### Christopher A. Candelaria

Contact Department of Leadership, Policy, and Organizations Office: (615) 322-0722

Information Peabody College, Vanderbilt University E-mail: chris.candelaria@vanderbilt.edu

PMB 414 Website: chriscandelaria.com

230 Appleton Place X/Twitter: @chriscandel Nashville, TN 37203-5721 Bluesky: @chriscandelaria.com

ACADEMIC Assistant Professor of Public Policy and Education

Stanford University, Stanford, CA

Appointment Vanderbilt University, 2016–Present.

Specialization Teacher Labor Markets and Teacher Quality, Education Finance Policy, Federal and State Accountability,

Areas Causal Methods in Quantitative Research

- Ph.D., Economics of Education and Education Policy, June 2016

Certificate in Quantitative Research Methods

- M.A., Economics, June 2014 Coursework: Graduate Econometrics, Microeconomics, Labor Economics, and Public Finance

- B.A., Economics, June 2006 Minor in Mathematics

2022–24 Seeding Success Grant, Office of the Vice Provost for Research at Vanderbilt University.
[Awarded \$20,006]

2021–24 Co-PI, National Science Foundation: "Developing the STEM Workforce: Career Pathways of Math and Science Teachers in Texas and Washington" (PI: David Knight, University of Washington; Co-PIs Min Sun and Ana Elfers, University of Washington, and David DeMatthews, University of Texas at Austin). [Subcontract of \$199,970 on \$1.5 million total award]

2021 Co-PI, Gates Foundation & Tennessee Education Research Alliance: "Understanding and Addressing Teacher Shortages in Tennessee" (PI: Matt Kraft, Brown University). [Awarded \$8,382]

2021–22 Co-PI, William T. Grant Foundation, Major Research Grant: Reducing Inequality. "Reducing Inequality through School Finance Reform: Understanding the Mechanisms and Outcomes" (PI: Min Sun, University of Washington; Co-PIs David Knight and Marge Plecki, University of Washington). [Subcontract of \$42,920 on \$249,475 total award]

Principal Investigator, William T. Grant Foundation, Officers' Research Grant: Reducing Inequality. "Rethinking School Budgets: Principals' Resource Allocation Decisions and the Promise of Equity." [\$44,471]

2018–23 Corsortium PI and Co-Investigator, National Institutes of Health (NICHD R01). "Education and Transition to Adulthood" (PI: Andrew Penner, University of California, Irvine). [Subcontract of \$107,004 on \$3.22 million total award]

2017–18 Principal Investigator, Tennessee Education Research Alliance Small Grant (sponsored by Peabody College). "Longer-term teacher effects on student achievement." [Awarded \$13,060]

**EDUCATION** 

Updated: January 3, 2024

#### FELLOWSHIPS AND AWARDS

- 2022 Outstanding Reviewer Award for *Educational Researcher*. Presented by American Educational Research Association.
- 2021 Outstanding Reviewer Award for *Educational Researcher*. Presented by American Educational Research Association.
- 2020–21 Vanderbilt Strong Funding. Awarded \$3,446 to support research and teaching during the COVID-19 Pandemic.
- 2019 Outstanding Reviewer Award for *Educational Researcher*. Presented by American Educational Research Association.
- 2018–19 Provost Research Studio. Awarded \$4,000 to host scholars from other institutions at Vanderbilt for a discussion of school finance research.
- 2017–18 Vanderbilt Junior Faculty Teaching Fellow. Awarded \$2,000 in research funds.
- 2016–17 Emerging Education Policy Scholar Program (Cohort 6): AEI and Fordham Institute.

#### JOURNAL PUBLICATIONS

- Key: 
  ightharpoonup indicates a current or former student coauthor with whom the majority of collaboration took place while they were a student.
- 9. Edwards, D. S., Kraft, M. A., ▶ Christian, A., & Candelaria, C. A. "Teacher Shortages: A Unifying Framework for Understanding and Predicting Vacancies." Conditionally accepted at *Educational Evaluation and Policy Analysis*.
- 8. Sun, M., Candelaria, C. A., Knight, D., ►LeClair, Z., Kabourek, S. E. & ►Chang, K. T-C. (2024) "The Effects and Local Implementation of School Finance Reforms on Teacher Salary, Hiring, and Turnover." Educational Evaluation and Policy Analysis. DOI: 10.3102/01623737231213880.
- 7. Shores, K. A., Candelaria, C. A., & ►Kabourek, S. (2023) "Spending More on the Poor? A Comprehensive Summary of State-Specific Responses to School Finance Reforms from 1990–2014." Education Finance and Policy, 18(3): 395-422. DOI:10.1162/edfp\_a\_00360.
- 6. Knight, D. S., Hassairi, N., Candelaria, C. A., Sun, M., & Plecki, M. L. (2022). "Prioritizing School Finance Equity during an Economic Downturn: Recommendations for State Policymakers." Education Finance and Policy. DOI: 10.1162/edfp\_a\_00356
- 5. Shores, K. A. & Candelaria, C. A. (2020). "Get Real! Inflation Adjustments of Educational Finance Data." *Educational Researcher*, 49(1). DOI: 10.3102/0013189X19890338.
- 4. Candelaria, C. A. & Shores, K. A. (2019). "Court-Ordered Finance Reforms in the Adequacy Era: Heterogeneous Causal Effects and Sensitivity." *Education Finance and Policy*, 14(1). DOI: 10.1162/EDFP a 00236.
- 3. Caballero, J., Candelaria, C. A., & Hale, G. B. (2018) "Bank Linkages and International Trade." Journal of International Economics, 115: 30–47. DOI: 10.1016/j.jinteco.2018.08.006.
- 2. Whitney, C. R. & Candelaria, C. A. (2017). "The Effects of No Child Left Behind on Children's Socioemotional Outcomes." AERA Open, 3(3): 1–21. DOI: 10.1177/2332858417726324.
- 1. Candelaria, C. A., Daly, M. C., & Hale, G. B. (2015). "Persistence of Regional Wage Differences in China." *Pacific Economic Review*, 20(3): 365–387. DOI: 10.1111/1468-0106.12113.

#### Manuscripts Under Review

Key: 
ightharpoonup indicates a current or former student coauthor with whom the majority of collaboration took place while they were a student.

- 2. Candelaria, C. A., Fazlul, I., Koedel, C., & Shores, K. A. "Weighting for Progressivity? An Analysis of Implicit Tradeoffs Associated with Weighted Student Funding in Tennessee." Available as EdWorkingPaper: 23-871. DOI: 10.26300/k6n0-nv14. Under Review at Education Finance and Policy.
- ►McNeill, S. M., & Candelaria, C. A. "Paying for School Finance Reforms: Assessing How States
  Fund Increases in Elementary-Secondary Education Spending." Available as an EdWorkingPaper:
  24-892. https://edworkingpapers.com/ai24-892. Revised and Resubmitted at American Educational
  Research Journal.

## Manuscripts in Progress

- Key: 
  ightharpoonup indicates a current or former student coauthor with whom the majority of collaboration took place while they were a student.
- 10. Candelaria, C. A., ▶Crutchfield, A., & ▶McGill, D. G. "The Impact of Additional Funding and Principal Flexibility on Student Outcomes: Evidence from an Urban District using Weighted Student Funding and Site Based Budgeting"
- 9. Candelaria, C. A., ►McNeil S. M., Shores, K. A., & ►Snipes, J. K. "What is a School Finance Reform? Uncovering the ubiquity and diversity of school finance reforms."
- 8. Candelaria, C. A., Sun, M., Knight, D., Kabourek, S., Almasi, P., & ►Liu, A. "School Finance Reform Implementation and Impacts on Resource Allocation and Student Outcomes: A Case Study of Funding Formula Changes in Washington State."
- 7. Knight, D., Candelaria, C. A., Sun, M., Almasi, P., Kabourek, S., & ►Liu, A. "More for the Wealthy? Unintended Consequences of Court-Mandated School Finance Reforms."
- 6. Candelaria, C. A., ▶Crutchfield, A., ▶McGill, D. G., ▶Brown, K. A., & Springer, M. G. "Rethinking School Budgets: Weighted-Student Funding, Principals' Resource Allocation Decisions, and the Promise of Equity."
- 5. Candelaria, C. A., ►Shimozaki, K. K., Shores, K. A., Knight, D. S. "State School Funding Equity: Considering the Role of Spending and Poverty Measures."
- 4. Candelaria, C. A., ▶Nienstedt, L., ▶Ainsworth, A., ▶Penner, E. K., & ▶Liu, Y. "Should They Pay, or Should I go? Differential Responses to Base Salary Increases."
- 3. Candelaria, C. A. & ►Moyer, A. G. "Homeowners' Preferences for Equity-Driven School Funding Reform: Evidence from Washington State."
- 2. Candelaria, C. A., ►Shimozaki, K. K., ►Chen, J., & ►Angileri, S. "Principal Spending in Covid: Examining Resource Allocation Priorities."
- 1. ►Cox, A., Goldring, E., & Candelaria, C. A. "Private practice contract teachers: Labor markets and a changing teaching profession."

## OTHER PUBLICATIONS

- 5. Loeb, S. & Candelaria, C. A. (2012). "How stable are value-added estimates across years, subjects, and student groups?" The Carnegie Knowledge Network.
- Candelaria, C. A., Lopez, J. A., & Spiegel, M. M. (2011). "Bond Currency Denomination and the Yen Carry Trade." In Yin-Wong Cheung and Guonan Ma (Eds.), Asia and the China in the Global Economy, Singapore: World Scientific, Chapter 9, pp. 245-282. DOI: 10.1142/9789814335270\_0009.
- 3. Caballero, J., Candelaria, C. A., & Hale, G. B. (2009). "Bank Relationships and the Depth of the Current Economic Crisis." FRBSF Economic Letter 2009-38.
- 2. Candelaria, C. A., Daly, M. C. & Hale, G. B. (2009). "Interprovincial Inequality in China." FRBSF Economic Letter 2009-13.
- 1. Candelaria, C. A. & Hale, G. B. (2008). "Did Large Recalls of Chinese Consumer Goods Lower U.S. Imports from China?" FRBSF Economic Letter: 2008-17.

## SOFTWARE & PROGRAMS

1. Candelaria, C. A., & Shores (2019). "CPIGET: Stata module to construct an annual CPI series based on a user-specified fiscal-year time span." Statistical Software Components S458682, Boston College Department of Economics. Note: This module should be installed from within Stata by typing "ssc install cpiget". The module is made available under terms of the GPL v3 (https://www.gnu.org/licenses/gpl-3.0.txt).

# INVITED PRESENTATIONS & WORKSHOPS

- 2023 ▷ Presentation of School Finance Research in Washington State at New York University, Steinhardt School of Culture, Education, and Human Development on November 27, 2023. Institute of Education Sciences Predoctoral Interdisciplinary Research Training Program (IES-PIRT) Seminar Series.
- 2022 ▷ "The Effects and Local Implementation of School Finance Reforms on Teacher Salary, Hiring, and Turnover." Presented at University of Pennsylvania, Graduate School of Education on November 30, 2022. Joint work with Min Sun, David Knight, Zach LeClair, Sarah Kabourek, and Katherine Chang.
  - ▶ Presentation to the North Carolina State Board of Education on April 7, 2022. Board session title: "Planning to Achieve Greatness—Practices of Promise: Exploring Resource Allocation."
  - ► "The Effects and Local Implementation of School Finance Reforms on Teacher Salary, Hiring, and Turnover." Presented at Brown University: Annenberg Seminars on Educational Policy on March 9, 2022. Link to event details: https://tinyurl.com/candelaria-annenberg-20220309. Joint work with Min Sun, David Knight, Zach LeClair, Sarah Kabourek, and Katherine Chang.
- 2021 ▷ Partnering in Education Research (PIER) Public Seminar Series, Center for Education Policy Research at Harvard University. Presentation on school finance research. Link to recorded presentation: https://youtu.be/OM3vpx2fJvQ.
- $2020 \, \triangleright \,$  Teacher Value-Added Modeling Workshop. Two-day online workshop given at College of Education, University of California, Irvine.
- 2017 ▷ "School Finance Reforms Are Not Created Equally: State-Specific Responses to Courtand Legislative-Reforms from 1990–2014." Joint work with Sarah Kabourek and Kenneth A. Shores. Presented at Michigan State University.

#### Conference Presentations

- 2024 ▷ "Principal Spending in Covid: Examining Resource Allocation Priorities." Joint work with Kenton Shimozaki, Jingyi Chen, and Samuel Angileri. Paper presented at AEFP annual conference.
  - ➣ "Should They Pay, or Should I Go? Differential Responses to Base Salary Increases." Joint work with Liliane Nienstedt, Aaron Ainsworth, Emily Penner, and Yujia Liu. Paper presented at AEFP annual conference.
  - ▶ "Private practice contract teachers: Labor markets and a changing teaching profession." Joint work with Angela Cox and Ellen Goldring. Poster presented at AEFP annual conference.
- 2023 ▷ "School Finance Reform Implementation and Impacts on Resource Allocation: A Case Study of Funding Formula Changes in Washington State." Joint work with Min Sun, David S. Knight, Alex Liu, Sarah Kabourek, and Pooya Almasi. Paper presented at APPAM annual conference.

- ▷ "E. S. S. E. R. 2.0 Allocation Priorities: A School-Level, Intra-District Perspective." Joint work with Kenton K. Shimozaki. Paper presented at APPAM annual conference.
- ▷ "Principal resource allocation decision-making under school-based budgeting." Joint work with Dillon McGill, Kevin Brown, and Angelique Crutchfield. Paper presented at AEFP annual conference.
- ▶ "Homeowners' Preferences for Equity-Driven School Funding Reform: Evidence from Washington State." Joint work with Anna Moyer. Paper presented at AEFP annual conference.
- ➣ "More for the Wealthy? Unintended Consequences of Court-Mandated School Finance Reforms." Joint work with David S. Knight, Min Sun, Pooya Almasi, Sarah Kabourek, and Alex Liu. Paper presented at AEFP annual conference.
- ▶ "Practical Measurement of School Spending Progressivity: Using Census Poverty Estimates with School District Fiscal Data." Joint work with Kenton K. Shimozaki and Kenneth A. Shores. Poster presented at AEFP annual conference.
- ▶ "School Finance Reform Implementation and Impacts on Resource Allocation: A Case Study of Funding Formula Changes in Washington State." Joint work with Min Sun, David S. Knight, Alex Liu, Sarah Kabourek, and Pooya Almasi. Paper presented at AEFP annual conference.
- 2022 ▷ "What Is a School Finance Reform? Uncovering the Ubiquity and Diversity of State Involvement in Elementary-Secondary Education Funding." Joint work with Shelby M. McNeill and Kenneth Shores. Paper presented at APPAM annual conference.
  - ➣ "Teacher Shortages: A Unifying Framework for Understanding and Predicting Vacancies." Joint work with Danielle S. Edwards, Matthew A. Kraft, and Alvin Christian. Paper presented at APPAM annual conference.
- 2021 ▷ "Rethinking School Budgets: Principals' Resource Allocation Decisions and the Promise of Equity." Joint work with Angelique Crutchfield and Matthew G. Springer. Paper presented at AEFP annual conference.
  - ➤ "Assessing the Impact of Washington State's McCleary School Finance Reforms on the Distribution of Teacher Salaries." Joint work with Min Sun, David S. Knight, Zach Leclair, Sarah Kabourek, and Katherine Chang. Paper presented at AEFP annual conference.
  - ▷ "Prioritizing School Finance Equity during an Economic Downturn: Recommendations for State Policymakers." Joint work with David S. Knight, Nail Hassairi, Min Sun, and Margaret L. Plecki. Paper presented at AEFP annual conference.
- 2020 ▷ "Long-Term Progressivity in Educational Spending: Description and Causes of Variation among States." Joint work with Kenneth A. Shores, Elinor Williams, and Shelby McNeill. Paper presented at AEFP annual conference.
  - ▷ "Student-Based Budgeting: A Case Study in Metro Nashville Public Schools." Joint work with Angelique Crutchfield and Matthew G. Springer. Poster presented at AEFP annual conference.
- 2019 ▷ "Spending More on the Poor? A Comprehensive Summary of State-Specific Responses to School Finance Reforms from 1990–2014." Joint work with Kenneth Shores and Sarah Kabourek. Paper presented at SREE annual conference.

- ▶ "Medium-term Teacher Effects on Student Achievement." Joint work with Brendan Bartanen. Paper presented at AEFP annual conference and APPAM annual conference.
- 2018 ▷ "School Finance Reforms Are Not Created Equally: State-Specific Responses to Courtand Legislative-Reforms from 1990–2014." Joint work with Sarah Kabourek and Kenneth A. Shores. Paper presented at AEFP annual conference.
- 2017 ▷ "Waivers, Accountability, and School Reform: Evidence from Georgia." Joint work with Michael L. Crouch and Thomas S. Dee. Paper presented at AEFP annual conference.
- 2016 ▷ "The Sensitivity of Causal Estimates from Court-Ordered Finance Reform on Spending and Graduation Rates." Joint work with Kenneth A. Shores. Paper presented at the AEFP annual conference.
- 2015 ▷ "Rethinking Teacher Effects on Student Achievement." Paper presented at the AEFP annual conference.
- 2014 ▷ "The Persistence of Value-Added for Teachers of Special Education Students." Presented research results at the *Unpacking Value-Added Measures of Teacher Performance:*Implications for Disadvantaged Students and the Parents and Teachers Who Support Them symposium at the AERA annual conference.
  - ➣ "Whole-School Reforms under NCLB Waivers: Evidence from Indiana and Oklahoma." Joint work with Thomas S. Dee, Steven W. Hemelt, and Brian A. Jacob. Paper presented at the AEFP annual conference.
- 2013 ▷ "Who Matters for Student Achievement: Examining the Impact of NCLB on School Staff." Poster presented at the AERA annual conference.
  - "Who Matters for Student Achievement: Examining the Impact of NCLB on School Staff." Paper presented at the AEFP annual conference.

#### TEACHING EXPERIENCE

ELP 8210: Resource Allocation and Deployment. Peabody College, Vanderbilt University (Summer 2018, 2019, 2020, 2021, 2022, 2024). This course covers resource allocation issues for lower and higher education, public and private education, and United States and overseas education. "Resource," in this context principally, but not exclusively, refers to financial resource. The purpose of this course is to introduce participants to the means by which answers can be framed for questions such as: Who pays for education? Who goes to school, and who benefits from schooling? How much does education cost? How can resources be used to influence the trajectory of an organization? And how can resources for education be spent more efficiently? Additionally, the course is intended to enable participants to gain and enhance analytic and information gathering skills related to education finance and resource allocation.

LPO 8851: Regression Analysis I. Peabody College, Vanderbilt University (Spring 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024). The goal of this Ph.D.-level course is to develop an understanding of regression analysis. Topics covered include the simple linear regression model, interval estimation and hypothesis tests on regression parameters, prediction, multiple regression, omitted variable bias, multicollinearity, joint tests of significance, regression with indicator variables, and estimation of limited dependent variable models. Students also gain experience using the software program Stata as a means to estimate regressions.

HODE 3225: Introduction to Public Finance of Education. Peabody College, Vanderbilt University

(Spring 2017, 2018, 2019, 2020, 2021, 2024). This undergraduate-level course provides a foundation of knowledge for the economics of the public sector. Then the course examines economic models to explain real world government policymaking with a specific focus on education policy.

EDP-6140: Economics of Education/Education Policy. Peabody College, Vanderbilt University (Fall 2016, 2017, 2018, 2020). This M.P.P.-level course focuses on problems of the American educational system. The goals of the course are to study what economists have said about the problems of American education and to understand (and use) economic tools of analysis.

EDUC 255C: Applied Quasi-Experimental Research in Education. Teaching Assistant for Dr. Sean F. Reardon. Stanford University 2014. Fielded student inquiries, held office hours, prepared and lead weekly discussion sections, taught advanced Stata techniques, and graded problem sets.

Stanford Graduate School of Education Math Camp. Co-Founder, Coordinator and Instructor. Stanford University 2012, 2013, 2014, and 2015. Taught a review of pre-calculus, calculus, probability theory, statistics, regression, matrix algebra, and Stata to incoming graduate students at the Stanford Graduate School of Education. Developed lecture review notes and problem sets.

#### Advising

#### Current Doctoral Advisees

• Kenton Shimozaki (Primary Adviser)

#### Dissertation Committees

- Angelique Crutchfield (Primary Adviser and Dissertation Committee Chair, Defended November 2023)
- Michael Crouch (Primary Adviser and Dissertation Committee Chair, Defended September 2023)
- Shelby McNeill (Primary Adviser and Dissertation Committee Chair, Defended March 2022)
- Sara E. Kabourek (Dissertation Committee, Defended July 11, 2019)
- Sy Doan (Dissertation Committee, Defended July 8, 2019)
- Brendan Bartanen (Dissertation Committee, Defended May 20, 2019)
- Adam Kho (Dissertation Committee, Defended June 28, 2018)
- Tuan D. Nguyen (Dissertation Committee Co-Chair, Defended April 2, 2018)

#### Undergraduate Advising

• Total Undergraduate Students: 19

#### Professional Experience

#### Center for Education Policy Analysis, Stanford, CA

Project Manager

August 2015–July 2016

Manage the design and implementation of a large-scale randomized text-messaging experiment. Collaborate with partner organizations and co-principal investigators Susanna Loeb and Benjamin N. York.

Graduate Student Researcher

September 2010-June 2016

Produce academic research, participate in student seminars, and collaborate on projects with faculty members and other graduate students.

#### San Francisco Federal Reserve Bank, San Francisco, CA

Economic Research Associate

June 2006-June 2010

Managed multiple research and policy based projects for three economists; assisted with econometric

analyses and data management. Participated directly in economic research by coauthoring economic letters and papers with economists. Prepared briefing materials and assisted with special topics for the Federal Open Market Committee meetings. Fact checked speeches for Dr. Janet Yellen, former President and CEO of the Federal Reserve Bank of San Francisco.

SERVICE

Editorial Board

Educational Researcher: 2018–19 to Present

#### Professional Organizations

- AEFP Program Committee: School Finance Section Chair, 2022 Spring Conference
- APPAM Program Committee: Education Policy Section Chair, 2022 Fall Conference

#### Reviewer

AERA Open; Economics of Education Review; Education Finance and Policy; Educational Assessment Evaluation and Accountability; Educational Evaluation and Policy Analysis; Educational Researcher; Journal of Labor Economics; Journal of Policy Analysis and Management; National Tax Journal; Review of Economics and Statistics

#### $Departmental\ Service$

- Faculty Search Committee Member for Education Leadership: 2021–22
- Leadership, Policy, and Organizations Colloquium Co-Organizer: 2017–18, 2019–20, 2020–21
- Ph.D.-level admissions committee: 2017–18, 2019–20
- MPP admissions committee: 2019–20, 2020–21, 2021-22
- ELP admissions committee: 2020-21, 2021-22, 2022-23, 2023-24

#### College and University Service

 Advanced Computing Center for Research and Education (ACCRE): Faculty Advisory Board Member: 2020–21 to Present

#### Professional Memberships

American Economic Association (AEA)

American Education Research Association (AERA)

Association for Education Finance and Policy (AEFP)

Association for Public Policy Analysis and Management (APPAM)

Society for Research in Educational Effectiveness (SREE)