

*Dr. Todd Fernandez*

Wallace H. Coulter Department of Biomedical Engineering  
Georgia Institute of Technology  
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also develop mindsets that enable them to be curious and entrepreneurial and to see how the mindsets they developed in the course will carry forward into future endeavors.

Dr. Fernandez has produced 8 peer-reviewed journal articles, a book chapter, and 12 conference presentations, including several publications in the *Journal of Engineering Education*, a well-respected journal with an impact factor well above the median for others in its category. Dr. Fernandez has also provided leadership and made major contributions to grants that have brought i o improve engineering education. This work has led to curricular change and instructional transformation in the School of Biomedical Engineering (BME), including introducing two new courses in BME and major revisions of 9 additional BME courses. In addition, Dr. Fernandez helped create 3 courses and revise 10 courses in another 3 Engineering departments at Georgia Tech.

Dr. Fernandez has created a number of faculty development workshops which he presented at Georgia Tech and national conferences to support colleagues in implementing evidence-based teaching approaches. He has also been invited to lead discussions during school retreats and institute-wide workshops, supporting the professional development of his colleagues as educators. In addition, he has served as a mentor and coach to several of his colleagues, supporting them in implementing research-based teaching innovations.

Dr. Fernandez has been recognized for these efforts through multiple awards, including the Georgia Tech Scholarship of Teaching and Learning Award, Georgia Tech Undergraduate Educator Award, and the Best Paper Award at the Association of Engineering Education conference.

In summary, Dr. Fernandez's intellectual curiosity, scholarly production, translation into teaching practice, and contributions to educational development at Georgia Tech and beyond

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Condensed Curriculum Vitae

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2018 Lecturer - Wallace H. Coulter Department

Georgia Insti

2017-2018 Visiting Asst. Professor - Office of Cross

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(GXFDWLRQ

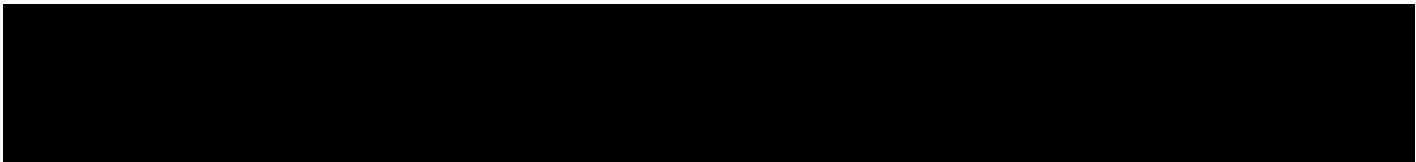
22 Ph.D. in Engineering - Purdue U

20 Master of Mechanical - Rochester Inst

20 Bachelor of Mechanical - Rochester Inl o



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G YER SFR W QHLQ HUQI KXFNRO \$(( \$Q Q XBR QUGH ([SR WR  
3X HU ù )HGDQ GH7 7DFK QJ DQ GV W/VH2 WUWULHV KVDYQHLQ Q RAY-DK QN Q J  
,((( U RIBUWQ IG XDFVQR QUGH),( = ,(((  
)HGD D QHG7 0 QOB&RX W K R \*LV R Q '0 + RI FQQ 6 'HYD



Teaching Philosophy, Educational Questions, and  
My approach to SoTL is as a mindset, meaning I  
inseparable (Boyer, 1990) describes SoTL as a form of research. However,  
from (KRODUO\WHDFKQJ) advocate for Boyer's point  
SoTL and value as a form of research. However,  
teaching as inseparable because they amplify each

My mindset, and my goal, is to always begin and  
termination of path to better learning. My teach  
well as an understanding of learning deeply gro  
linking my teaching to a scholarly process that  
ones I develop for my courses. That pairing not  
continuously refine an evidence-based approach  
criteria of SoTL: (1) inquiry focused on student  
sound, (4) done in partnership with students, and  
research into course activities and then evaluate  
work. To explain further, it is useful for me to

I approach learning as a constructed process -  
process, not passive (Bain, 2001), what some  
given point is defined by what they already know  
Vygotsky, My role in that learning is aided by  
happens, I must ensure that new ideas are appro  
misconceptions (Bos, 2002) but learning theories  
frameworks for creating educational interventions  
constructive, rather (Cherret-Haas, 2018) take the per  
designing learning processes rather than individual  
(Kolb & Kharb, 2009) & Terry, 1993

At this point, half a page into a teaching phil  
you (or I) want to read. So, rather than more e  
integrate scholarly teaching and SoTL products

5HIOHFWLRQ ± D QHHG D JRDO DQG D SURFHVV

My scholarly work on reflection focuses on reflective practice  
development. How do reflective practices contribute to learning  
was the central theme of the author's research.

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Evidence of impact

This section is broken into two parts, reflecting philosophy. Those sections are each broken into learning practices on student learning and a section on teaching and learning in engineering education. The following are general examples related to evidence-based improvement in evidence-based teaching and learning in engineering education.

5HIOHFWLRQ

,PSDFW RQ OHDUQLQJ

x 7RGG OLWHUDOO\ FKDQJHG P\ YLHZ QRW RQO\ RI P\ HGXFDFWLYH  
HYHU\ SURIHVVURU ZRXOG ZLWK D IRFXV RQ QIRWUHQSHDQQG  
IRU PDNLQJ PLVWDNHV RQ WKH KRPHZRUN KHOSHG PH WR E  
, MXVW WIGLXJKWDIRSKGWLKHKH SXW RQ UHDO ZRUOG DSSOLFD  
WpKQIJKEDFN WAFNQRQRQS °€ , MXP  
'H °™` 0± 3GKR3E D Â D D E f 5 G

UCW& àG•K R °™` p0

ppB  
pHWP  
p0  
W Q  
W• p



Prototype - you need to create some form of p  
REYLRXVO\ \RX FDQ¶W LQFOXGH WKDW SURWRW\SH LQ WKH  
R what question you hoped to answer by testi  
Ra description of how you tested your proto  
Revidence (e. g., a picture) that shows you  
Ra summary of what you learned about your p

x The course design in my stats course focuses  
statistical ~~and data~~ **process** of conceptual change t  
that data have inherent meaning - which is ad  
which students collect themselves, throughout

x Gray, C. & Fernandez, T. (2018). Developing a Transdisciplinary, Why We Learn Design. RXUQDO RI (Q340H#U6Q). In this paper, we describe how students approach Design theory highlights the usefulness of understanding the potential limits of user knowledge. However

VWXGHQW H[SHULHQFH NQRZOHGJH LQWR WKH FODVVURRP

scholarly resources and examples of best practice component and to include involvement with SoT.

x I chaired our 2022-2023 lecturer search, which was for the Biomedical Engineering Department. For the search, we used a transparent and equitable evaluation of teaching and use of educational best practices. The rubric was designed to blind candidates of potential sources of information.

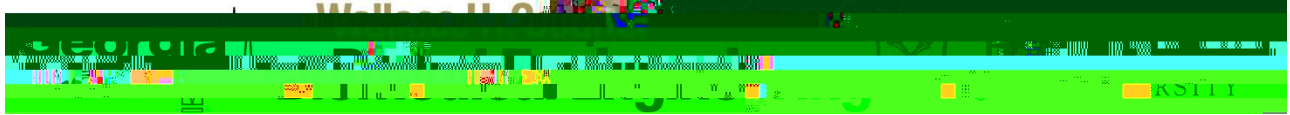
(YLGHQFH RI ,PSDFW /LVW RI &RXUVH 6SHFLILF ([DPSOHV 3U  
)HUQDQGH]

Dear Scholarship of Teaching and Learning Award Review Committee,

I have known Todd Fernandez for about five years as a fellow lecturer in the Biomedical Engineering Department at Georgia Tech. As soon as Todd joined the department, his passion to bring a more scholarly, evidence-based, and research-driven approach to teaching in our department was immediately evident. Since then, he has taken on a number of difficult and influential roles related to how BME  
DSSURDFKHV WHDFKL QSSOLGHVWMBURPDQJ and student-centered approach to the classes he teaches and those he helps others teach that truly makes a difference.

An example of systematic and well-articulated approach to teaching is his contributions to the curricular change in our department through a grant from the Kern Engineering Entrepreneurship Network. There, Todd worked with a number of faculty to bring research-based teaching into all aspects of our courses. Topics that Todd coached us through include some basic topics such as how to incorporate self-reflections and drive self-directed learning in open

Letters of support from colleagues



November 10, 2023

Selection Committee  
Regents' Scholarship of Teaching and Learning A  
USG Office of Academic Affairs

Dear Members of the Selection Committee,

It is with great pleasure that I perform the honor of writing  
6FKRODUVKLS RI 7HDFKLQJ DGG/HDDQD \$ZDUGCoulter  
Engineering as a Lecturer in 2018. He was hired  
effort to innovate undergraduate engineering ed  
teacher who uses evidence-based practices, as a  
and as a mentor of faculty teams creating curri  
of each of those areas of work have had a notal  
our departments' undergraduate educational inno

Todd has displayed his teaching excellence in t  
is BMED1000 WURGXFWLRQ WR %LRPHGLFDO (QJLQH HURQJ opme  
introduction into our required curriculum, and  
development of that course is driven by evidenc  
design courses and first year course in general  
ePortfolios. Those ePortfolios are now used in  
thanks to Todd's efforts at faculty developmen  
BMED1000 on preparing students for later classe  
course has had on the faculty who teach, DWUR.GXFWLRQ  
WR %LRPHGLFDO (QJLQH HURQJ 6WDWLVWLFLYR graduate sta  
the course in Spring of 2019, Todd has become th  
advice, and teaching. Todd has developed cours  
engineering contexts, and other innovations dra  
to continue to develop the course in ways that  
study he conducted in Spring of 2022 that evalu  
paper under review with the American Society fo  
in preparation fRURQSDURR 6WDWLVWLFLYR 'DWD 6FLHG

Beyond being a scholarly teacher and publishing  
fundamental education research and translation  
His CV highlights the consistent pattern of pul  
reflection, faculty development, and students'  
two journal articles pRURRPSURRHHWKH2022GHFVhed f  
consequences of efforts to formalize and improv  
second KH i, QWHUQDWLRQDO -RXUQ,DOARRA(QJLQH HURQJ (GXFWLRQ  
understand design education in the context of e  
in changes in three of our four required under  
publications, Todd brings a perspective to ou  
understanding and approach to teaching in ways  
new courses to syllabi to ABET.



Toddah helped major the literature on the subject of the  
College of Engineering at the University of North Carolina  
to meet the needs of the state of North Carolina.