Professors of Educational Administration
- AGGIE STEM program - 2016 Texas Distance Learning Association award for outstanding commitment to excellence and innovation
- The Huffines Discussion 5 won a Bronze Telly Award
- Lorinda Cohen – BCS Visitor’s Bureau – Hometown Hero Award
NEW ADMINISTRATIVE TEAM MEMBERS

- Assistant Dean for Finance – Suprena Bennett
- Associate Dean for Research – Sue Bloomfield
- Department head for Teaching, Learning, and Culture (TLAC) – Michael de Miranda
- Department head for Educational Psychology (EPSY) – Shanna Hagan-Burke
- Many thanks to George Cunningham for his service as Associate Dean for Research and Academic Affairs
Approved Searches 2016-2017

- Assistant Professor in Learning Science
- Assistant Professor in Research, Measurement, and Statistics
- Assistant Professor in Technology Management
- Assistant/Associate Professor in Technology Management
- Clinical Assistant Professor in Physical Education
- Department Head Search for Educational Administration and Human Resource Department
- Department Head Search for Health and Kinesiology
- Three carryover searches from last year
  - Assistant/Associate Professor in Special Education
  - Assistant/Associate Professor in School Psychology
  - Assistant/Associate Professor in Science Education
The good news is that our majors are in high demand – maybe a little too high.

We have implemented an enrollment management strategy to keep us from growing quite so quickly in some of our majors.
ENROLLMENT IN TEACHER EDUCATION PROGRAMS HAS REMAINED STEADY
Figure 1. Enrollment in initial licensure programs nationally, 2010-2015

Source: Title II, HEA, March 2016.
SCHOLARSHIPS

- State requires that we set aside money for financial aid. CEHD program is administered through the university admissions and financial aid office and supports approximately 115 Undergraduate and 90 Graduate students. We invest approximately $700,000 per year in these scholarships.

- We award $400,000 in endowed and pass through scholarships each year

<table>
<thead>
<tr>
<th>Year</th>
<th>Students Supported</th>
<th>Average Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2014</td>
<td>121</td>
<td>$2900</td>
</tr>
<tr>
<td>2014-2015</td>
<td>159</td>
<td>$2200</td>
</tr>
<tr>
<td>2015-2016</td>
<td>135</td>
<td>$2000</td>
</tr>
</tbody>
</table>

- Learning Communities
  - Focused on first generation college students
  - $1200 Transforming Lives Scholarship funded by CEHD
    - 2014-2015 – 80 students
    - 2015-2016 – 97 students
GRADUATE FELLOWSHIPS AND GLOBAL STUDIES AWARDS

- **Graduate Fellowships**
  - Do not require work
  - Competitive and qualify winners for in-state tuition
  - We have about 350 fellowships for graduate students. Average award is $1500/year.

- **Global Studies Awards**
  - Awards are for faculty-accompanied global studies excursions, not independent studies
  - Faculty apply for support from the college 8 months ahead of time
  - Students sign up for the class in which the global study is embedded
  - All students in the class are given equal financial awards
  - Range from $1200-2000 with trips further away or longer qualifying for more financial support
  - We have a few new global studies scholarships targeted to one program or department, these are in addition to resources invested by the College (totaling nearly $1 million dollars in the past two years)
COMPETITIVE GRADUATE FELLOWSHIP PROGRAMS

- **CEHD Strategic Research Awards**
  - Established in 2011
  - 11 recipients for 2016-2017
  - one-year graduate assistantship-research (GAR), allowing student to devote time to work with their advisors on high-impact research activities.

- **CEHD Graduate Merit Awards**
  - Established in 2016
  - 11 recipients for 2016-2017
  - Used to attract top graduate students who match the demographic character of Texas with a preference given to those who plan on entering the professoriate
  - Three year commitment at $25,000/year
  - Work as a Graduate Assistant-Research on a faculty project during the first year of their program with support from the Dean’s office. The supporting department or PI is then responsible for providing an assistantship or equivalent form of support for two (2) more years
  - Counting the tuition waiver, the three year award totals ~$100,000.
RESEARCH UPDATE
### Annual Budget $ (millions)

- 2012: $14
- 2013: $13
- 2014: $18
- 2015: $19
- 2016: $20

### New Award $ (millions)

- 2012: $5
- 2013: $25
- 2014: $15
- 2015: $10
- 2016: $10

### # Proposals submitted by CEHD Faculty in AY 2016: 195

[AY 2015: 132]

### % of TTF CEHD Faculty with Funding in AY 2016: 55%

[AY 2015: 68%]
RESEARCH AND DEVELOPMENT

- **Model pre-July 2016: Central administration of research via SRS + small College office**
  - Manages electronic system through which we must submit all grants and grants are tracked
  - Some pre-grant services for budget construction
  - All post-award activities are “self-serve” for faculty

- **Model July 1, 2016 forward: Expanded College R&D Office as supplement to SRS**
  - Expand number/skills of CEHD staff who can assist with pre-grant services
  - Provides centralized business staff for post-award activities (purchasing, payroll, travel, reconciliation)
  - Adding a grant proposal writer/grant opportunities “finder”
  - Adding one staff focused on outreach, dissemination of results, community/agency relations
  - **GOAL:** Relieve faculty PI’s of the “business” and “paperwork” of grants, allowing more focus on the science/scholarship and the next grant proposal
RESEARCH AND DEVELOPMENT TRANSITION PLAN

- **PHASE I**: finalize new hires, organize work flows in R&D office, optimize post-award business functions, planning for new R&D activities
- **PHASE II**: define role of CEHD Centers in IDC returns flow, implications for Center-affiliated and non-affiliated PI’s; build up outreach activities, grant writer functions, define role of center directors in boosting research
- **PHASE III**: build more pro-active interactions with program officers in federal funding agencies, important foundations, think through other “development” funding goals and organizations (e.g., summer camps, foundation grants, etc.)
Assoc. Dean for Research and Development: Sue Bloomfield  sbloom@tamu.edu

Asst. Director

Windy Hollis Turner, whollis@tamu.edu

Pre-Award Staff

Jesús Palomo, jpalomo@tamu.edu

[Grant Proposal Writer]

[2nd Pre-Award Staff]

[Outreach Coordinator]

[=Staff to be hired by 9/30]

Post-Award Business Staff

EAHR – Mary Seifert, mseifert@tamu.edu

EPSY – Clayton Holle**, cholle@tamu.edu

HLKN – Pam Parks, parksp@tamu.edu

TLAC – Wyatt Buchanan, wbuchanan@tamu.edu

**Head of R&D Business Staff
DEVELOPMENT UPDATE
Texas A&M Lead by Example National Campaign

- [http://leadbyexample.tamu.edu/](http://leadbyexample.tamu.edu/)
- Overall campus goal is $4.0 billion
- CEHD goal 32 million
  - Last campaign raised 20.7 million
  - Current total 21.5 million

Campaign ends 2020

67% of the way to goal

Raised 10.77 mil this year
## CEHD ENDOWMENTS AND GIVING
- **BY THE NUMBERS** -

### CEHD Giving by FY (July 1-June 30)

<table>
<thead>
<tr>
<th>Year</th>
<th>Giving amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$1,037,709</td>
</tr>
<tr>
<td>2013</td>
<td>$3,371,691</td>
</tr>
<tr>
<td>2014</td>
<td>$1,717,233</td>
</tr>
<tr>
<td>2015</td>
<td>$705,825</td>
</tr>
<tr>
<td>2016</td>
<td>$10,771,313</td>
</tr>
<tr>
<td>3-year average</td>
<td>$4,398,124</td>
</tr>
<tr>
<td>5-year average</td>
<td>$3,520,754</td>
</tr>
</tbody>
</table>

### CEHD Endowment Levels

#### Fiscal Year (July 1-June 30)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Scholarship and Grad. Fellowship Endowments</td>
<td>71</td>
<td>79</td>
<td>86</td>
<td>96</td>
</tr>
<tr>
<td># of Endowed Chairs</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td># of Faculty Fellowships</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>
OUR NEWEST ENDOWED SCHOLARSHIPS/FELLOWSHIPS  
(NOVEMBER 1, 2015-PRESENT)

- **Carolyn Lohman Endowed Scholarship**—benefitting students pursuing teacher certification who are low-income, first-generation college students

- **Mr. and Mrs. William Chapman Pena Endowed Scholarship Given by Dr. Sylvia P. Fernandez ’88**—benefitting students pursuing teacher certification who are low-income, first-generation college students

- **Dr. Sylvia P. Fernandez ‘88 Endowed Graduate Fellowship** (Dr. Sylvia ‘88 and Raul Fernandez ‘59)—benefitting students in SAAHE Graduate Program
Margaret K. “Margo” Dailey Endowed Scholarship (given by Patsy and Pat Kirksey ‘56)—benefitting students pursuing teacher certification

Dr. Adrien F. Drouilhet ‘64 Endowed Global Study Scholarship—benefitting students pursuing teacher certification in math/science to pursue a global study experience

Evelyn Jayne Mobley ‘85 Endowed Graduate Fellowship—benefitting students in graduate teacher certification program leading to M.Ed.

Murrah Family Endowed Scholarship (Tom ‘66 and Judy Murrah, Rex ‘70 and Judy Stewart)—benefitting students pursuing teacher certification

Dr. Bob ‘49 and Chris Williamson Endowed Scholarship—benefitting Texas high school graduates pursuing teacher certification
ADDITIONS TO ENDOWMENTS OR OTHER LARGE GIFTS ($25,000+)

- **Gordon ‘55 and Mary Gibson**- Gordon Family Camp LIFE
  Endowment

- **Anonymous Foundation**- unrestricted use at discretion of dean

- **Ellen and Rod Thornton**- gift to support graduate students
  providing assistance to the Coaching Academy

- **H. Malcolm Stewart ‘73**- H. Malcolm Stewart ‘73 Texas A&M
  University Coaching Academy Excellence Fund
NEW PLANNED/ESTATE GIFTS
NOVEMBER 1, 2015-PRESENT

- Nancy ‘74 and Jerry ‘73 Easterly Endowed Graduate Fellowship
- Elizabeth B. and Michael W. Taylor ’78 Endowed Global Study Abroad Scholarship
- Dr. Thomas “Tom” W. Adair, III ‘57 Texas A&M Coaching Academy Endowment (Drs. Tom ‘57 and Carolyn ‘69 Adair)
- Reta Haynes Endowed Dean’s Chair (includes $1 million match from TAMU)
- Endowed Chair in Statistics/Psychometrics (Anonymous donor-for Educational Psychology)
Let’s review the goals I laid out last fall
Leadership through innovation
- Tweak the ratio of TT to APT faculty
- Online expansion
- Research infrastructure to supplement SRS

How did we do?
- We hired 12 new TT faculty and 7 new APT faculty
- Moved our overall ratio of TT faculty to 50.9% from 50.7% last year. Approved hires for next year would bring us to 52.4%. Our long-term goal is 60% TT faculty.
- MS online expansion is an option for departments to focus their strategic funding for next year
- We have launched our new research infrastructure and are currently hiring to fill critical new positions.
Leadership for impact

- Scale up our research by identifying core areas of expertise for the college
- Think about the centers as core homes for scale-up opportunities
- Think through strategies for communicating our work
- Consider bold avenues for our work
  - School Enhancement Project (formerly Turnaround Schools)
  - Focus on Translational Research

Where are we at?

- Had a retreat last fall focused on identifying our core areas of expertise
- Holding the faculty retreat tomorrow to focus on our core areas of overlap in the “Quality of Life” impact area
- Phase 2 of the R&D plan involves thinking through the role of the centers as our innovation and impact centers
- We still need to consider the most effective ways to:
  - Communicate our work
  - Translate our work so that it can transform lives
MORE GOAL REVIEW: LEADERSHIP AS INFLUENCE

- Leadership as influence
  - Goal to become indispensable part of the fabric of A&M, the community, the state
  - Collaborative research grants
  - Collaborative outreach or training grants
  - Outreach for teacher and K-12 leader training
  - Outreach for policy support for the state

- How have we done?
  - Opened collaboration pathways with engineering and College of Science by partnering on the 100kin10 initiative (goal to train 100k STEM teachers in 10 years)
  - Begun discussions on multiple pathways to teaching at A&M (see more details below) with engineering and liberal arts
  - Had a successful leadership institute this spring for K-12 leaders, including those in the school enhancement program
  - Moving forward with partnerships
    - with Snook for enhancement planning
    - Spring ISD for full-year student teaching pilot and school enhancement program
  - But, we can do more…
HOW WILL WE KNOW IF WE HAVE MET OUR GOALS OF INNOVATION, IMPACT AND INFLUENCE?
WHERE ARE OUR COLLECTIVE AREAS OF IMPACT?
WHAT DO WE WANT TO BE KNOWN FOR?

Achieve Equity in Education and Health Outcomes

Improve Individual and Community Quality of Life

Advance Teaching and Learning

Develop Transformational Leaders

CEHD Impact
We can’t just stay in our boxes and expect to solve important problems

Big problems require bold solutions

Going to take multidisciplinary teams

Potential Solution:
- Adjust our internal grant competitions to support work on translational answers and in interdisciplinary teams
PRIORITY 1 FOR 2016-2017
INCREASE THE IMPACT OF OUR WORK

New R&D Structure

Goal: increase the number and/or size of grants that address important issues

Financial assistance for post-award so faculty can get to the science

New support staff, help finding grants

Assistance reconnecting with partners, districts about findings
PRIORITY 1
INCREASE IMPACT OF RESEARCH

Increase the translation of our work to the dining tables of America

Potential Solutions

Have training for faculty on how to write for The Conversation

Revisit faculty review procedures to increase incentives for public-facing scholarship

Have one time merit for highly cited public scholarship

What does social science say about how a female president might lead?

Alice H. Eagly, Northwestern University

Studies can't predict an individual's behavior. But meta-analyses of social science research tum up differences in men's versus women's leadership styles, on average.

Is misuse of prescription painkillers among youth athletes leading to heroin use?

Phil Veliz, University of Michigan

Media reports have suggested that many young athletes who become injured abuse prescription painkillers and may move to heroin. One of the first studies to look at this suggests otherwise.

* Two stories currently on The Conversation website
SOME FUN EXAMPLES
SUPPLEMENT DROPS MORTALITY RATE 50% POST-SURGERY

A recent clinical study conducted at the Center for Translational Research in Aging & Longevity showed that providing an oral nutritional supplement during and after hospital admission was associated with a 50 percent lower death rate in older, malnourished patients with heart and lung disease.

Under the direction of Dr. Nicolas Deutz, the study was one of the largest clinical studies of its kind. Conducted at over 70 different sites and with more than 600 malnourished patients over the ages of 65, it proved the necessity of proper nutrition during the recovery process.

“This study was set up by testing whether nutritional supplements reduced the chances patients were re-admitted to the hospital after treatment,” explained Dr. Deutz.

Throughout the study, Dr. Deutz’s primary goal was to reduce the incidence of death or non-elective readmission and determine just how critical nutrition is to a proper recovery.

“Malnourishment occurs when the body does not receive the nutrients it requires,” he said.

“When you’re healthy and you don’t eat enough, fat and muscle mass is lost. When you are sick however, your body actually needs more nutrients to recover and stay healthy.”

In order to aid and offset malnutrition, patients were given a nutritional supplement twice a day for 90 days after they were discharged from the hospital.

“We created a nutritional supplement that contained all of the best components you can think of – high quality protein, sufficient calories, vitamin D, and we added HMB, a component that has been shown to stop muscle loss,” Dr. Deutz said.

The study concluded that mortality rates are reduced 50 percent when following this protocol.

“Nutrition is a very cheap intervention in malnourished patients,” he said. “People should understand that not eating enough when sick could lead to serious consequences.”

Dr. Deutz’s continued research will transition further with the opening of the new Human Clinical Research Facility next year. There, he plans to conduct more clinical research that focuses on muscle loss prevention in the elderly.
HELPING OR HURTING? THE IMPACT OF TECHNOLOGY ON YOUR CHILDREN

For children in today’s society, technologies like smartphones and tablets are commonplace. In fact, children rely on technology for the majority of their play, spending up to eight hours each day with some sort of entertainment technology. The problem is, there is very little research on what impact these technologies have on children’s development.

A main concern about technology is the impact on a child’s fine and gross motor skills. Gross motor skills include the larger movements of the arms, legs and feet. They are involved in actions such as running, crawling and swimming. Fine motor skills involve smaller movements that happen in the wrists, hands, fingers and toes. Both skills work together to provide coordination.

“During early childhood a child needs fine motor, gross motor and physical activity. A parent should devote some time of the day or affordances in the home for the child to have that,” explained Dr. Carl Gabourd, director of the Child Motor Development Laboratory at Texas A&M. “You could argue that the iPad is beneficial for developing specific eye-hand and visual motor skills, but its value is limited. A parent needs to provide activities such as building blocks and puzzles to help with development.”

For years, the American Academy of Pediatrics (AAP) has been stressing the importance of limiting screen time for children. Current research suggests screen time should be avoided for children under 2 years of age while children over 2 years of age should be exposed to no more than two hours of screen time per day. It was also recently published that parents who use tablets or smartphones to entertain or distract their children could be harming that child’s social-emotional development.

Dr. Jeffrey Liew, professor of learning sciences, suggests parents use the technology to engage their child socially and verbally and then connect that technology to their visual and motor skills. He says it is important for parents to not just use the technology as a tool to keep their child busy.

“I think technology is like a lot of other objects in our environment. It’s about how we use the technology and whether we’re using it to enhance our children’s development or to hinder it.”

In the classroom, Dr. Liew sees a number of advantages to help keep students active, hands-on, engaged and empowered in their learning with technology.

“Technology can be used to promote social or peer interactions and to teach children social-emotional skills such as communication, sharing and cooperation. I have observed elementary grade students in a classroom where the teacher asked them to create a story, act it out and record it using a tablet. You could really see the students’ creativity and teamwork shine through.”

The benefits also extend to students with certain developmental disabilities. For example, children with autism spectrum disorder may find certain social settings overwhelming or overly stimulating. Using technology takes the overstimulation in terms of social interaction out of the equation.

“I think technologies can serve as both therapeutic and educational tools, depending on how they are designed and implemented,” explained Dr. Liew. “Assistive technologies and adaptive tools enable and empower children with special needs or disabilities to live, learn and achieve. Research that helps inform and improve the design and implementation of these technologies could change someone’s life for the better. It could transform lives.”

Dr. Liew and Dr. Gabourd both stress the importance of moderation and making sure children are engaged in other social activities and physical activity outside of everyday technologies. They are also calling for more developmental and educational research on best practices for technologies so they can be used to positively impact children’s learning and development.

“Mobile devices and technology could have a variety of benefits in early education, but parents’ and educators’ decisions about whether and when to integrate technologies into their homes or classrooms need to be guided by research and developmentally appropriate practices,” said Dr. Liew.
BRIDGING TREATMENT GAPS FOR MENTAL HEALTH PATIENTS

The TCC currently partners with five counties in the Brazos Valley including: Leon, Madison, Grimes, Washington, and Brazos. Dr. Elliott and his colleagues continue to work with other local and state mental institutions to expand the program through grants and contracts.

According to Dr. Elliott, a significant number of the patients seen in underserved rural areas fall under a lower socio-economic bracket. Therefore, service accessibility within counties is a significant part of the program.

Patients have the option to receive service in a variety of ways. Though many of the sessions are performed through videoconferences, additional services are offered.

“The bulk of our work is done point-to-point by a camera at a remote site or our camera at the TCC,” he said. “We also offer face to face services and also doc phone sessions.”

In this model, advanced doctoral students in the accredited counseling psychology doctoral program within the department, provide services to patients — working under the supervision of a licensed psychologist. This arrangement ensures a cost-efficient way to provide valuable mental health services to underserved areas, and it provides critical training experiences for the doctoral students.

According to Elliott, the Texas A&M counseling psychology program is the only accredited psychology doctoral program in the nation operating its own telepsychology clinic. A graduate of the program, Dr. Carly McCard, is the clinic director.

Because mental health care is often excluded from standard health plans, the outreach of the program treats an assortment of different patients.

“When people live in an area with little access to mental health facilities, it’s not unusual to see people with a series of chronic health problems,” he said. “We have seen problems ranging from depression, P.T.S.D., and trauma, accompanied by other indicators of poor health including diabetes, substance abuse and chronic pain.”

Dr. Elliott said the TCC benefits underserved communities and local governments by bridging the gaps for treatment.

“We’ve had people who were in such distress that they were suicidal,” he said. “Through our videoconferences, we are able to physically see patients and pay attention to their appearance and well being. This is beneficial because we can notify authorities an incident may occur. Addressing these crises in this manner also prevents additional costs accrued by services provided by police departments, state MHMR personnel, local emergency rooms, and psychiatric hospitalizations.”

Since the start of TCC, over two-dozen doctoral students have been trained in the program. The students measure differences in patients gaining insight and experience.

“Because we are a strong training program, we study the effectiveness of what we do,” he said. “We want to know who’s coming and who’s responding after a number of sessions. Students are involved in how to evaluate effectiveness in treating conditions and the overall effects of the services the clinic provides.”
PUSHING A PASSION: STEM IN ELEMENTARY SCHOOLS

A collaboration between professors from four colleges, including the College of Education and Human Development, is hoping to make a difference in the future of the STEM fields — science, technology, engineering and mathematics.

The project is part of a $1 million grant from the National Science Foundation, building on the national Maker’s Movement. 174 students from Neal Elementary’s 3rd, 4th and 5th grade classes participated during the fall semester.

Research has shown that children in those grades start losing interest in science. Dr. Lynn M. Barthlow, professor of culture, curriculum and instruction, says, combined with the 4th grade slump — the idea that 4th graders no longer learn to read, they need to learn — the idea is very concerning. This project’s goal is to get those students excited about science again by not just teaching skills, but having them complete tasks using those skills.

Dr. Barthlow and his colleagues worked with teachers and the administration at Neal Elementary to align activities with the district’s curriculum.

“The whole idea is that they are learning science, language arts and writing,” said Dr. Barthlow. “The thought is that, over a period of three years, their language will improve so they are no longer just talking about the light bulb; they are talking about the LED — using more scientific language.”

The hope is that, by engaging these students in these activities now, they will have a passion for the STEM field for the rest of their lives.

“If you believe in them and let them do it, you’d be surprised by what they can accomplish,” said Janaika Collins, principal of Neal Elementary. “My personal mission is for all students to leave here with a life plan. We promote self-efficacy and tell them there is nothing they can’t accomplish by exposing them to new learning experiences.”

During the spring semester, researchers met with the students once a week, each six weeks to work on these projects. Students worked with circuits to build eight projects including volcanoes, melting and even a cup robot.

Professors in the Department of Teaching, Learning and Culture are collaborating with professors in the College of Architecture, College of Liberal Arts and College of Engineering on this research. The expected outcome is that, over the course of three years, the students will see themselves as able to have an impact in the STEM field while also improving their writing skills and self-confidence.

“For our kids, it’s going to change things in the future and meet future needs, particularly through STEM, we’re going to have to have people who think they are capable of doing that,” said Dr. Barthlow.

The Obama Administration has also recognized that need and has set a clear priority for STEM education. According to the Department of Education website, “within a decade, American students must move from the middle to the top of the pack in science and math.” President Obama has called on the nation to develop 100,000 STEM teachers during that time and he wants an additional one million students to graduate college with STEM majors.

For Dr. Barthlow, the push starts in the early elementary grades with projects like Making the Maker. “We know that going out and recruiting juniors and seniors in high school to go into STEM fields is kind of foolish in that they have to begin learning the science and math in upper elementary or middle grades,” said Dr. Barthlow. “They’re not going to be prepared to do it in college and they can’t afford two years of remedial work to get where they need to be as freshmen. If we get those younger kids involved, they will start to see themselves fitting into the STEM field in college.”
GET A WHIFF OF THIS! USING SCENT TO HELP DEMENTIA PATIENTS

More than five million Americans are living with some form of dementia and one in nine people age 65 and older has Alzheimer’s disease. While researchers have not found a cure for dementia, one professor in the Department of Health and Kinesiology at Texas A&M University is using her service learning project to help slow down the progress for a group of dementia patients in College Station.

Dr. Christine Tsione, professor of health education, started the memory care project at The Waterford at College Station as part of her human disease class three years ago. For the first year of the project, she had her students volunteer to take part. She said the feedback was so incredible, she made the project mandatory for all of her students each semester.

“100 percent of the students, in a formal evaluation and reflection assignment they have to do after their experience, have reported it to be a positive experience in terms of personal growth and satisfaction,” said Dr. Tsione. “There are always many comments about how good it feels to spend two hours focusing on others instead of on their own relatively minor problems.”

Students in Dr. Tsione’s class spend two hours twice a week interacting with patients at The Waterford, engaging them in evidence-based memory care activities. One group of students works with patients whose memory issues are not as severe playing bingo and doing life story interviews. The second group works with patients in the memory care unit who have a more severe level of dementia for scent painting.

Research has shown that there is a strong association with memory and the sense of smell. One reason is the way the brain processes odors and memories. Smells are routed through the olfactory bulb which is the smell analyzing region in the brain. It is closely connected to the amygdala and hippocampus, which handle memory and emotion. Visual, sound and touch information does not pass through these brain areas.

Dr. Tsione’s scent painting activity involves mixing spices with water to make watercolor paints with the hope that the scents will bring back memories for the patients. Students are trained to elicit conversation based on reactions to those smells.

“We’re doing this in the memory care unit where their dementia is a little worse, but a lot of them are still able to comment on those smells to recall memories based on those smells. It starts conversations,” explained Dr. Tsione. “The most important thing for memory care is interactions with other people.”

“We were able to paint one of the resident’s name and a flower and then use that to talk about her kids and their names and the types of flowers she enjoys most. I think the company and the activity truly made her day much better and helped with her memory recall,” explained Myriam Fillion, a senior health major.

While dementia is not reversible, Dr. Tsione believes the activity is making a positive impact on the patients and potentially slowing down the progress of dementia. She has seen patients become more talkative and able to recall more about their past than before the project started three years ago. Family members have also commented to Dr. Tsione about the fact that their loved ones seem more alert and less anxious than before.

“I feel like we’re making a long-term impact here and giving hundreds of students each year the opportunity to be part of it,” explained Dr. Tsione. “A lot of my students have come back to volunteer on their own after doing this. It doesn’t take long to bond with a particular person or maybe just the feel of this place.”

One of Dr. Tsione’s students who participated in the project had already planned to continue her education and become a registered nurse. However, this project convinced her to specialize in gerontology/memories care.

“This project made me realize that I had a special gift when it comes to working with Alzheimer’s and dementia patients,” explained Colin Coleman. “I was very calm and at ease while interacting with the patients, and I was able to communicate therapeutically with them when other students were not as comfortable with doing so.”
PRIORITY 2: 2016-2017
A TRANSFORMATIONAL LEARNING EXPERIENCE FOR ALL OUR STUDENTS

Goal: A large university that feels small
PRIORITY 2: TRANSFORMATIONAL LEARNING

Keep Debt Down

- Our majors typically don’t make enough money when they graduate to take on large amounts of debt
- A focus of our fundraising
  - Tuition Scholarships
  - Global Study Abroad Scholarships

Personal Connections

- Access for every student to small group experiences with faculty
  - study abroad
  - undergraduate research experiences
  - small faculty-led seminars
  - internships
  - Learning communities or living/learning communities
- High quality advising and support for our students
  - Expanded our advising staff to keep our advisor/student ratio under the national recommendation
  - Added a transfer advisor/enrollment management staff
  - Added a staff focused on assessment and high impact practices to help us integrate these practices into how we think about education

Tuition Scholarships
Global Study Abroad Scholarships
PRIORITY 2: TRANSFORMATIONAL LEARNING

World Class Learning

- Well-taught courses, effective pedagogy
- Investments in quality online instruction
- Foster critical thinking and reflection
- Set high standards and support students to meet them

Why?

Employers are in broad agreement on college learning outcomes for all students, regardless of their chosen field of study.

<table>
<thead>
<tr>
<th>Agreement among employers with statements about aims of college learning regardless of student’s chosen field of study</th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Students/total agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All college students should have educational experiences that teach them how to solve problems with people whose views are different from their own</td>
<td>86%</td>
<td>96%</td>
<td>94%</td>
</tr>
<tr>
<td>All college students should gain an understanding of democratic institutions and values</td>
<td>32%</td>
<td>57%</td>
<td>80%</td>
</tr>
<tr>
<td>Every college student should take courses that build the civic knowledge, skills, and judgment essential for contributing to our democratic society</td>
<td>33%</td>
<td>86%</td>
<td>80%</td>
</tr>
<tr>
<td>Every college student should acquire broad knowledge in the liberal arts and sciences</td>
<td>29%</td>
<td>78%</td>
<td>83%</td>
</tr>
<tr>
<td>All college students should gain intercultural skills and an understanding of societies and countries outside the United States</td>
<td>29%</td>
<td>78%</td>
<td>87%</td>
</tr>
</tbody>
</table>
HOW DO WE HELP STUDENTS ACHIEVE THESE ESSENTIAL LEARNING OUTCOMES?

- Through experiences that
  - Allow students to grapple with big questions
  - Pose progressively more challenging problems and projects
  - Support involvement in diverse communities and real world challenges
  - Push students to demonstrate knowledge and skills in new settings and with complex problems

1. First Year Seminars
2. Learning Communities
3. Writing-Intensive Courses
4. Undergraduate Research
5. Diversity/Global Learning
6. Service Learning
7. Internships
8. Capstone Courses
PRIORITY 3:
PRODUCE MORE TEACHERS FOR THE STATE OF TEXAS

First Time in College
- Scholarships
- Cadet teaching programs
- Signing days with partner districts

Transfer Students
- Already have the passion
- Make it easy
- Consider two year scholarships

Other A&M majors
- Science – Aggie Teach
- Liberal Arts – working on it
- Engineering – working on 4+1 option with multidisciplinary engineering degree

Summer Camps
- Reach back to middle and high school
- Integrate information about coming to college
- Add information about our majors
THE NEXT YEAR

- Create specific goals we want to accomplish within each transformational impact area
  - Fall retreat scheduled for “Quality of Life” impact
- Continue our work with the School Enhancement Program and other outreach projects that increase the impact of our work
- Launch another round of Catapult grants to seed the multidisciplinary work
- Think together about faculty supports to encourage translational work/public-facing scholarship and the integration of transformative learning experiences
- Create a working group to examine the best balance of faculty representations on our various CEHD committees
We will continue to influence the conversation about the importance of our majors for society

They truly do Transform Lives