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Abstract

Name of the IHE: University of Houston-Clear Lake (UHCL)

Title of the Program: Collaborating in the Academic Success for All (CASA) Project

Consortia Partners: Alvin Independent School District, Clear Creek Independent School District, Deer Park Independent School District, Galena Park Independent School District, Pasadena Independent School District

Project Description:

The CASA project has four goals. These goals are to 1) increase the number of certified teachers who are prepared to provide effective instruction to ELs, especially in mathematics and science, 2) provide professional development for administrators that will enable them to support teachers in providing effective instruction for ELs, 3) improve the UHCL teacher education program to better prepare all preservice teachers to provide effective instruction to ELs and, 4) utilize a dynamic assessment model with continuous evaluation and feedback to improve project implementation, determine project effectiveness and determine the impact of the project on the academic achievement and English language development of kindergarten through 12th grade ELs.

To meet these goals, the objectives, activities and outcomes have been specified as follows. First, to meet the objective that 30 teachers will complete a master's degree that will enable them to meet the needs of ELLs, 30 inservice teachers will be selected to participate in the project. The teachers will obtain a master's degree in multicultural studies with an emphasis in either bilingual or ESL education and a specialization in either math or science. Bilingual/ESL coursework will emphasize the research-based sheltered instruction approach to lesson delivery. The CASA project will provide funding for tuition and fees, textbooks, and travel to a professional conference. In addition, a videographer will create pre- and post-videos of the teachers' instructional practices to provide teachers with an overview of their professional growth. One important outcome of the CASA project is that teachers who are not ESL or bilingual certified will take the appropriate State-mandated exam at the end of their course of studies.

The second set of objectives relate to providing professional development to 30 administrators. The professional development will focus on effective instruction for ELs, especially in the areas of math and science. More specifically, administrators will receive professional development in the area of the research-based sheltered instruction method of lesson delivery for ELs. Preference will be given to administrators who have teachers participating in the CASA project. The eight professional development sessions for administrators will focus on second language acquisition, sheltered instruction, observing teachers, and coaching and mentoring teachers as they implement effective practices. As a result of the professional development, administrators will be better prepared to support their teachers in providing effective instruction for ELs, especially in the areas of math and science.

Another goal of the CASA project is to improve the UHCL teacher education program to better prepare all preservice teachers to provide effective instruction to ELs. A task force consisting of the project co-directors, UHCL faculty and district representatives will be formed to create a framework for including information related to the education of ELs in the School of Education (SoE) coursework for all teacher education candidates. Faculty members from the UHCL School of Science and Computer Engineering (mathematics and science faculty) will be invited to participate. University faculty teaching courses in the SoE will also be invited to participate with a special emphasis made to involve at least one math methods and one science methods faculty. In addition to CASA co-directors, four other UHCL faculty members will be involved with the task force. Two representatives, one elementary level and one secondary level, will be selected from each district to participate. In addition, a district level representative, such as a bilingual or ESL specialist, will also be invited to participate for a total of three representatives from each district. The five-year commitment consists of approximately 15 hours per semester dedicated to creating and implementing the framework. The framework will consist of a scope and sequence of topics to be addressed, a blueprint that describes which topics will be addressed in which classes, a selection of activities that can be used to teach the topics, and video clips that faculty members can use as part of their instruction.

The CASA project recognizes that it is imperative that decisions be made based on data. The CASA project has a clear focus on data collection and analysis as well as a plan for making decisions based on the analyzed data. During the first year of the project, the evaluator will identify or design measurement instruments such as pre- and post-tests and the materials evaluation rubric. An essay prompt and interview questions will be used for selecting the inservice participants and will be created by the project co-directors. A database will be designed to track participants' performance on university coursework and State assessments. Data will be collected and analyzed during the second through fifth years of the project. Ongoing evaluation of the project will occur using the results from the collected and analyzed data.

Priorities: The CASA Project meets two **competitive priorities**: 1) "Enabling more data-based decision-making"; and 2) "Promoting Science, Technology, Engineering, and Mathematics (STEM) Education"; and one **invitational priority**: "Improving preparation of all teachers to better serve English learners".

GPRA Measure Targets:

The number of inservice teachers expected to be served

Year 1	15
Year 2	15
Year 3	30
Year 4	15
Year 5	15

The number of inservice teachers expected to complete the program of study

Year 1	0
Year 2	0
Year 3	15
Year 4	0
Year 5	15

The number of inservice teachers expected to complete the program of study and be certified in EL instruction

Year 1	0
Year 2	0
Year 3	15
Year 4	0
Year 5	15

The number of inservice teachers expected to serve EL students

Year 1	15
Year 2	15
Year 3	15
Year 4	15
Year 5	15

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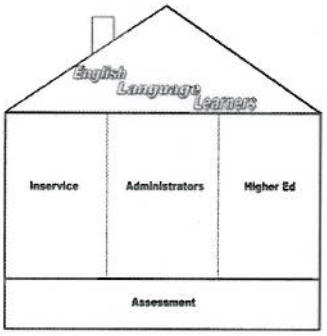
Collaborating in the Academic Success for All (CASA)



The Collaborating in the Academic Success for All (CASA) Project consists of a collaboration between the University of Houston-Clear Lake (UHCL) and five independent school districts (ISDs) in the Houston metropolitan area (Alvin ISD, Clear Creek ISD, Deer Park ISD, Galena Park ISD, and Pasadena ISD) that provides professional development activities focusing on improving classroom instruction for English learners (ELs). The CASA Project also provides opportunities for collaboration between inservice teachers and university faculty. The CASA project consists of three pillars to support ELs, all based on a firm foundation of assessment. An emphasis on mathematics and science instruction is embedded throughout. The three separate components, or pillars, of the CASA project are:

1. **Inservice teachers:** Provide funding to support 30 teachers seeking a master's degree in multicultural studies with an emphasis in bilingual or ESL education and with a specialization in either mathematics or science education (STEM).
2. **Administrators**: Provide funding for 30 administrators to receive professional development that will enable them to support teachers in providing effective instruction for ELs, especially in mathematics and science.
3. **Higher Education:** Provide funding to improve the UHCL teacher education program by creating and implementing an articulated framework for teacher preparation courses that will provide all teacher education candidates with the knowledge and skills to meet the needs of ELs.

The CASA project will utilize a dynamic assessment model with continuous evaluation and feedback to improve project implementation, determine project effectiveness and determine the impact of the project on all stakeholders.

The CASA Project directly addresses the purpose of the grant program by providing professional development activities that are designed to improve classroom instruction for English Learners (ELs) and will assist educational personnel working with such children to meet high professional standards, including standards for certification and licensure as teachers who work in language instruction educational programs or serve ELs.

The ultimate goal of CASA is to better prepare administrators and teachers of ELs so that their students will achieve high levels of academic success, especially in the areas of mathematics and science. The CASA Project meets two **competitive priorities**: 1) "Enabling more data-based decision-making"; and 2) "Promoting Science, Technology, Engineering, and Mathematics (STEM) Education"; and one **invitational priority**: "Improving preparation of all teachers to better serve English learners".

A. Quality of Project Design

CASA proposes to provide services to address the needs of ELs in the Southeast Houston metropolitan area. The needs of these students will be better met if they have teachers who are prepared to work with ELs. The CASA proposal requests funding to provide 30 inservice teachers with coursework that includes research-based instructional methods to meet the needs of ELs. Specifically, the coursework will include a focus on mathematics and science education as well as on the research-based, effective practice of sheltered instruction that has been found to result in higher academic performance of ELs (Echevarria, Powers, & Short, 2006). The CASA proposal also requests funding for 30 school administrators to receive professional development

related to meeting the needs of ELs in mathematics and science classes. In addition, funding is requested to facilitate the improvement of the UHCL teacher education program by creating and implementing an articulated framework that will provide all teacher education candidates with the knowledge and skills to provide effective instruction to ELs.

The number of ELs in the United States has steadily increased. Between the 1998-99 school year and 2008-2009, there was a 51% growth in the number of ELs in US schools (*The Growing Numbers of English Learner Students*, n.d.). More specifically, more than 10% of the PK-12 population in Texas schools consists of ELs. The five collaborating districts have seen an increasing number of ELs enrolled in their schools. For example, one collaborating district (Clear Creek ISD) experienced a 30% increase in the number of ELs enrolled over the past five years. Another district (Pasadena ISD) has experienced an increase of 300 to 500 ELs each year. Table 1 clearly indicates the need for services for ELs in the five collaborating districts. The total number of students classified as ELs in those districts is 26,584.

Table 1: Demographics of Collaborating School Districts

School District	Total Students	Total ELs	Secondary ELs	Elementary ELs
Alvin	14,254	1647	289	1358
Clear Creek	37,472	3017	476	2541
Deer Park	12,436	1157	333	824
Galena Park	21,409	6078	1567	4511
Pasadena	51, 950	14,685	2290	12,395

Either bilingual education or ESL teachers may serve English learners. Unfortunately, the number of teachers prepared to work with the English learner population remains low. The Teacher Shortage Areas Nationwide Listing (2011) from the Office of Postsecondary Education indicates that there has been a shortage of bilingual education, ESL, mathematics and science teachers in Texas for the last 20 years. Texas school district superintendents have also reported a shortage of certified bilingual and ESL teachers; 30% of Texas school districts reported that more than 11% of the teachers working in bilingual/ESL settings were not certified in those areas (Lara-Alecio, Galloway, Irby, & Brown, 2004). It is clear that there is a shortage of teachers with the appropriate certification for teaching ELs.

While most ELs in Texas are from Spanish-speaking backgrounds, there are a significant number who are from other language backgrounds as well. For ELs to succeed academically, it is essential that they have teachers who understand how to meet their academic needs and provide effective instruction. One way in which Texas has attempted to increase the number of qualified teachers is to allow inservice teachers to obtain their ESL certification by passing the State licensing exam. This does not require teachers to take any coursework on addressing the needs of ELs. Since many teachers in Texas are obtaining ESL certification via test-only, it is imperative that they be provided with professional development that addresses the needs of the ELs. In fact, only 26% of teachers nationwide have received professional development related to providing effective instruction to ELs, while 57% of teachers believe that additional training would be beneficial (Ballantyne, Sanderman & Levy, 2008). It is clear that inservice teachers need to receive professional development that includes a focus on specific instructional methods for ELs (Hammer, Rodriguez, Lawrence, & Miccio, 2007).

(1) Extent to which goals, objectives, and outcomes are clearly specified and measurable

The CASA project has clearly specified and measureable goals. The aims of this project are to: 1) increase the number of certified teachers who are prepared to teach ELs by providing funding for 30 teachers seeking a master's degree in multicultural education with certification in bilingual education or ESL and either a mathematics or science (STEM) specialization to help these teachers improve academic achievement and language development of ELs; 2) provide high-quality professional development for administrators so that they can support teachers in improving academic achievement and language development of ELs; 3) improve the UHCL teacher education program to better prepare all preservice teachers to provide effective instruction to ELs; 4) utilize a dynamic assessment model with continuous evaluation and feedback to improve project implementation and determine project effectiveness.

The goals of the CASA Project are addressed in this section. Detailed descriptions are provided for the objectives, milestones, outcomes and measures under each goal.

Goal 1: Increase the number of certified teachers who are prepared to provide effective instruction to ELs, especially in mathematics and science.

Objective 1a: A total of 30 inservice teachers will be selected to participate in the CASA project.

Milestones: Recruitment and application materials prepared; first cohort of 15 inservice teachers recruited, selected, and enrolled by summer 2012; second cohort of 15 teachers recruited, selected and enrolled by summer 2014.

Measures: Number of inservice teachers selected and enrolled.

Outcomes: 30 inservice participants selected and enrolled.

Information on the project will be disseminated to personnel from the five collaborating districts at the CASA Advisory Council meetings in fall 2011 and spring 2012. Personnel from

the five collaborating districts will recruit and recommend inservice participants from their districts. A special emphasis will be placed on recruiting from the Texas Regional Collaboratives for Excellence in Science and Mathematics Teaching. UHCL has received mathematics and science grants from the Collaboratives. These grants allow UHCL to provide professional development in science and mathematics to teachers in their partner districts. Recruiting through the Collaboratives will enable CASA to build upon already established partnerships and provide further professional development to participating teachers.

Graduate students applying for CASA must meet all university general admission requirements and graduate admission requirements of the School of Education (SoE) before being accepted into the program. Participants will be selected based on the following criteria:

1. GPA of 3.0 or higher in the last 60 hours of coursework.
2. Recommendation from a member of the CASA Advisory Council.
3. Strong commitment to the education of ELs in mathematics and science as assessed through an essay and an interview.
4. Proficiency in written and oral Spanish for those participants wishing to pursue bilingual certification as assessed through an essay and an interview in Spanish.

Objective 1b: A total of 30 inservice teachers will complete the requirements for a master's degree in Multicultural Studies with bilingual or ESL certification and a specialization in mathematics or science.

Milestones: Inservice participants' registration completed; tuition, fees and textbooks paid; participants complete coursework, graduate, and pass state certification exams.

Measures: Participants' GPA; number of participants who complete all coursework and graduate; number of participants who pass the State certification exams; participants' scores on the State certification exams.

Outcomes: 30 inservice participants obtain a master's degree with bilingual or ESL certification and a specialization in mathematics or science; 30 inservice teachers are better prepared to meet the needs of ELs.

The first cohort of 15 CASA inservice participants will take six graduate credit hours each semester starting in summer 2012 and complete their 36-hour master's degree in spring 2014. The second cohort of 15 CASA participants will take 6 graduate credit hours each semester starting in summer 2014 and complete their master's degree in spring 2016. CASA inservice participants will receive a master's degree that includes 12 core hours of coursework, required of all SoE master's degree students at UHCL. They will also receive 12 hours of coursework related to bilingual/ESL instruction. These courses will focus on second language acquisition and sheltered instruction. Through their coursework on sheltered instruction, CASA participants will become trained in the Sheltered Instruction Observation Protocol lesson delivery approach, a research-based approach to effective instruction for ELs (Echevarría, Vogt & Short, 2008). Finally, CASA participants will enroll in 12 hours of mathematics or science courses. The mathematics and science courses will be selected based on each participant's area of specialization or need. For example, a science teacher with a specialization in life sciences will take courses in physics or chemistry. In this manner, the participants' background knowledge in their field will be expanded. CASA staff will work closely with faculty in the School of Science and Computer Engineering (SCE) to ensure that the participants are provided with the appropriate mathematics or science classes.

In addition to providing funding for tuition and fees, CASA will provide funding for textbooks for the inservice participants. Each participant will receive funding for up to $250 in textbooks per semester. Although in some semesters, this amount may not cover all of the participants' textbook needs, it will be a significant portion of that expense. Table 2 provides an example of the coursework the teacher participants will take. Core refers to master's core classes (multicultural education, instructional technology, statistics and research). SILC refers to Studies in Language and Culture. These are the bilingual and ESL courses. Finally, math/science refers to the coursework teachers will take in their area of specialization.

Table 2: Suggested Sequence of Courses

	Fall	Spring	Summer
2011-2012	Recruit Cohort 1	Recruit/enroll Cohort 1	Cohort 1 begins 2 core courses
2012-2013	2 SILC courses	1 science/math course 1 SILC course	1 SILC course 1 science/math course
2013-2014	1 core course 1 science/math course Recruit Cohort 2	1 core course 1 science/math Recruit/enroll Cohort 2	Cohort 2 begins 2 core courses
2014-2015	2 SILC courses	1 science/math course 1 SILC course	1 SILC course 1 science/math course
2015-2016	1 core course 1 science/math course	1 core course 1 science/math	

As the inservice teachers progress through their coursework, they will be implementing what they learn in their classes in their own classroom instruction. The CASA project proposes creating videos of teachers' instructional practices during the first year and at the end of their course of study. Utilizing videos in education coursework is an increasingly more common practice. Research has indicated that viewing videos can have an impact on educators' observations of classroom practice (Star & Strickland, 2007). The videos can be viewed by the teachers themselves, allowing them to engage in reflection about the lesson and about the changes in their instructional practices with ELs. Creating a video of a lesson is less intrusive for the teachers and students being observed than having multiple viewers in the classroom at one time would be (Measuring Effective Teaching, 2010). Thus, the CASA project will create and utilize videos of classroom instruction as an integral part of the professional development provided to teachers.

The CASA videographer will begin creating videos in the fall of 2012 to use as benchmarks of Cohort 1 participants' instruction. Post-training videos of Cohort 1 participants will be created in fall 2013 and spring 2014. The videographer will begin creating videos of Cohort 2 participants' instruction in fall 2014. Post-training videos of Cohort 2 participants will be created in fall 2015 and spring 2016.

Participants will also be afforded the opportunity to attend a professional conference in the area of bilingual education, ESL, mathematics or science education each year of participation. CASA will provide the funding for their attendance as well as for substitute teachers for their classrooms. Attendance at a professional conference will provide the participants the opportunity to hear and network with nationally known experts on the education

of ELs, specifically in the areas of math/science. In addition, they can expand their knowledge about new pedagogical practices and materials.

Goal 2: Provide professional development for administrators that will enable them to support teachers in providing effective instruction for ELs.

Objective 2a: A total of 30 administrators will be selected to participate in the CASA project.

Milestones: Recruitment and application materials prepared; first cohort of 15 administrators recruited and selected by summer 2012; second cohort of 15 administrators recruited and selected by summer 2014.

Measures: Number of administrators selected.

Outcomes: 30 administrators selected for participation.

Information on the administrator-training component of the project will be disseminated to personnel from the five collaborating districts at the CASA Advisory Council meetings in fall 2011 and spring 2012 for recruiting the first administrator cohort. Information will be disseminated again in fall 2013 and spring 2014 to recruit the second cohort of administrators. Personnel from the five collaborating districts will recruit and recommend administrators from their districts. Preference will be given to those administrators who have teachers participating in the CASA project. Participants will be selected based on the following criteria:

1. Serve as an administrator in a school that educates ELs.
2. Recommendation from a member of the CASA Advisory Council.
3. Preference given to administrators who have teachers participating in CASA.

Objective 2b: A total of 30 administrators will participate in professional development related to supporting teachers in meeting the needs of ELs.

Milestones: Professional development materials prepared; sustained professional development offered; observation-debriefing sessions provided; books and ancillary materials provided; administrators' reports prepared and presented.

Measures: Pre- and posttests on professional development topics; number of participants who complete professional development sessions; number of observations completed by administrators; number of action plans created; number of reports to advisory council prepared and presented.

Outcomes: Eight professional development sessions completed by administrators; observations completed; action plans created; reports to advisory council prepared and presented; 30 administrators will be better prepared to support teachers in meeting the needs of ELs.

CASA project co-directors and coordinator, with input from the CASA Advisory Council, will prepare materials related to effective instruction for ELs and the role of the administrator in supporting the teachers. This information will be provided to administrators in a series of two professional development sessions per semester. The professional development sessions will address second language acquisition, the State-mandated English language proficiency standards, and sheltered instruction. The sessions will include mentoring and coaching training as well as training on how to conduct observations of teachers using sheltered instruction techniques. Videotapes of inservice participating teachers will be created by the CASA videographer and, with the teachers' permission, will be used in the professional development sessions with the administrators. As administrators are introduced to the various components of sheltered instruction, they will be able to practice their observations of the

components with the videos before they conduct observations of sheltered instruction on their own campuses.

Administrators will use what they have learned to observe their teachers. During the professional development sessions, the administrators will discuss the results of their observations and plan how to address areas that need improvement. During the last session, an action plan will be created. In addition, the administrators will create a report that will be presented to the Advisory Council each spring. Upon receipt of the yearly report, the administrators will receive their summer stipend.

The first cohort of 15 CASA administrator participants will complete eight professional development sessions, two each long semester from fall 2012 to spring 2014. The second cohort of 15 CASA administrators will complete eight professional development (PD) sessions, two each long semester from fall 2014 to spring 2016. Table 3 provides a summary of the administrator component.

Table 3: Administrator Professional Development

	Fall	Spring
2011-2012	Recruit Cohort 1	Recruit/Select Cohort 1
2012-2013	PD 1 Who are the ELs? PD 2 2nd Lang. Acq.	PD 3 Sheltered instruction PD 4 Practice observations; prepare report
2013-2014	PD 5 Mentor/Coaching/ Practice observations PD 6 Mentor/Coaching Recruit Cohort 2	PD 7 Sheltered Instruction Observations PD 8 Action Plan; prepare report Recruit/Select Cohort 2

	Fall	Spring
2014-2015	PD 1 Who are the ELs? PD 2 2nd Lang. Acq.	PD 3 Sheltered instruction PD 4 Practice observations; prepare report
2015-2016	PD 5 Mentor/Coaching/ Practice observations PD 6 Mentor/Coaching	PD 7 Sheltered Instruction Observations PD 8 Action Plan; prepare report

Goal 3: Improve the UHCL teacher education program to better prepare all preservice teachers to provide effective instruction to ELs.

Objective 3a: UHCL faculty members and district representatives will collaborate in creating and implementing an articulated curriculum framework for addressing the needs of ELs in UHCL coursework.

Milestones: Four UHCL faculty members and 15 (3 from each ISD) district representatives invited to participate in task force; curriculum framework created; framework implemented feedback solicited; revisions made.

Measures: Number of participating faculty members and district representatives; evidence of framework reflecting State standards; feedback on framework and instructional materials.

Outcomes: Articulated framework created and disseminated to SoE faculty members; framework implemented; preservice teachers better prepared to meet the needs of ELs.

A task force consisting of the project co-directors, UHCL faculty and district representatives will be formed to create a framework for including information related to the education of ELs in the School of Education coursework for all teacher education candidates.

Faculty members from the UHCL School of Science and Computer Engineering (mathematics and science faculty) will be invited to participate. University faculty teaching courses in the SoE will also be invited to participate with a special effort made to involve at least one mathematics methods and one science methods faculty member. A total of four UHCL faculty members will be involved with the task force. Two representatives, one elementary level and one secondary level, will be selected from each district to participate. In addition, a district level representative, such as a bilingual or ESL specialist, will also be invited to participate for a total of three representatives from each of the five districts.

The five-year commitment consists of approximately 15 hours per semester dedicated to creating and implementing the framework. The framework will consist of a scope and sequence of topics to be addressed, a blueprint that describes which topics will be addressed in which classes, a selection of activities that can be used to teach the topics, and video clips that faculty members can use as part of their instruction. The majority of the video clips will come from the videos of the inservice participants' instruction. These clips will be only be used if permission is granted by the teacher, the students and the parents of the students involved in the videos.

In the spring semester of 2012, the task force will select the topics that will be integrated into SoE coursework and begin developing a scope and sequence detailing which topics will be addressed in each course. In the fall semester of 2012, the task force will continue with the development of the scope and sequence. In the spring of 2013, the task force will begin to create teaching activities that correlate with the topics, with a goal of having the first set of activities ready for the fall of 2013. In addition, the task force will begin reviewing and selecting video clips of lessons that will exemplify the topics and activities selected for inclusion in each of the courses. SoE faculty will begin implementing the first set of teaching activities while the task

force continues developing activities and selecting video clips for other SoE courses. In 2014-2015, faculty feedback will be solicited so that necessary revisions can be made. Faculty and district representatives will receive a $2000 summer stipend each year in which they participate in the task force. Any materials required for the preparation of the framework will be provided by CASA. Throughout the development of the curriculum framework, the task force will report on their progress to the CASA Advisory Council, and the advisory council will provide feedback to the task force. Table 4 summarizes the Curriculum Task Force activities.

Table 4: Curriculum Task Force

	Fall	Spring
2011-2012	Form task force Develop work plan	Select topics; begin development of scope and sequence
2012-2013	Develop scope and sequence	Create teaching activities & select video clips
2013-2014	Implement activities & continue selection of video clips Continue development of activities	Implement activities & video clips Continue development of activities
2014-2015	Implement activities & video clips Solicit feedback	Implement activities & video clips Solicit feedback
2015-2016	Revise as needed	Revise as needed

Objective 3b: Strengthen UHCL and district collaborative efforts in preparing educators to more effectively meet the needs of ELs.

Milestones: Overview of CASA prepared and provided to collaborating district administrators; advisory council formed in fall 2011 and meetings held each semester during funding period; website developed in fall 2011 and maintained throughout funding period.

Measures: Attendance at overview sessions and advisory council meetings; website reviewed by technology experts and advisory council.

Outcomes: Overview sessions provided to collaborating ISDs; advisory council formed and one meeting held each semester; website developed and maintained.

Maintaining communication between UHCL and the collaborating districts is an important element in CASA. Project co-directors consulted with district representatives in the planning phase of the project. District representatives have provided clearly delineated letters of support for the project. In the first year of the project, the co-directors will prepare and provide an overview of the CASA project to collaborating districts.

Communication with the districts will continue through the CASA Advisory Council that will consist of representatives from each of the collaborating districts, UHCL faculty representatives, and CASA staff. Advisory council meetings will be held each semester of the funding period, starting in fall 2011. These meetings will give all the stakeholders the opportunity to provide input at the outset and throughout the five-year period of the project. Between meetings, advisory council members will communicate via e-mail.

A CASA website will be developed in the first year of the project and maintained throughout the funding period. The website will include links to and from the collaborating districts. Information on the project, the curriculum framework, teaching activities, and links to information related to STEM and the education of ELs will be posted on the website.

Goal 4: Utilize a dynamic assessment model with continuous evaluation and feedback to improve project implementation and determine project effectiveness.

Objective 4a: Conduct ongoing assessment and evaluation of project and participants.

Objective 4b: Make decisions related to project effectiveness based on data collected as part of the ongoing assessment.

Objective 4c: Conduct post-training assessment and evaluate its effectiveness.

Milestones: Instruments selected, developed and piloted; baseline data gathered for cohorts; data gathered and analyzed each semester.

Measures: Effectiveness of data collection and analyses; reports generated.

Outcomes: Data gathered and analyzed each semester; necessary changes made to project implementation; improved preparation and increased knowledge of effective EL instruction by inservice teachers and administrators.

During the first year of the project, the evaluator will identify and/or design measurement instruments such as pre- and post-tests and a materials evaluation rubric. The essay prompt and interview questions that will be used for selecting the inservice participants will be created by the project co-directors. The videos will be assessed using an observation protocol and the effectiveness of the training will be evaluated based on the inservice participants' implementation of the material they learned in their coursework and the differences between the initial videos and the post-training videos.

A database will be designed to track participants' performance on university coursework and State assessments. Data will be collected and analyzed during the second through fifth years of the project. Ongoing evaluation of the project will occur using the results from the collected and analyzed data. Decisions related to project effectiveness will be based on data collected as

part of the ongoing assessment and necessary changes will be implemented. In the final year of the project, the results will be used to determine project outcomes. At the end of the funding period, post-training data on the effectiveness of the project completers will be collected and analyzed. Throughout the assessment cycle, CASA staff, the advisory council and the external evaluator will be kept informed in order to refine project processes and improve project outcomes.

(2) Extent to which design of project represents up-to-date knowledge from research and effective practice

Ensuring that students are well prepared in the fields of mathematics and science is essential for the long-term economic competitiveness of the US. One researcher has found that the US "ranks 14th in the number of 24-year-olds with degrees in science, technology, engineering, and mathematics (STEM) disciplines, down from 3rd 25 years ago" (Symonds, 2004). It is clear that the preparation of US students in these fields continues to be a concern. For example, in a 2007 report from the Organisation for Economic Co-operation and Development (OECD), the United States ranked 25th out of 30 countries in mathematics literacy. Over one quarter (28.1 percent) of American fifteen-year-olds performed below the baseline level of mathematics proficiency at which students begin to demonstrate the kind of skills that enable them to use mathematics actively in daily life (OECD 2007). That same report indicated that the United States ranked 21st of 30 OECD countries in scientific literacy (OECD 2007). One fourth of US fifteen-year-olds did not reach the baseline level of science achievement at which students begin to demonstrate the science competencies that will enable them to use science and technology in life situations (OECD 2007). The Glenn (2000) Commission indicated that competency in mathematics and science is necessary to meet the demands of our changing

economy and workplace and our country's continuing need for a highly educated citizenry. In addition, the commission indicated that competency in mathematics and science is linked to the nation's national security interests. The commission recommended that all students must improve their performance in mathematics and science if they are to succeed in today's world and if the US is to stay competitive in the integrated global economy (Glenn, 2000). It is obvious that improving the mathematics and science performance of US students, including those who are English learners, is of vital importance.

The relationship between teacher preparation and student achievement is well documented (Hibpshman, 2007). At the elementary level however, research has indicated that teachers often have difficulties understanding simple mathematical concepts (Lewis, Alacaci, O'Brien, & Jiang 2002; Rule & Hallagan, 2006). Results of studies also have indicated that at the secondary level, teachers with science subject-specific degrees have a positive effect on student achievement (Goldhaber & Brewer, 1998) and that an increase in a teacher's mathematics coursework had a positive effect on student achievement (Monk, 1994). Therefore, it is important that teachers have a good foundation in mathematics and science education if they are to effectively instruct their students. When the students are ELs, the teachers also have to have the necessary knowledge and skills to meet the students' language needs. The challenge, then, is to ensure that teachers have strong preparation in a subject-specific area such as mathematics or science as well as the preparation to teach ELs. Research-based models of instruction, such as the Sheltered Instruction Observation Protocol (SIOP), (Echevarria, Vogt, & Short, 2004) have shown that the use of specific instructional techniques can lead to improved academic performance for ELs (Echevarria, Powers, & Short, 2006). Therefore, CASA participants will take one course devoted specifically to sheltered instruction and another course that focuses on

mentoring and coaching while implementing sheltered instruction.

While CASA will ensure that selected participants receive the knowledge and skills to effectively teach mathematics and science to ELs, it is also important to provide professional development related to working with ELs to all UHCL students pursuing a degree in education. UHCL has begun to address this need, but needs to expand its efforts. A recent State of Texas mandate has made it compulsory for teacher preparation programs to include in their courses information about the State English Language Proficiency Standards (ELPS), which all teachers of English language learners are required to address. While each UHCL SoE course addresses the ELPS in some manner (from having students read the ELPS document online to requiring students to include ELPS in lesson plans), a more in-depth focus on effective instruction for ELs is needed, particularly in those classes that address mathematics and science instruction. CASA will address this gap by enabling a group of university and school district representatives to create an articulated framework for addressing the needs of ELs in SoE methods classes, with an emphasis on mathematics and science methods classes in particular.

Administrators have a significant role in ensuring instructional improvement (Roessingh, 2006). Research has indicated that there is a strong link between the quality of the school's leader and the quality of instruction (National College for School Leadership, 2003). Research has also indicated that the most successful programs for ELs are those with administrator leadership, support, and knowledge of ELs (Sather, Katz, Henze, Walker & Norte, 2001). To guide a school in meeting the needs of ELs, key elements in leadership have been established (Suttmiller & González, 2006). One of these elements focuses on curriculum and instruction for ELs. Since students' success in school is dependent upon the quality of instruction received (Thomas & Collier, 2001), it is vital that school leaders be cognizant of what constitutes

effective instruction for ELs (Suttmiller & González, 2006). Unfortunately, research has indicated that administrators are often lacking preparation in working with students from diverse backgrounds (Gardiner & Enomoto, 2007). For example, Theoharis (2006) found that school leaders who wanted to advance social justice sought opportunities to increase their knowledge about ELs since their preparation programs had not provided information on meeting the students' needs. To ensure that ELs receive the instruction they need, the role of the administrator cannot be overlooked. CASA addresses this by providing professional development in meeting the needs of ELs, especially in mathematics and science classes, to administrators in the collaborating districts.

By the end of the funding period, CASA will have accomplished the following: 30 inservice teachers from the collaborating districts will have obtained a master's degree with specialization in either bilingual or ESL education, as well as in mathematics or science education; 30 administrators will have received professional development that will enable them to support teachers in providing effective instruction for ELs. In addition an articulated framework for integrating information about ELs into UHCL SoE classes will have been created and implemented.

Providing the funding for 30 graduate students to obtain degrees related to teaching ELs can potentially affect over 660 students each year (based on a 22/1 class ratio). The average number of students per year who complete certification at UHCL is 233, so CASA has the potential of also impacting over 230 preservice teachers per year. Those teachers can then impact over 5,000 students per year. This project will help to alleviate the EL teacher shortage in the five collaborating districts and in other districts in the Houston area.

It is important that instructional efforts be based on data. CASA has clearly incorporated data-based decision-making into its design. According to Mid Continent Research for Education and Learning (n.d.), the key elements of an effective data program include having purposeful data gathering and analysis, designating resources and ensuring that there are clear strategies for communicating about the data-gathering process as well as the findings. CASA ensures that these key elements are met. An outside evaluator who has extensive experience has developed an evaluation plan that includes both summative and formative assessments. A complete description of the data-gathering plan and how the data will be utilized to inform decisions can be found in parts C and D.

B. Quality of Project Personnel

(1) Qualifications of project director/principal investigator

Project Co-Directors and Co-Principal Investigators: Dr. Judith Márquez and Dr. Laurie Weaver, Professors

Training: Dr. Márquez holds a Ph.D. with a specialization in Applied Linguistics. Her doctorate coursework included bilingual education and ESL classes. Prior to working at UHCL, Dr. Márquez taught at the secondary level.

Experience: Dr. Márquez was co-principal investigator and co-director of New Horizons for Bilingual/ESL Teacher Training, a Title III Bilingual Education: Teachers and Personnel Grant, and the Collaborative Teaching of English Language Learners (CTELL) Project, a Title III National Professional Development Grant. She was also co-principal investigator and curriculum specialist on two other Title III grants: the Collaborative Bilingual Counselor Training (CBCT) grant and the Collaborative Bilingual Administrator Training (CBAT) grant. Dr. Márquez is familiar with the administrative duties required to effectively manage such a

project. She directed a research grant under a sub-contract with the Center for Research on the Education of Students Placed at Risk (CRESPAR). Her research interests include bilingual education/ESL teacher training, and literacy instruction for ELs, and she has published on topics related to education of ELs. Dr. Márquez has presented at national, regional and local conferences and has conducted numerous workshops on working effectively with ELs.

Training: Dr. Weaver holds a doctorate in Curriculum and Instruction with a specialization in Bilingual Education. Her master's degree was in Preschool Education with an emphasis in Bilingual Education. Dr. Weaver is a certified SIOP trainer.

Experience: Dr. Weaver was co-principal investigator and co-director of New Horizons for Bilingual/ESL Teacher Training and CTELL. She was also co-principal investigator and curriculum specialist on the CBCT and CBAT grants. Dr. Weaver has extensive experience collaborating with the university's professional development laboratory school, which is located in CCISD, one of CASA's collaborating districts. Prior to completing her doctorate, Dr. Weaver taught in bilingual education and ESL settings for 13 years. She was the EL assessment specialist in a local school district for five years. Dr. Weaver has presented at numerous state and national conferences and has consulted widely in bilingual education, ESL, and multicultural education. Her recent consulting has focused on sheltered instruction. Dr. Weaver's research interests include preparing teachers to work with English learners and sheltered instruction. She has published on topics related to effective instruction of ELs. Her duties include curriculum design and evaluation, research and instruction.

Both Dr. Márquez and Dr. Weaver have taught the courses required for bilingual education and ESL certification and the bilingual/ESL supplemental certificates. They are also both fluent in English and Spanish.

(3) Qualifications of key personnel

The relevant training and experience of key project personnel are described below.

Project Coordinator: Ms. Norma Minter

Training: Ms. Norma Minter has a master's degree in Curriculum and Instruction. She is certified as a superintendent, administrator and counselor, as well as an elementary teacher.

Experience: Ms. Minter is a lecturer in multicultural education at UHCL. She has over 40 years experience in Texas public schools as a teacher, school counselor, administrator, director of instruction, director of federal programs and staff development, and interim superintendent. As an administrator, she established pre-Kindergarten and bilingual/ESL programs on her campus following the passage of state mandates. She successfully co-authored Title VII and Even Start Family Literacy grants and was directly responsible for their management. With this initiative she developed a practical understanding of the administrator's role in building productive family/community collaborations focused on improving student learning. Ms. Minter was a very effective coordinator for the UHCL CBAT project.

(c) Quality of Management Plan

(1) Adequacy of management plan to achieve objectives on time and within budget

The goals, objectives, milestones, measures and outcomes are described in the Quality of Project Design section (pp. 2-17). Each goal has clearly specified objectives. The project co-directors, in consultation with other CASA key personnel, collaborating district representatives and the external evaluator, have developed a management plan. Project co-directors have also made every effort to request funding for all of the necessary expenses required to achieve the proposed objectives on time and within budget. The responsibilities, milestones, manager(s) and a timeline for each responsibility are provided in Table 5.

Table 5: Summary of Management Plan

Responsibilities	Milestones	Manager(s)	Timeline
Goal 1			
Prepare recruitment & application materials; recruit & select inservice participants	Recruitment materials/ applications prepared & disseminated; 15 inservice teachers selected	Co-directors; Coordinator; ISD personnel	Cohort 1--fall '11-spring '12; Cohort 2--fall '13-spring '14
Aid in registration & book purchases for inservice participants	15 inservice teachers registered; tuition, fees & books paid	Coordinator	summer '12-spring'16
Offer graduate classes	Classes offered—summer, fall, spring semesters	Co-directors, UHCL faculty	summer '12-spring '16
Videotape inservice participants teaching	Lessons videotaped & edited	Videographer, Coordinator	fall '12-spring '16
Goal 2			
Prepare recruitment & application materials; recruit & select administrators	Recruitment materials/ applications prepared & disseminated; 15 administrators selected	Co-directors; Coordinator; ISD personnel	Cohort 1--fall '11-spring '12; Cohort 2--fall ' 13-spring '14
Prepare materials for administrator professional dev't. (PD) sessions	PD Materials prepared	Co-directors, Coordinator	fall '11-spring '12

Responsibilities	Milestones	Manager(s)	Timeline
Offer PD sessions for administrators	2 sessions offered each fall & spring semesters	Co-directors	fall '12-spring '16
Goal 3			
Invite Curriculum Task Force members to participate	4 UHCL faculty members, 15 ISD representatives invited	Co-directors, Coordinator, ISD personnel	fall '11
Hold Curriculum Task Force meetings—	Minimum 1 face-to-face meeting held each semester; virtual meetings & email communication at other times	Co-directors, Coordinator; Curriculum Task Force members	fall '11-spring '16
Create articulated curriculum framework	Curriculum framework created—topics selected; scope & sequence, teaching activities created; video-clips selected	Curriculum Task Force members	fall '11-spring '16
Implement & revise curriculum framework	Curriculum framework implemented in SoE classes; feedback solicited; revisions made	Curriculum Task Force members/SoE faculty	fall '13-spring '16

Responsibilities	Milestones	Manager(s)	Timeline
Prepare & provide overview of CASA to collaborating districts	Overview of CASA Project prepared & provided to districts	Co-directors, Coordinator	fall '11-spring '12
Advisory Council meetings	1 meeting each fall & spring semesters	Co-directors, Coordinator, ISD & UHCL representatives	fall '11-spring '16
Develop & maintain website	Website developed & maintained	Webmaster, Coordinator	fall '11-summer '16
Goal 4			
Conduct assessment & evaluation	Instruments selected, developed & piloted; baseline data gathered for cohorts; data, including videotaped lessons, gathered & analyzed; changes made as indicated by results of data analysis	External Evaluator, Co-directors, Coordinator,	Ongoing throughout funding period '11-'16

(2) The extent to which time commitments of project director and other key personnel are appropriate and adequate

CASA staff members have clearly delineated duties and will allocate appropriate and adequate time to accomplish those duties. As project co-directors, Drs. Márquez and Weaver will

each devote 25% of the academic year and 33% of summer to their project duties. Drs. Márquez and Weaver have collaborated on numerous projects and find co-directorship a feasible and practical option. Dr. Márquez will be devoting her time primarily to project management and budgets, but will also aid in curriculum design. Dr. Weaver's primary responsibilities are related to curriculum design and evaluation. Both Dr. Márquez and Dr. Weaver will be involved in research and instruction.

The coordinator will devote 50% of her time to the project. Her duties include coordination of participant notification, registration, meetings, and scheduling. Due to her experience in school administration, she will also work closely with the project directors in developing the administrator professional development.

D. Quality of Project Evaluation

(1) Extent to which the methods of evaluation are thorough, feasible, and appropriate to goals, objectives, and outcomes of project

The overall purpose of the project evaluation is to compare the goals and objectives of the CASA Project with achieved outcomes and with GPRA performance measures. Rigorous standards and requirements of instructional design will be used to ensure that participant learning will be measured to assess achievement of expected outcomes, and will be part of the instructional design process to further improve instruction and materials in assessed areas of need. The methods of evaluation will include the use of objective measures that are clearly related to the intended outcomes of the project and will produce both quantitative and qualitative data. Data collection will begin as soon as project funding is approved and continue throughout the project.

The CASA Evaluation Plan addresses the Secretary's overall performance factors. Since the evaluation will incorporate both *formative and summative* data collection and analyses, both the "processes" and "outcomes" of the project will be assessed and evaluated. Additionally, a *dynamic assessment model* (Lantolf & Poehner, 2004; Poehner & Lantolf, 2005) is incorporated into the design of the evaluation, such that a feedback loop between project data analysis providers and the project implementers exists. That is, the data will be continuously used to inform and refine project processes, thus improving project outcomes.

To ensure that the project provides data required by the Secretary, the CASA Project will incorporate two research designs: (1) *a longitudinal design* that tracks participants from the start of the program to points beyond completion of the program, and (2) an *analysis of variance model* for comparisons between program participants and state norms for the state competency tests in ESL and bilingual education. The research design does include causal inference, but will not utilize a fully randomized trial, which would be unfeasible for the implementation of the CASA Project and its intended outcomes.

Formative evaluation will determine if the project is progressing towards meeting the stated goals, objectives and milestones as prescribed in the timeline outlined in the proposal. It will provide answers to the following questions at a minimum each semester:

- Is the project being conducted as planned?
- Was a solid project management plan developed and followed?
- How effective are instructional strategies and content of the revised course materials and video clips for improving instruction for ELs?
- What are the strengths, weaknesses, opportunities, and barriers that need to be addressed?
- What changes have been made as a result of assessed needs?

Summative evaluation conducted annually and at the conclusion of the project will consist of providing answers to the following questions at a minimum as appropriate to the year:

- To what extent has the project met its stated goals, outcomes, and impact statements and GPRA standards?
- To what extent did the program increase the number of inservice teachers and administrators with training related to meeting the needs of ELs?
- To what extent did the program increase the knowledge and skills of inservice teachers and administrators with training related to meeting the needs of ELs?
- To what extent did participants who chose STEM specializations increase their content knowledge?
- What were the outcomes, strengths, weaknesses and impact of the assessment model on decisions about instruction and program implementation?

(2) Extent to which methods of evaluation include use of objective performance measures clearly related to intended outcomes of project and will produce quantitative and qualitative data to the extent possible.

Specific data to be collected include measures developed by the external evaluator in collaboration with project staff, but will not be limited to the following (See project goals, milestones, and outcomes):

- Surveys of all participants concerning the implementation and effectiveness of the management plan and project activities.
- Knowledge and skills tests about the improvement of instruction for EL students for pre-test and post-test comparison.

- Pre-program and post-program essays to demonstrate increased conceptual understanding of needs and strategies for teaching EL students.
- Percentage of acceptable ratings of instructional course materials produced by UHCL faculty and inservice teachers, including training videos.
- State competency (TExES) test results compared to State means.
- Focus group discussion formative and summative qualitative data.

Furthermore, the CASA Project also addresses quantitative measures adopted by the Department of Education for the evaluation of all National Professional Development programs. These measures, a result of the Government Performance and Results Act (GPRA), will enhance the CASA Project and provide additional data for the promotion of practices implemented at UHCL.

- Measure 1.5: The percentage of inservice teacher completers who complete State and/or local certification, licensure, or endorsement requirements in EL instruction as a result of the program.
- Measure 1.6: The percentage of inservice teacher completers who are providing instructional services to EL students.

During the first year of the project, the evaluator will identify and/or design measurement instruments for project participants, university faculty, and public school advisory council members. Validity and reliability for all measurement instruments will be established, or reported if an existing instrument is used. Measurement instruments, except for the essay prompt and focus group protocol, will be placed on-line for consistency and immediate access to results by project staff. A database will be designed to track inservice teachers' performance on university and State performance measures. In collaboration with CASA staff, a mechanism for

tracking will be designed based on the on-line process used for the questionnaires and tests, which will facilitate collecting follow-up data to assess if recipients fulfill their teaching obligations. Pre-test data will be collected soon after the first cohort is recruited. In year three through five, formative data will be collected and presented to project staff and advisory council members for their interpretation and plans for improvements. A yearly report will be written and presented to CASA staff and advisory council members.

During the second through fifth years of the project, data will be collected and analyzed each semester and at the end of the project year. Descriptive findings will immediately be made available to project co-directors, the evaluator will meet with project staff and advisory council members for interpretation and planning for improvements, and yearly reports with recommendations will be written. During the fifth year a follow-up study including all participants will be conducted. At the end of the fifth year, a final report will include all formative and summative findings. All written reports will be presented to the project staff for use in reporting to the funding agency.

(3) Extent to which the methods of evaluation will provide performance feedback and periodic assessment of progress toward achieving intended outcomes.

Evaluation procedures for this portion of the project will follow the basic principles of the Discrepancy Evaluation Model, or DEM, that have been applicable to training programs for numerous years (Brinkerhoff, et al, 1983; Creswell, 2004; Hill and Hill, 1983; & Provus, 1971). This utilization evaluation model will emphasize an approach that allows key project staff or the project evaluator, in this case, to collect and analyze data. The DEM approach is a decision-making model. Information important to program design, implementation, and outcomes is collected to help staff select a course of action or to determine program progress at any step

along the way. This method allows sufficient data to be obtained upon which key decisions can be made, progress can be monitored, and program changes can be explained or justified. The DEM requires that program objectives be compared to and measured against adopted standards and expected outcomes. The information yielded is then analyzed to determine if discrepancies exist between the expected and actual outcomes. If there are discrepancies, program modifications can be made at any point (i.e., activities changed, implementation procedures modified, or even processes added). The evaluation process is ongoing throughout the duration of the project.

(4) Extent to which methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes

A *dynamic assessment model* will offer continuous monitoring of progress toward intended goals. A continuous response loop for evaluation will be established for an ongoing dialogue among project co-directors, school district personnel, university faculty, and the external evaluator. This feedback loop between data analyses providers and project implementers will begin from the onset of the project. Working with the five collaborating school districts in the Houston area, CASA Project personnel will ensure that the evaluation activities are articulated and communicated to all project constituencies, through the CASA website and through scheduled meetings. As mentioned above, the Discrepancy Evaluation Model (DEM) is such that both qualitative and quantitative data are continually collected and examined throughout the project, leading to revisions and modifications necessary to improve activities in future years.

The CASA Project staff, in consultation with the project evaluator, will be responsible for organizing the data management systems. The CASA co-directors will be responsible for

reviewing and communicating to all staff and school district partners the baseline data against which project effectiveness will be measured. In consultation with the evaluator, the CASA co-directors will make needed improvements in program activities based on data and input from all stakeholders.

The individual serving as the project's evaluator will be Dr. Nolie Mayo. The evaluator is well qualified and participated in the design of the project during the proposal stage. Dr. Mayo had 24 years of experience as a UHCL faculty member, teaching graduate courses in curriculum and instruction and educational research, and as director of several large grant projects. She has served as an evaluator for federal projects for over 30 years. Now retired, she has served as the outside evaluator for three major USDE grants received by the UHCL SoE, two National Science Foundations projects with NASA Aerospace Academy and San Jacinto College in collaboration with UHCL, and recently a STEM-related grant for San Jacinto College and NASA Johnson Space Center. Dr. Mayo's professional development includes being an IDEA Fellow at Harvey Mudd College, Claremont, California.

Summary

The purpose of the CASA project is to ensure that ELs are able to reach high levels of academic achievement, especially in mathematics and science. CASA provides professional development for inservice teachers in the form of a master's degree in multicultural studies with an emphasis in bilingual or ESL education and a specialization in mathematics or science. Due to their important role as instructional leaders, administrators will also receive professional development specifically focused on effective instruction for ELs, especially in science and math. This addresses the **competitive priority**: Promoting Science, Technology, Engineering, and Mathematics (STEM) Education.

It is imperative that decisions be made based on data. As explained in the evaluation plan, the CASA project has a clear focus on data collection and analysis as well as a plan for making decisions based on the analyzed data. This addresses the **competitive priority**: Enabling more data-based decision-making.

Finally, with the ever increasing numbers of ELs in US schools, it is clear that all teachers need to be well prepared to work with ELs. Project CASA includes a component that addresses this need as well. UHCL faculty and partner district representatives will collaborate in the design of a curriculum plan that will ensure that all students seeking a teaching certification receive preparation in meeting the needs of ELs. This addresses the **invitational priority**: Improving preparation of all teachers to better serve English learners.

Project CASA, a collaboration between five school districts and the University of Houston-Clear Lake, supports professional development activities that are designed to improve classroom instruction for ELs and will assist educational personnel working with such children to meet high professional standards.