



### **Ph.D. Program in Education**

We prepare leading scholars and educators who engage in research focused on needs of students from linguistic and cultural groups that have historically not fared well in U.S. public schools. To achieve this, our innovative, integrative program applies methodological tools and academic perspectives from a range of disciplines, including psychology, anthropology, sociology, philosophy, linguistics, and cognitive science. At the same time, it integrates research and theoretical analysis with the practices of classroom teaching and school reform, and provides research experiences in K-12 classrooms with diverse student populations. In reflecting the growing awareness that education must be studied in sociocultural contexts that reflect the increasing diversity of today's society, coursework and apprenticeship experiences focus on the following topics:

- Diversity as a value in education
- Equity issues in learning and teaching
- Language learning as it emerges through social interactions
- Ways that language and culture are implicated in learning and teaching
- Cognitive studies of learning and teaching in content areas such as mathematics, science, and reading
- The larger forces, social structures, and institutions in which teaching and learning are embedded

### **Program Features**

- An apprenticeship and immersion model: students join existing research and teaching projects early because we believe that graduate students learn best by working alongside faculty and researchers not just by learning about research and education.
- Incoming students choose one or two of our five concentrations:
  - Social and Cultural Contexts of Education
  - Learning and Teaching
  - Teachers and Teacher Development
  - Language, Literacy, and Culture
  - Mathematics and Science Education
- Explicit focus on equity, social change, and issues of culture in education
- Deep examination of the social structures and histories, language contours, and institutions in which learning, teaching, and education policy are embedded
- Our program provides a sequence of coursework and apprenticeships followed by dissertation research and writing. Expected time of completion is approximately 6 yrs, although exact time varies.
- Full-time study expected until student passes Qualifying Examinations (usually during yr 3 or 4)
- Small cohorts (10 students max. admitted per year)

### **Program Concentrations**

These concentrations are fluid, with permeable boundaries and overlapping resources. The interdisciplinary nature of our program encourages students to move among concentrations as they take courses and develop research related to both their own interests and the interests of the professors in our program. It is expected that by the time of graduation, students will have developed expertise in one or two of these concentrations.

### **Social and Cultural Contexts of Education**

We take an expanded view of education that focuses on children and youth within both community and school settings and that attends to the complex interrelations between schooling and the social, cultural, historical, political, and economic contexts within which schools operate. Drawing from disciplinary and transdisciplinary methodologies, our macro-level focus bridges research, policy, and practices in order to understand how children's experiences in schools and communities shape their educational, social, economic, and political opportunities. Our work includes attention to the dynamics of globalization and the ways in which migration and immigration impact children's opportunities to learn and to participate in society.

### **Learning and Teaching**

Recognizing that learning takes place outside as well as inside classrooms, and in groups of peers as well as when experts assist novices, we focus on understanding how learning is enabled by the resources of persons and artifacts available in the situations in which people engage jointly in activities and interaction. From this socio-cultural perspective, we explore how parents, teachers and other educators organize and support learning opportunities. We particularly encourage an inquiry orientation on the part of both learners and teachers and a dialogic approach to the co-construction of knowledge and exploration of its implications for effective and responsible action.

### **Teachers and Teacher Development**

We focus on multiple, often overlapping research and practice topics related to teachers, teacher education, and teacher development such as the histories, contexts, and workforce contours of teaching and teachers; the lives, work, and careers of teachers from entry to retirement; university and alternative teacher preparation programs and practices; teacher assessment and accountability; and the varied roles of teachers in school reform and education policy.

### **Language, Literacy, and Culture**

We believe that teaching, learning and schooling are always mediated by language practices. From fine-grained looks at talk and language practices to larger examinations of socio-political and historical contexts, this concentration considers multiple dimensions of language and literacy in educational settings. Particular domains include bilingualism, language policy, reading and writing instruction, vocabulary, academic language, sociolinguistics and first/second language acquisition. Our goal is to prepare researchers, teachers and educational leaders who are simultaneously equipped and committed to leveraging the power of language and literacy in service of a more democratic society inside and outside schools.

### **Mathematics and Science Education**

We examine mathematics and science learning and teaching within the multiple contexts of classroom, school, family, and community. We are particularly concerned with understanding the educational needs of students from linguistic and cultural groups that have historically not fared well in our nation's public schools. Our core mission integrates theory and practice as we are committed to research that will improve mathematics and science learning/teaching for this student population.

### **Program Overview**

The goal of the Ph.D. in education is to support graduate students in becoming creative scholars who engage in research focused on the educational needs of students from linguistic and cultural groups that have historically not fared well in our nation's public schools. To achieve this goal, this program provides students with grounding in the varieties of interdisciplinary theorizing, research methods, and applications needed to advance the study of learning and teaching for diverse student populations. The courses and research experiences are closely related to practice in K-12 classrooms. Students in this interdisciplinary program apply tools and perspectives from education, anthropology, linguistics, philosophy, psychology, sociology, cognitive science, and cultural historical activity theory. The program integrates theory and practice to examine learning and teaching within the multiple contexts of classroom, school, family, and community. Graduates of this program will be qualified to teach and to conduct the kinds of educational research demanded by tenure-track positions in research and

regional universities. Graduates may also work in non-university based institutions that focus on teacher professional development, curriculum development, and related areas of educational research and development.

Together with his or her faculty academic adviser, each student develops an integrated program of study that includes advanced coursework, seminars, and electives within the five program concentrations: language, literacy and culture; teachers and teacher development; mathematics and science education; learning and teaching; and social and cultural contexts of education. Students learn through an apprenticeship model in which they develop expertise through active participation in research. Courses may be taken in other departments, when appropriate.

### **Program Requirements**

During the first two years of study, all students are expected to enroll in a set of required courses, including core seminars, methodology courses, the first- and second-year professional development seminars, and a research apprenticeship. The student and his/her adviser will also design a course of study within one or more of the department's concentrations. The overall number of courses and seminars taken varies depending on the student's preparation, interests, and plans, which are determined in consultation with relevant faculty and the department chair. The program encourages interdisciplinary study.

To achieve Ph.D. candidacy, students are expected to pass an annual review of their written work, maintain satisfactory academic progress, complete all required courses, attend department colloquia, complete a second-year research project, complete a TAship or teaching internship in education, pass a qualifying examination (QE), and meet the specific requirements of the Division of Graduate Studies.

The QE is intended to assess a student's depth and breadth of knowledge in his or her areas of concentrations and his/her competence to do extended dissertation-level research and analysis. Normally taken during the third year of enrollment, the QE consists of both written and oral components. For the written portion, the student prepares three papers, two of which are position papers on a theoretical topic; the third is a dissertation prospectus. The student presents and defends his/her work to at the oral examination.

A dissertation based on original research is required. After the dissertation has been completed and submitted, students must defend the dissertation in an oral exam.

<b>Course Number and Name</b>	<b>When Requirement Will be Met</b>
<b>Core Courses (30 units)</b>	
EDUC 261 Thinking, Learning, and Teaching	Before Advancement to Candidacy (AC)
EDUC 262 Social & Cultural Contexts of Education	Before AC
EDUC 235 Introduction to Educational Inquiry	Year 1
EDUC 236 Intro to Quantitative Methods in Educational Research	Before AC
EDUC 237 Intro to Qualitative Methods in Educational Research	Before AC
1 Advanced Methods Course	Before AC
<b>Professional Development Courses (22 units)</b>	
EDUC 269 ABC First-Year Professional Development Seminars	Year 1 2 units each quarter
EDUC 293A or EDUC 293B Research Apprenticeship	<i>Recommended in Year 1 – Required before AC</i>
EDUC 270 ABC Second-Year Professional Development Seminars	Year 2 2 units each quarter
EDUC 294 Second Year Project	Year 2
<b>Concentration Courses (30 units)</b>	
A Minimum of 4 Concentration Courses 5 units each	Before Advancement to Candidacy
A Minimum of 2 Elective/Concentration Course 5 units each	Before Advancement to Candidacy
<b>Other Degree Requirements</b>	
One TAship in Education or Teaching Internship in Education	Before Advancement to Candidacy
Attendance to all Department-sponsored colloquiums	Years 1 and 2

### **Research Apprenticeship**

The research apprenticeship can be fulfilled through work as a Graduate Research Assistant, participation in a faculty-led research group, or another kind of substantive contribution to a joint project with a faculty member.

### **Second-Year Research Project, Proposal**

Working with the faculty advisor, each student prepares a second-year project proposal and brief project abstract.

### **Second-Year Research Project, Paper**

Under the close supervision of the faculty advisor, students will assume major responsibility for all aspects of the second year project. The paper should reflect original data collection and/or analysis, as well as a substantial literature review and discussion of the theoretical implications of the research.

### **Second-Year Research Project, Oral Presentation**

Second Year Students are expected to report on their second-year project at the end of spring quarter.

### **Qualifying Examination**

After satisfying all formal course and research requirements, a student must take a two-part Qualifying Examination (QE): a written file and a three-hour oral examination. The QE is intended to assess a student's depth and breadth of knowledge in areas of concentration and competence to carry out the proposed dissertation research.

### **Dissertation Proposal**

The dissertation proposal intends to meet two objectives: offer a clear, coherent, and systematic research plan to be followed; and demonstrate scholarly competence in the student's area(s) of study.

### **Dissertation**

A dissertation whose content is based on original research is required. The Ph.D. dissertation is a sophisticated, scholarly contribution to some area of education. The dissertation has been described as "a unified work with a single theme, including an introduction and literature review, a description of methods and procedures used, a presentation of results and a concluding discussion of the meaning of the results" (Council of Graduate Schools, 1991, p. 12).

### **Timeline for Degree Milestones**

- Year 1** • Coursework
  - Research Apprenticeship
  
- Year 2** • Coursework
  - 2<sup>nd</sup> Year Project Proposal (*end of fall quarter*)
  - 2<sup>nd</sup> Year Project Research Paper and Oral Presentation (*end of spring quarter*)
  
- Year 3** • Remaining Coursework
  - Qualifying Exam (*preferably end of 3<sup>rd</sup> year*)
  
- Year 4** • Qualifying Exam (*required by end of 4<sup>th</sup> year*)
  - Dissertation Proposal/Hearing (*required 2 quarters after passing Qualifying Exams*)
  
- Year 5** • Dissertation Work, Defend dissertation (*potentially by end of 5<sup>th</sup> year*)
  
- Year 6** • Dissertation Work, Defend Dissertation (*preferably by end of 6<sup>th</sup> year*)
  
- Year 7** • Dissertation Work, Defend Dissertation (*required by end of 7<sup>th</sup> year*)

## Admission Guidelines

The minimum grade-point average (GPA) established by the University of California for admission to graduate school is 3.0. In general, the Ph.D. in education program looks for potential excellence in graduate students, whether this manifests itself in a high grade-point average, strong letters of recommendation, or a high Graduate Record Examination (GRE) scores, or a strong statement of purpose. Applicants will be evaluated on their individual merits and also with regard to how well their proposed doctoral research can be supported by the existing resources of the program.

## Admission Requirements

- Bachelor's degree, or its equivalent, from an accepted university prior to the quarter for which admission is sought
- 3.0 GPA or above
- Official GRE scores <http://www.gre.org/~> taken within the last five years
- Experience working with culturally and linguistically diverse communities
- Statement of purpose
- Personal history
- A writing sample, preferably in education or a related field. The sample can be a term paper, a field report, a research proposal, or an essay written especially for the application
- Official transcripts from all colleges/universities attended after high school
- Three current recommendation letters specifying potential for scholarly productivity
- Current resume
- Application fee
- International applicants must take the Test of English as a Foreign Language (TOEFL). A minimum score of 550 on the TOEFL (paper) or 220 on the TOEFL (computer) is required for admission. The TOEFL examination may be waived for international students who have taken and successfully passed a freshman composition course at an accredited university in the United States.

Prior to completing your application, we **highly recommend a personal interview with at least one of our faculty members**. Please contact an education faculty member whose research interest is similar to your own (please visit the Education Department web site at <http://education.ucsc.edu/>)

Preferred Prerequisites for Mathematics and Science Education Concentration  
a bachelor of science (B.S.) or a bachelor of arts (B.A.) degree in a mathematical or natural science discipline (mathematics, applied mathematics and statistics, biology, chemistry, computer science, physics, etc.) or equivalent upper-division coursework.

UC, Santa Cruz • Education Department

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Faculty Contacts

**Doris B. Ash - Associate Professor of Education**

**Ph.D. Education in Mathematics, Science and Technology**

University of California, Berkeley

Email: [dash5@ucsc.edu](mailto:dash5@ucsc.edu)

Phone: (831) 459-5549

**Research Interests:** Science learning in and out of classrooms; discourse and learning in informal (museum, aquarium, zoo) science environments; formative assessment as professional development; sociocultural theories of learning and teaching.

**Lora Bartlett - Assistant Professor of Education**

**Ph.D. in Education**

University of California, Berkeley

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Phone: (831) 459-1893

**Research Interests:** Educational policy and school reform; schools as workplaces for teachers; the conditions of teachers' commitment; the social and policy contexts of teachers' work.

**George Bunch - Associate Professor of Education**

**Ph.D. in Educational Linguistics**

Stanford University

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**Research Interests:** Education of language minority students in U.S. schools; language and literacy for academic purposes; preparation of teachers for linguistic diversity; language policy; preparation of teachers for linguistic diversity; second language acquisition; bilingualism.

**Cindy Cruz - Assistant Professor of Education**

**Ph.D. in Education**

University of California, Los Angeles

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(831) 459-1843

**Research Interest:** At-risk youth; LGBTQ issues in schools; community-based learning and pedagogies; urban ethnography; ethnography; the social body in schools; testimonio; decolonial and third world feminisms and methodologies; Chicana studies and epistemologies; U.S. Third World Feminisms; cultural studies and education.

**Ron Glass - Associate Professor of Education**

**Ph.D. in Philosophy of Education**

Stanford University

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Phone: (831) 459-5188

**Research Interests:** Moral and political philosophy of education; education as a practice of freedom; ideology and education; race and education; critical theories and education; urban school reform; culturally and linguistically diverse schools and communities.

**June A. Gordon - Professor of Education**

**Ph.D. in Educational Leadership and Policy Studies**

University of Washington

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Phone: (831) 459-3234

**Research Interests:** Urban comparative education; sociology of education; schooling and society in Japan, China, the U.K., and the U.S.A.; marginalized youth and economic conditions; Cultural and economic factors in academic access and achievement at all levels of schooling; recruiting and preparing teachers from diverse communities; schooling and teaching careers for working-class and cultural-minority students in Britain, Japan, and the United States.

**Judit N. Moschkovich - Professor of Education**

**Ph.D. in Mathematics Education**

University of California, Berkeley

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**Research Interests:** Mathematics cognition and learning; student conceptions of linear functions; discourse in mathematics and science classrooms; everyday mathematical practices; bilingual mathematics learners; the transition from arithmetic to algebraic thinking, especially representations of functions; mathematical discourse practices; learning and teaching mathematics in classrooms with bilingual Latino students and English learners.

**Eduardo Mosqueda - Assistant Professor of Education**

**Ph.D. in Administration Planning and Social Policy**

Harvard Graduate School of Education

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**Research Interest:** Mathematics education of English learners; large-scale dataset quantitative analysis; urban education issues; how school context factors such as academic tracking and the segregation of low-income students impact the mathematics achievement of English learners.

**Rodney T. Ogawa - Professor of Education**

**Ph.D. in Education**

Ohio State University

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**Research Interests:** Educational leadership; educational reform; and the impact of social institutions on the structure of school organization.

**Brad S. Olsen - Associate Professor of Education**

**Ph.D. in Education**

University of California, Berkeley

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**Research Interests:** Teacher education (with emphases on knowledge and identity); English education; critical theory and critical pedagogy; sociolinguistics; philosophical perspectives on education; qualitative research methods.

**Lucinda Pease-Alvarez - Associate Professor of Education**

**Ph.D. in Education**

Stanford University

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**Research Interests:** Language and literacy development, bilingual language socialization, bilingual/multicultural education, teacher development and community involvement; informal learning.

**Judith A. Scott - Associate Professor of Education**

**Ph.D. in Educational Psychology with a Learning and Instructional Emphasis**

University of Illinois, Urbana-Champaign

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Phone: (831) 459-5066

**Research Interests:** Literacy and language learning; academic language; curriculum and instruction; reading, writing, vocabulary development; teachers' professional development through collaboration and inquiry.

**Jerome Shaw - Associate Professor of Education**

**Ph.D. in Education**

Stanford University

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**Research Interests:** Scientific inquiry, specifically examining the science education experiences of English language learners and their teachers; examining ways in which assessments in English measures content knowledge versus language proficiency; development of performance assessments and scoring rubrics as well as the analysis of student scores.

**Trish Stoddart - Professor of Education**

**Ph.D. in Educational and Developmental Psychology**

University of California, Berkeley

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Phone: (831) 459-3850

**Research Interests:** Teacher education; science education; educational reform

**Kip Téllez - Associate Professor of Education and Department Chair**

**Ph.D. in Teacher Educational Linguistics**

Claremont Graduate School

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Phone: (831) 459-2208

**Research Interests:** Teacher education, preparation of teachers for linguistic and cultural diversity, second language learning, studies of the school curriculum, educational assessment.

Selected Research Centers and Projects

**ESTELL**

Effective Science Teaching for English Language Learners: A Pre-Service Teacher Professional Development Research Project is funded by the National Science Foundation K-12 Discovery Research Program. The ESTELL project focuses on improving the science teaching and learning of K-6 linguistic minority students who are currently underserved in K-6 education through improving the pre-service education of elementary school teachers. ESTELL involves a collaboration between researchers and science teacher educators at the University of California Santa Cruz, San Diego State University, San Francisco State University and San Jose State University.

The goal of this project is to design, implement and evaluate a comprehensive, integrated model of pre-service elementary science teacher education by adapting a model of linguistically and culturally responsive ESTELL pedagogy that prior research has demonstrated significantly improves the achievement of English Language Learners. ESTELL is based on two bodies of prior work produced by researchers in the USDOE funded Center for Research on Education Diversity and Excellence (CREDE) project and the NSF funded Language Acquisition through Science Education in Rural Schools (LASERS) project.

For more information please visit the ESTELL website: <http://education.ucsc.edu/estell>

**CCREC**

CCREC's research aim is to produce and support multi-/inter-/trans-disciplinary and collaborative scholarship that effects changes in California's communities and policy arenas to reduce persistent inequities in the economy, education, employment, environment, health, housing, and nutrition. The CCREC research program will concentrate on regional longitudinal projects at the intersections of these inequities, and will not only seek to make measurable changes in communities and policies, but also seek to understand and strengthen collaborative research processes themselves.

Our projects include: Funding for Innovative Collaborative Projects; Statewide Conferences; Summer Policy Institutes; Training & Early Career Development; Policymakers' Tools; Community Voice

For more information please visit the CCREC website: <http://ccrec.ucsc.edu>

**CERIUS**

This research project will involve case studies of three innovating California high schools that have demonstrated some academic success serving predominantly urban, low-income Latina/o students. The study will examine how math and English teachers in these schools use instructional activities meant to support Latina/o youth engagement in academically challenging work. The team will also examine how schools' normative social structures and physical, social, human, and cultural capital influence classroom interactions that affect learning. The investigators will observe classrooms, and school and department meetings; interview focal teachers, department chairs and school administrators; conduct focus groups with teachers, students, and parents; administer school-wide surveys, and collect student work samples and school level documents.

For more information please contact: [rtogawa@ucsc.edu](mailto:rtogawa@ucsc.edu)

## **VASE**

This is a four-year federally funded research project to develop a new method of vocabulary assessment. The assessment is based on testing incremental knowledge about words via 36 item testlets. The Vocabulary Assessment Study In Education is a collaboration between the University of California-Santa Cruz, and three local school districts to develop and publish vocabulary assessments for Science, Social Science, Math and Language Arts that can improve vocabulary knowledge measurement by reflecting what is known about vocabulary acquisition; to demonstrate evidence that our related VINE project improves the vocabulary achievement of approximately 13,200 ethnically diverse grade school students.

For more information please contact: [pstar@ucsc.edu](mailto:pstar@ucsc.edu)

## **tecWAVE**

The goal of the tecWAVE project is to develop and test a web application that provides middle school students with explicit scaffolding for word learning through multimedia multilingual word annotation. When too many words are unknown in a text, comprehension suffers. tecWAVE takes advantage of the Internet to provide "in the moment" vocabulary assistance for struggling readers.

We believe that explicit scaffolding for vocabulary learning through tecWAVE has the potential to help develop students' word knowledge and comprehension of text. This technology, while of use to all readers, could prove particularly useful for English language learners.

For more information please visit the tecWAVE website: <http://tecwave.soe.ucsc.edu>