




ROBIN TERRELL TAYLOR

CURRICULUM VITAE

CONTACT

 robin@rtresconsulting.com

 (865) 236-1409

 www.rtresconsulting.com

SKILLS/EXPERIENCE

Program evaluation, project management, statistical analyses, qualitative analyses, data visualization, survey development, research design, technical report writing, psychometrics and measurement

COMPUTER LITERACY

Proficiency: Microsoft Office Suite, SPSS, Qualtrics, Google Forms, R, Zoho Survey

Experience: Tableau, Winsteps, JMP, MPlus, SAS, NCSS, NOVI Survey, Survey Monkey, Frontpage, Adobe Acrobat Professional, SQL, Google Sites, Relational databases

PROFESSIONAL EXPERIENCE

RTRES Consulting: Research, Evaluation and Statistical Consulting
Principal & Senior Evaluator | 2018 – present

UTK's National Institute for STEM Evaluation and Research (NISER) at the National Institute for Mathematics and Biological Synthesis (NIMBioS)
Postdoctoral Fellow | 2016 – 2018

Oak Ridge Associated Universities (ORAU), Assessment & Evaluation
Evaluation Specialist IV, Project Manager | 2015 – 2016
Postdoctoral Fellow | 2014 – 2015

External Evaluator, Central State University, OH
Independent contractor | 2010 – 2012

Auburn University's Office of Diversity & Multicultural Affairs (ODMA)
Analyst / Graduate Assistant | 2010 – 2012
Diversity Analyst, Planning and Assessment | 2006 – 2010

Auburn University's College of Education, EFLT
Research Associate II | 2004 – 2006

Tennessee Valley Authority (TVA)
Internship, TVA Corporate University | 2003

EDUCATION

Doctor of Philosophy
Auburn University | May 2012
Educational Psychology, Educational Research Methods & Analysis

Master of Science
University of Tennessee, Knoxville (UTK) | May 2004
Applied Statistics

Bachelor of Science
Mississippi State University | May 2002
Mathematics

Associate of Arts
Mississippi Gulf Coast Community College | May 2000



Helping STEM programs grow
through data driven evidence

TEACHING EXPERIENCE

University of Tennessee, Knoxville, TN
Adjunct Faculty | 2013 – 2014, 2022
Graduate Teaching Assistant | 2002 – 2004

Auburn University, Auburn, AL
Adjunct Faculty – Distance Education | 2012 – 2014
Adjunct Faculty – Distance Education | 2019

Mississippi State University, Starkville, MS
Adjunct Faculty – Distance Education | 2013 – 2014

COURSES TAUGHT

Introduction to Business Statistics
Statistics in Applied Fields I
Educational and Psychological Statistics
Design & Analysis I

DETAILS OF PROFESSIONAL EXPERIENCE



Assists clients with their research, evaluation, statistics, data visualization, and/or measurement needs. Services include: Evaluation planning/mapping, instrumentation development (e.g., surveys, focus group/interview protocols, observation rubrics), data collection, data analyses (quantitative and qualitative methods), data visualization, and reporting (e.g., presentations, written reports, data reports, etc.).

Proposal Development. Provided support to numerous proposal submission opportunities, including submissions to NSF, Hewlett-Foundation, USDA, and NIH.

Bates College/Hewlett Foundation Launching the RIOS Institute. Supported evaluation efforts for the planning and establishment of the Institute for Racially Just, Inclusive and Open STEM Education (RIOS).

RLOE Network. Manage the external evaluation of the Regional Leaders for Open Education (RLOE) Network funded through an ECMC Foundation grant.

Alabama ADVANCE Partnership for Achieving Gender Equity in STEM. Supporting evaluation of the ADVANCE partnership across the University of Alabama, Birmingham; University of Alabama, Huntsville; Alabama A&M University, Miles College, and Oakwood University, (NSF Award #1933739)

Maine Maritime Academy SRI Validation. Exploring the reliability and validity of the revised student rating instrument, as well as using statistical analyses to explore relationships across SRI scores and characteristics of instructors and courses.

Cornell University Active Learning Initiative. Manage the external evaluation of the Cornell University's Active Learning Research Study funded through an NSF IUSE grant, (NSF Award #2021094).

Hardeman County / Lone Oaks Summer Program. Serve as external evaluator to understand experience and outcomes of K-8 students participating in a summer program to reinforce math, ELA, and science objectives with science being offered outdoors at UTK's Lone Oaks Farm.

ORAU. Supported data analyses for ORAU's Assessment and Evaluation team.

RCN-UBE Incubator: Network for an Open and Accessible Biology Education: The Promise of Equity and the Challenge of Sustainability. Supported IRB approval, created evaluation instruments, attended summit and provided data and network analysis and reporting for project PIs. (NSF Award #1919879)

QUBES Data Visualization and Network Analysis. Queried QUBES user data to understand characteristics of registered users and conduct social network analysis to understand relationships across QUBES members and groups.

SIMIODE User Survey. Co-developed user survey to understand user experience and satisfaction with the Systemic Initiative for Modeling Investigations & Opportunities with Differential Equations (SIMIODE). Administered survey, completed data analysis/data visualization, and provided report to Director.

Developing a Precision Agriculture Workforce Ladder through Secondary, College and Incumbent Worker Education that Integrates Emerging Technologies and Farm Data. Supported IRB submission for data collection approval. Utilized program documentation, interviews, meetings, site visit and student surveys to support evaluation of year 2 activities. Edited and created surveys to support data collection activities across numerous stakeholder groups (high school students, high school teachers, community college students, and incumbent worker trainings). Provided analyses and reports. Evaluation report prepared for Northeast Community College, Norfolk, NE. (NSF Award #1700680)

Bates College/Hewlett Foundation Evaluation of OEP/S-JEDI grant. Support evaluation efforts (IRB approval, instrument development, data collection, analysis, and reporting) of a Hewlett-Foundation grant to support open education practices, social justice, equity, diversity and inclusivity (S-JEDI) efforts of the SCORE network.

Bates College/QUBES EDSIN OEC Fellows Program. Conducted interviews to provide findings of participants experiences within the EDSIN-QUBES Open Education Community (OEC) Fellows program.

Bates College - Calling Bull Study. Study to explore the relationships for students' perceptions of OER, efficacy across course constructs, course achievements and demographic characteristics of students.

UTIA/TDA Produce Safety. Supported the evaluation of Produce Safety workshops conducted during year 3, computed metrics for workshop test data from year 2, and produced reports to support project efforts.

Penn State: Clearinghouse for Military Readiness. Gave a 2-day presentation "Program Evaluation for DoD Event Planners" for DoD's Yellow Ribbon Reintegration Program.

UTIA/TDA Produce Safety. Supported the evaluation of Produce Safety workshops conducted during year 3, computed metrics for workshop test data from year 2, and produced reports to support project efforts.



Assisted with the development and validation of the BCCI. Provided evaluation support across multiple projects.

Bio-Calculus Concept Inventory (QBCI). Provided psychometric input for the continued development and validation of the BCCI. Analyses included Rasch analysis, item difficulty, item discrimination, standard error of measurement, and reliability analyses. (NSF Award #1544375)

NIMBioS Evaluation. Administered surveys using Qualtrics for multiple NIMBioS events including working groups, tutorials, workshops, and education/outreach activities – created data visualization summary reports. Culled data needed for annual reporting from AdNIMB database. Reports prepared for NIMBioS, University of Tennessee, Knoxville. (NSF Award # 1300426)

Appalachian Students Promoting the Integration of Research in Education (ASPIRE) Program. Utilized program documentation, interviews, and meetings to support evaluation of year 1 activities. Created survey to assess families' attitudes towards students' transition to college. Report prepared for University of Tennessee, Knoxville. (NSF Awards #1643393 and 1643402)

Possibilities in Postsecondary Education and Science (PiPES) for Rural Appalachian Youth. Analyzed pre/post survey data, completed qualitative analyses, and utilized program documentation and student surveys to summarize findings for the third PiPES summer camp. (NIH SEPA: R25OD020231)

NSF INCLUDES Conference on Multi-Scale Evaluation in STEM Education. Supported analyses and data visualization of survey findings from conference participants. (NSF Award #1650390)

Blackwell-Tapia. Analyzed attendance and survey data for the 2016 Blackwell-Tapia conference. Report prepared for Alfred P. Sloan Foundation. (Grant No: G-2015-14145)

REU Site: Advanced Materials for Energy and Sensing Applications at UTK. Provided data summary reports at pre- and mid program for the 2016 UTK Chemistry REU program. Administered post-surveys, analyzed data (pre/post) for participants and mentors, helped conduct a focus group and interview, created data visualizations, and prepared reports. Reports prepared for University of Tennessee, Knoxville. (NSF Award #1262767)

Building Capacity for the Recruitment and Retention of Students in Forestry Multicultural Scholars Program (MSP). Supported IRB submission for the University of Tennessee's College of Agriculture Sciences and Natural Resources MSP to 1) support the evaluation design, and 2) identify data collection instruments for the project. (USDA Grant No. 2016-38413-25270)



Provided project management and evaluation support for a portfolio of workforce development programs (managed by ORAU/ORISE) and STEM education programs, including:

Safety Culture Survey. Provided psychometric input for the continued development and validation of a safety culture survey to assess safety culture of the nuclear power industry.

NSF ITEST Western New York (WNY) Genetics in Research Partnership: Expanding Exposure, Career Exploration and Interactive Projects in Basic Genome Analysis and Bioinformatics. Modified and coordinated the administration of pre- and post-surveys for teachers and students including: obtaining IRB approval, consent, data entry using Remark Office, and additional post- and follow-up surveys administered for teachers. Biweekly conference calls with project personnel. Data summary of eligible schools in the Erie Niagara and rural recruitment area. Reports prepared for University at Buffalo, NY. (NSF Award # 1311902)

NIH SEPA Western New York Genetics in Research and Healthcare Partnership. WNY Genetics in Research and Healthcare Partnership: Expanding Exposure, Career Exploration and Interactive Projects in Basic Genome Analysis and Bioinformatics. Modified and coordinated the administration of pre- and post-surveys for teachers and students (including obtaining IRB approval, consent, data entry using Remark Office, and additional post and follow-up surveys administered to teachers.) Biweekly conference calls with project personnel. Data summary of eligible schools in the Erie Niagara and rural recruitment area. Reports prepared for University at Buffalo, NY. Progress report and report prepared for University at Buffalo, NY. (NIH SEPA: R25OD10536-1 A1)

NRT Aeroecology as a Test-bed for Interdisciplinary STEM Training. Supported the proposal submission, evaluation design, creation of interview protocols, and conducting interviews across project leadership/University of Oklahoma (OU) administrators for OU's NRT award. (NSF Award #1545261)

Oak Ridge National Laboratories (ORNL) Science Education Programs (SEP). Used ORAU's APSS database system to cull data on SEP participants at ORNL to summarize demographics and merge data across participants' pre- and post-survey data. Analyzed data, created data visualizations, and pulled highlights. Supported creation of a survey for ORNL mentors and survey analyses. Reports prepared for ORNL, Oak Ridge, TN.

National Energy Technology Laboratory (NETL) SEP. Provided analysis and reporting support for 2014 and 2015 participants in science education programs at DOE'S NETL. Reports prepared for DOE NETL, Pittsburgh, PA.

Department of Energy (DOE) Scholars Program. Developed/modified surveys for participants of the DOE Scholar's Program, data analyses and reporting. Report prepared for ORAU, Oak Ridge, TN.

Mickey Leland Energy Fellowship (MLEF). Provided support for modifying/administering MLEF participant and mentor surveys, data analyses, quality control checks, and reporting. Report prepared for the DOE's Office of Fossil Energy, Washington, D.C.

Appalachian Regional Commission (ARC)/ORAU Oak Ridge Summer Science Academy. Helped modify surveys and provided training to ORAU staff to analyze construct scales using a pre-post design. Created consent forms and survey administration guidelines.

Advanced Manufacturing Workforce Development Program. Supported the evaluation design, created data collection instruments, pre-post analyses, and conducted a focus group with students. Report prepared for ORAU, Oak Ridge, TN.

Oak Ridge Leadership Computing Facility (OLCF). Support for analyzing and visually summarizing data from the 2015 OLCF User Survey data. Report prepared for ORNL's OLCF, Oak Ridge, TN.

ORAU Extreme Classroom Makeover (ECM) Contest. Modified and administered student and teacher surveys for 2014 and 2015 ECM award winners (NOVI and hard copies), analyzed data, and conducted teacher/administrator interviews. Reports prepared for ORAU, Oak Ridge, TN.

Follow-up Study with Department of Homeland Security (DHS) Scholarship and Fellowship Program. Helped develop follow-up survey for past participants of the DHS Scholarship & Fellowship program, cleaned and merged survey data, analyzed data, and prepared reports. Report prepared for the U.S. DHS, Washington, D.C.

TN STEM Leadership Academy (TSLA). Supported the final year evaluation of a 3-year professional development program for teachers/administrators. Report prepared for the State of Tennessee Department of Education, Nashville, TN.

REU Site: Computational Science for Undergraduate Research Experience (CSURE). Analyzed pre- and post CISE REU A La Carte survey data collected from participants of the 2014 CSURE REU. Report prepared for University of Tennessee, Knoxville. (NSF Award #1262937)

Oak Ridge Robotics Academy (ORRA). Conducted pre-post analyses of participants' data for week-long ORRA academy. Report prepared for ORAU, Oak Ridge, TN.



Provided quantitative and qualitative data related to programs and training within the Office of Diversity and Multicultural Affairs (ODMA); developed and maintained systems to measure, track, and report on diversity initiatives; analyzed data, trends, and impacts of diversity initiatives and programs; identified risks, opportunities and barriers to their success; and provided reports and feedback on progress, milestones, success and opportunities for improvements of diversity programs and initiatives. Supported evaluation efforts for multiple NSF programs.

Strategic Diversity Plan. Tracked progress on goals, tactics, and initiatives of Auburn University's Strategic Diversity Plan and reported progress on annual basis. Provided support for the collection and development of strategic diversity plans across university colleges and ODMA units. Reports prepared for Auburn University, Auburn, AL.

Knight's Case Reporting. Coordinated data collection efforts as part of the Knight's Case settlement that required Auburn to report the racial composition data of students, faculty, and administrators at AU.

Just Be F.A.I.R. Train the Trainer. Analyzed survey responses for Auburn's Just Be F.A.I.R training. Report prepared for AU's Office of Human Resources.

ODMA Events. Collaborated with staff across ODMA units (e.g., Education Opportunity Research Center (EORC), Women's Initiatives, Access and Community Initiatives, and the Multicultural Center) to track diversity initiatives. Developed event-specific surveys, entered/analyzed data, and prepared reports. Reports prepared for ODMA, Auburn, AL.

Trend data. Utilized institutional research data and external data sources to explore diversity trends for AU applicants and enrollees and compared to high school graduates across the state. Explored faculty composition across colleges/departments with respect to earned doctorates across STEM disciplines. Reports prepared for Auburn University's Diversity Council and college/department leadership, Auburn University, AL.

Collaborative Research: Alabama Alliance for Students with Disabilities. Provided evaluation plan and logic model for grant submission and helped complete IRB. Coordinated the collection of institutional data across multiple schools (i.e., Auburn University, Alabama State University, Tuskegee University, Southern Union State Community College, and Central Alabama Community College). Created data collection instruments using Adobe professional to track benchmarks necessary for PDMS reporting. Reports prepared for Auburn University, Tuskegee University, and Alabama State University, AL (NSF Awards #0929268, 0929248, 0929276)

President's Graduate Opportunity Program (PGOP). Used historical documents to provide a statistical summary of graduate students who received PGOP funding. Report prepared for Office of the Provost, Auburn University, AL.

Summer Enrichment Experience (SEE). Created/administered surveys, pre-post data analyses, and prepared reports. Reports prepared for ODMA, Auburn University, AL.

Provost Leadership Undergraduate Scholarship (PLUS). Coordinated application review, ranked applicants based on reviewer scores (resolving discrepancies); created and administered student surveys, created tracking forms for project staff, pulled student data using Banner system, merged data across multiple sources (i.e., surveys, attendance, and institutional data), pre-post data analyses, and reporting. Reports prepared for ODMA, Auburn University, AL.

Track I: GK-12 Fellows in Science and Mathematics for East Alabama Schools. Supported the evaluation of the GK-12 grant through development and administration of fellow, teacher, and student surveys; entered hard copy surveys using Remark Office, analyzed fellow journal entries, conducted focus groups, interviews, and pre-post analyses, and prepared reports. Reports prepared for Auburn University, AL. (NSF Award #0538434)

ADVANCE Partnership for Adaptation, Implementation, and Dissemination: SEM Transformation through "Small Wins". Supported evaluation of ADVANCE project, used data from institutional research to summarize indicator data needed for reporting. Report prepared for Auburn University, AL. (NSF Award #0620000)

Alliance for Graduate Education & Professoriate (AGEP). Compiled institutional research data on categories for underrepresented STEM PhD recipients and postdocs across STEM disciplines.

Louis Stokes Alliance for Minority Participation Bridge to the Doctorate. Facilitated data collection needed for Macro International, Inc. to track graduate degree completion and career focus for Bridge to the Doctorate recipients. (NSF Award #0830898)



Assisted faculty members in the analyses and reporting of student retention and academic performance for the Samuel Ginn College of Engineering as well as assisted in the evaluation of two external grants: Alabama Department of Public Health Abstinence Education Program and the Alabama Unified Prevention Systems Program.

Bellsouth Minority Engineering Program. Worked with program director to develop data collection instruments (i.e., attendance tracking across program components) and analyzed data to create reports to demonstrate the preparedness, performance and retention of students within the program. Reports prepared for Auburn University's Samuel Ginn College of Engineering, Bellsouth Minority Engineering Program, Auburn, AL.

Samuel Ginn College of Engineering. Helped create longitudinal reports for the college using institutional data and survey data completed by incoming freshmen that explored admission and enrollment trends of the college, graduation rates, and predictors for academic success. Annual reports prepared for Auburn University's Samuel Ginn College of Engineering, Auburn, AL.

Alabama Unified Prevention Systems Program. Entered data, conducted analyses, data visualizations, and prepared reports for grant aimed to educate (middle school students) on drug and prevention.

DISSERTATION / JOURNAL PUBLICATIONS / TECHNICAL REPORTS

- Taylor, R. T.**, Bishop, P. B., Lenhart, S. Gross, L., & Sturner, K. (2020). Development of the BioCalculus Assessment (BCA). *CBE Life Sciences Education*, 19(6), 1-12.
- Taylor, R. T.** (2012). Review of the Motivated Strategies for Learning Questionnaire (MSLQ) using reliability generalization techniques to assess scale reliability (Order No. 3520489, Auburn University). ProQuest Dissertations and Theses, 183.
- Jenda, O., **Taylor, R. T.**, & McCullough, B. (2010). Auburn University Staff Needs Assessment Survey Results: Office of Diversity and Multicultural Affairs and Human Resources. Auburn, AL: Auburn University.
- Witte, M., Jones, P., Guarino, A., Wang, S., & **Taylor, R. T.** (2008). Developing female engineers' leadership skills. *Academic Exchange Quarterly*, 12(2).
- Taylor, R. T.**, Sollie, D., Montoya, A., & Birmingham, R. (2008). The Case for Child Care at Higher Education Institutions and Child Care Needs of Auburn University Employees: 2007 Survey Results. Auburn, AL: Auburn University.
- Taylor, R. T.**, & Jenda, O. (2008). Office of Diversity and Multicultural Affairs Participation Survey: Perceptions of Auburn Minority Faculty. Auburn, AL: Auburn University.

CONFERENCE PROCEEDINGS

- Taylor, R. T.** (2021, February). Evaluation as a tool for assessing the effectiveness of teaching interventions. Online presentation given at the SIMIODE Expo 2021.
- Martin, A. M., Burr, E. M., & **Taylor, R. T.** (2018, November). Project management tools, tips, and tricks in a STEM education context. Roundtable presentation at the 32nd Annual Conference of the American Evaluation Association, Cleveland, OH.
- Taylor, R. T.**, Bishop, P. B., & Kidder, K. E. (2017, November). Concept inventories as an evaluator's tool for measuring knowledge within STEM subjects – lessons from the development of the Quantitative Biology Concept Inventory (QBCI). Skill-building workshop at the 31st Annual Conference of the American Evaluation Association, Washington, D.C.
- Bishop, P. B., & **Taylor, R. T.** (2017, November). Factors influencing productivity in interdisciplinary team science groups: The role of diversity. Paper presented at the 31st Annual National Conference of the American Evaluation Association, Washington, D.C.
- Kidder, K. E., **Taylor, R. T.**, LoRe, S. M. (2017, November). Survey creation: Enhancing evaluation practices by incorporating a mixed methods design. Poster presented at the Annual National Conference of the American Evaluation Association, Washington, D.C.
- LoRe, S. M., & **Taylor, R. T.** (2017, November). Evaluating social media impact: Experiential learning in a social media evaluation plan for maximum engagement. Experiential learning presentation at the 31st Annual National Conference of the American Evaluation Association, Washington, D.C.
- Bishop, P. B., Gross, L., Lenhart, S., Sturner, K., & **Taylor, R. T.** (2017). Assessing impacts on student learning in mathematics from inclusion of biological, real-world examples: Development of the Quantitative Biology Concept Inventory (QBCI). Poster presented at the Howard Hughes Medical Institute Constellation Studios Meeting for Undergraduate Biology Education, Annapolis, MD.
- Gross, L., Lenhart, S., **Taylor, R. T.**, Bishop, P., & Sturner, K. (2017). Undergraduate data science: Biological connections and assessing impacts. Paper presented at the annual meeting of the Ecological Society of America, Portland, OR.
- Jenda, O., McCullough, B., & **Taylor, R. T.** (2010, June). Strategic diversity planning to effect institutional change. Presentation given at the Annual National Conference on Race & Ethnicity in American Higher Education, Baltimore, MD.

- Jenda, O., McCullough, B., & **Taylor, R. T.** (2010, June). Strategic diversity planning to effect institutional change. Presentation given at the Retention 2010 Conference, Chicago, IL.
- Jenda, O., Sollie, D., Dillworth, P., **Taylor, R. T.**, Montoya, A., & Birmingham, R. (2009, May). Joint programming efforts which promote retention and supportive academic environments for underrepresented students. Paper presented at the Annual National Conference on Race & Ethnicity in American Higher Education, Orlando, FL.
- Taylor, R. T.**, & Jenda, O. (2009, June). Strategic planning and program implementation. Presentation given at the Retention 2009 Conference, New Orleans, LA.
- Taylor, R. T.**, Holland, F., & Jenda, O. (2008, February). GK-12 Fellows in Sciences & Mathematics for East Alabama Schools. Poster session presented at the annual meeting of the NSF GK-12, Washington, DC.
- Taylor, R. T.** (2008). Collaborative teaching partnership: Graduate students and high school math and science teachers. Paper presented at the Annual Conference of the Mid-South Educational Research Association, Knoxville TN.
- Taylor, R. T.**, & Jenda, O. (2008). Strategic diversity plan (SDP): The impact on institutional change. Presentation given at the Retention 2008 Conference, San Diego, CA.
- Holland, F., **Taylor, R. T.**, & Jenda, O. (2007, March). GK-12 Fellows in Sciences and Mathematics for East Alabama Schools. Poster presented at the annual meeting of the NSF GK-12, Washington, DC.
- Scott-Harris, S., **Taylor, R. T.**, Halpin, G., & Halpin, G. (2006). Special programs for minorities: A key to overcoming barriers to collegiate success. Paper presented at the Annual Conference of the Mid-South Educational Research Association, Birmingham, AL.
- Halpin, G., Halpin, G., McDonough, S., & **Taylor, R. T.** (2006, April). Abstinence: A key to the future for adolescents? Paper presented at the Annual Conference of the American Educational Research Association, San Francisco, CA.
- McDonough, S., Halpin, G., Halpin, G., & **Taylor, R. T.** (2006, April). Identifying community capacity: An evaluation of a funding selection process. Paper presented at the Annual Conference of the American Educational Research Association, San Francisco, CA.
- Taylor, R. T.**, Halpin, G., & Halpin, G. (2006, March). Mentoring minority students within higher education. Paper presented at the Annual Conference of the Louisiana Educational Research Association, Lafayette, LA.