THE ROLE OF SUPPLEMENTAL INSTRUCTION IN ACCELERATED, TRADITIONAL AND NON-TRADITIONAL COURSES

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PRESENTATION OVERVIEW

- Background
  - University of Houston-Downtown
  - History of Supplemental Instruction
  - UMKC Model
  - UHD SI Program

- Data Snapshot
  - Gateway Courses
  - Developmental Courses
  - Overall Program Data
  - Limitations and Future Directions

- The Role of the SI Leader
  - Traditional courses
  - Non-traditional courses
  - Accelerated courses
  - SI Study Sessions

- Implementation
  - Logistics & Staffing
  - Marketing & Funding
  - Partnerships & Facilities
  - Supervision & Mentoring
  - Assessment & Resources

UNIVERSITY OF HOUSTON-DOWNTOWN

- Founded in 1974

- 14,231 enrolled students

- Commuter university

- Hispanic-serving institution

- Average student age: 28

- Average class size: 26

- Five colleges

HISTORY OF SI PROGRAM: UMKC

- Developed in 1973 by Deanna C. Martin, Ph.D.
  - University of Missouri-Kansas City

- Shift from high-risk students to high-risk courses

- Targets historically difficult courses
  - High rates of D or F & withdrawals

- Based on non-remedial approach to learning

- Increases student performance and retention

- Peer-facilitated collaborative learning

- Increases retention and graduation rates of students

UHD SI PROGRAM: HISTORY

- In the year 2000, UHD implemented an SI program
- Component of Title V Learner's Community
  - Spring 2001: 20 SI leaders, 9 courses, 27 sections
  - Spring 2017; 39 SI leaders, 27 courses, 57 sections
- Program retained after grant expiration
- Traditional UMKC model
- Several series of expansions over the years
  - Facilities
  - Course offerings

UHD SI PROGRAM: EXPANSION & FUNDING

- **2006:** Quality Enhancement Plan (QEP)
  - Retained and expanded SI services

- **2011:** Comprehensive Student Success Program Grant
  - Chemistry
  - Biology
  - Calculus I

- **2013:** Title V Grant: Student Transition and Retention (STAR)
  - Expanded number of sections served
  - Philosophy
  - Physics

- **2016:** Institutional Course-Redesign Grants, Minority Male Initiative Grant, Pathways to Teaching Grant, and College Readiness and Success Models Grant
  - Economics
  - Organic Chemistry
  - Texas History
  - Geology
  - Political Science
 - Human Biology

UHD SI PROGRAM: OBJECTIVES

- Target historically difficult courses
- High priority given to developmental, barrier, and gateway courses
  - Based on DFW rate and university/department goals
- Improve understanding of course material (and study skills!)
  - Improved grades
  - Increased retention
  - Increased graduation rates
- Build study groups
- Foster critical thinking
- Strengthen positive study habits

UHD SI Program: Staffed Courses

- Human Biology
- General Biology I
- General Biology II
- General Physics I
- General Physics II
- General Chemistry I
- General Chemistry II
- Organic Chemistry I
- Physical Geology
- Historical Geology

- Microeconomics
- Macroeconomics
- Federal Government
- U.S. History I
- U.S. History II
- Texas History

- Beginning Algebra
- Intermediate Algebra
- College Algebra
- Trigonometry
- Finite Math
- Business Calculus
- Math for Liberal Arts
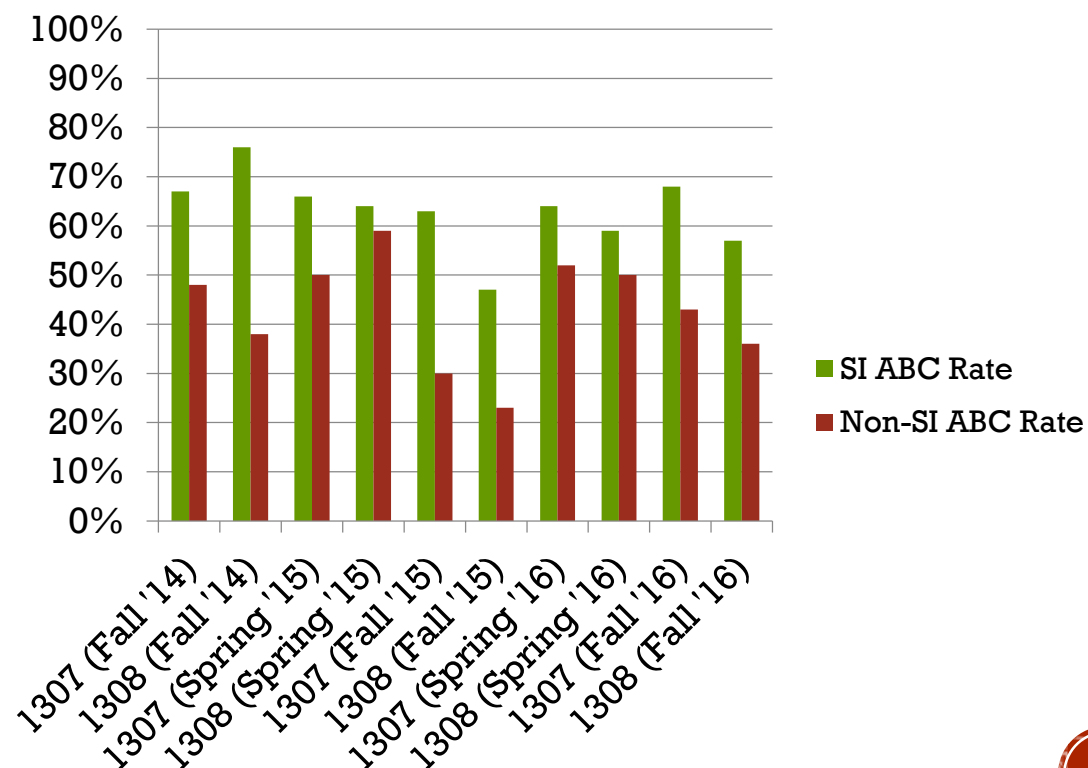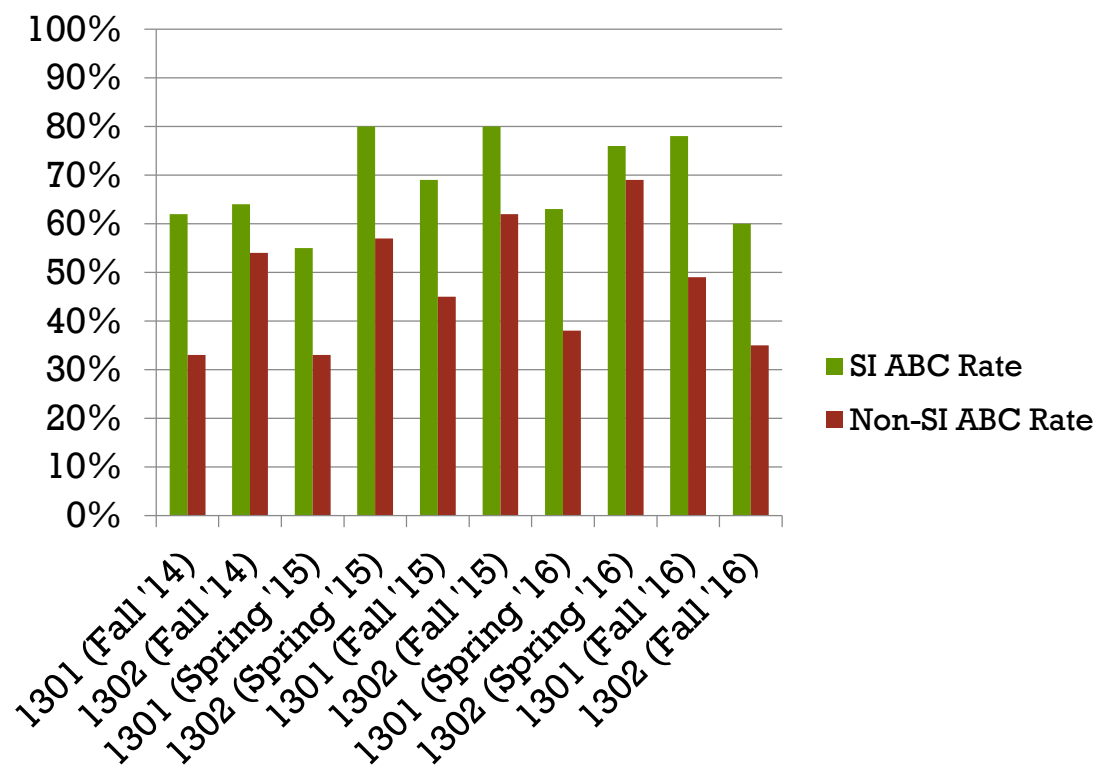- Pre-Calculus
- Calculus I
- Calculus II
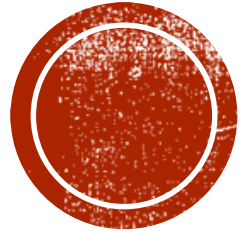
DATA SNAPSHOT

PROGRAM DATA: SELECT GATEWAY COURSES
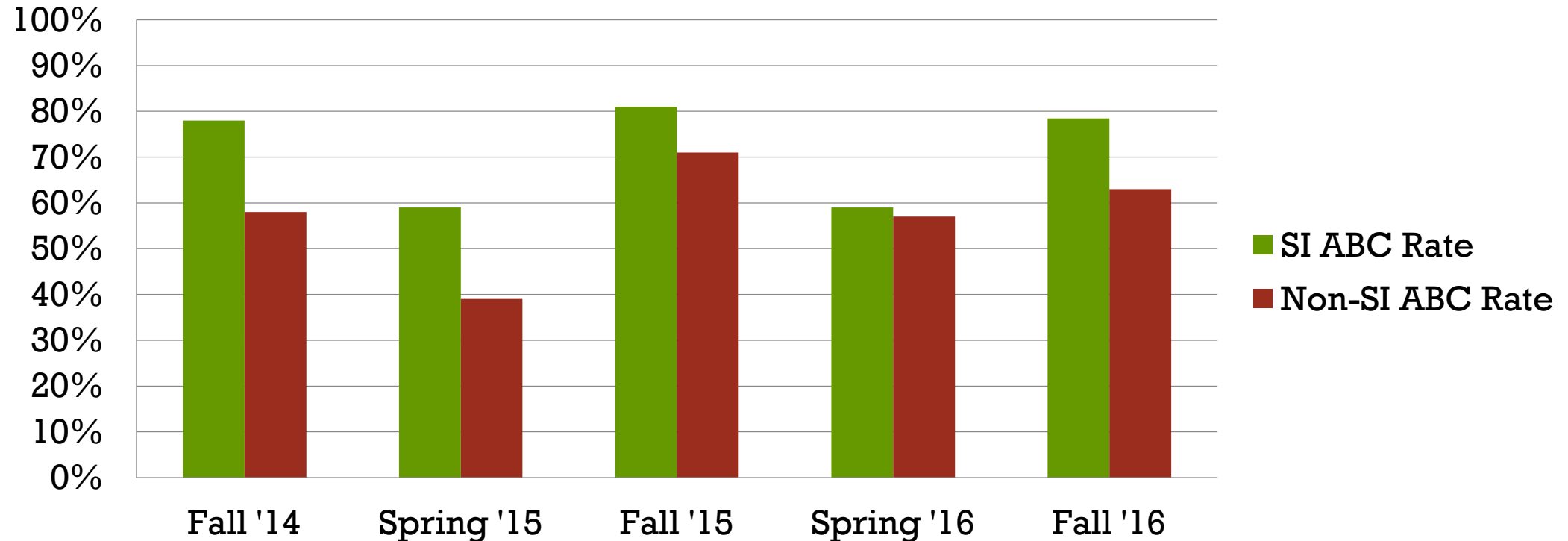
Biology   Baseline ABC Rate: 38% (Fall 2011)

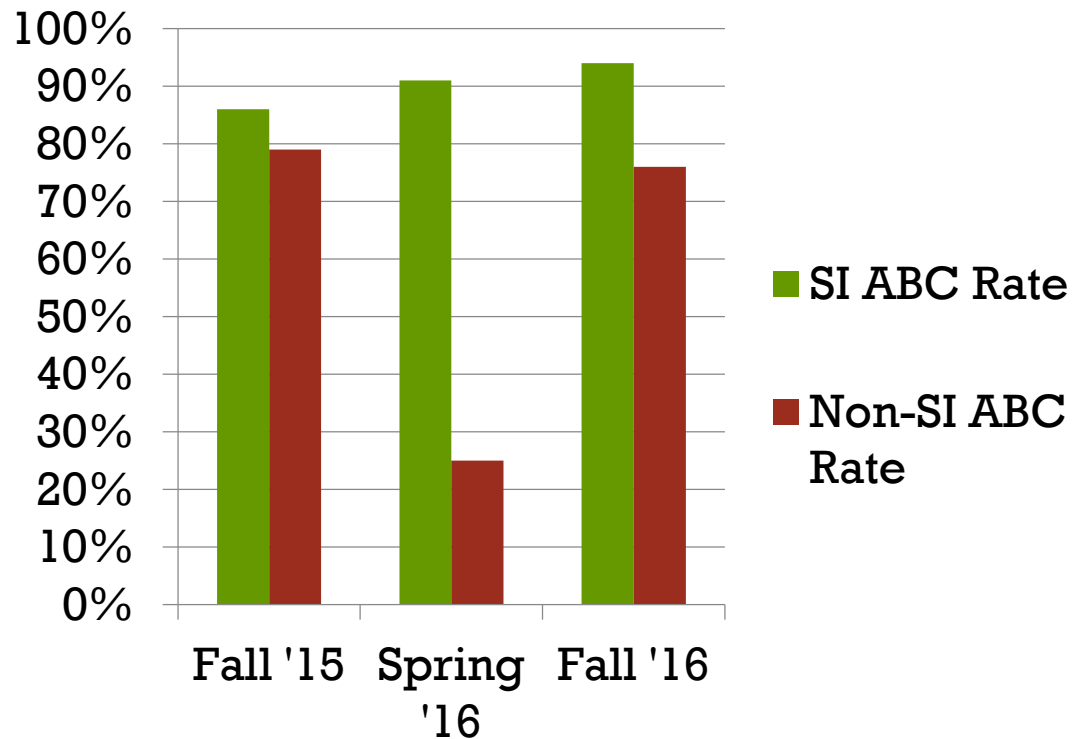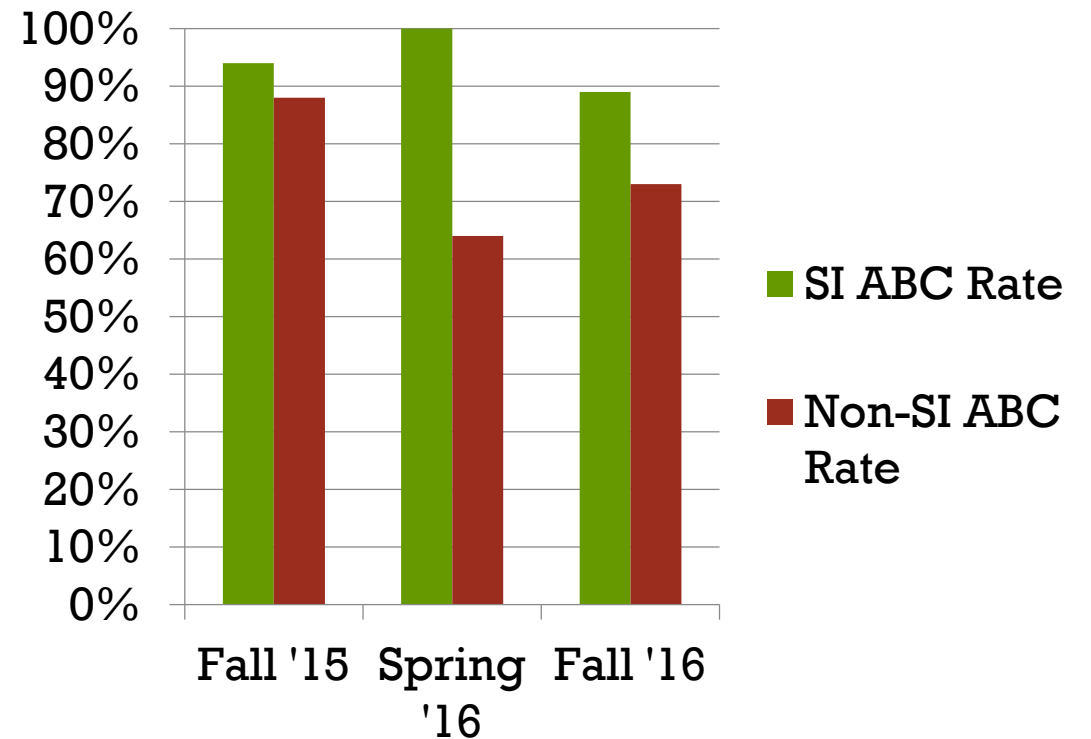**Chemistry**   Baseline ABC Rate: 44% (Fall 2011)

PROGRAM DATA: DEVELOPMENTAL COURSES

MATH 0300 Baseline ABC Rate: 54% (Fall 2013)
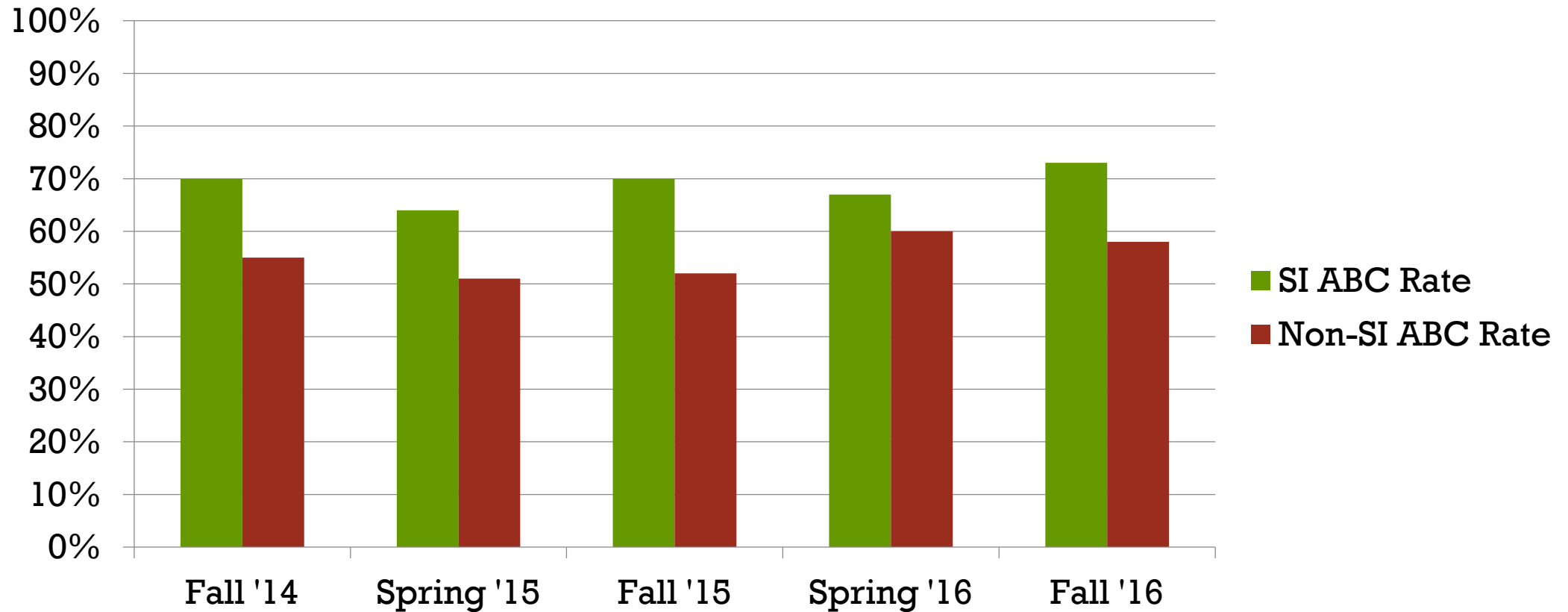
MATH 1300 Baseline ABC Rate: 49% (Fall 2013)

Note: Fall 2014/Spring 2015 enrollments/SI attendance too low for GPA comparison.

PROGRAM DATA: OVERALL

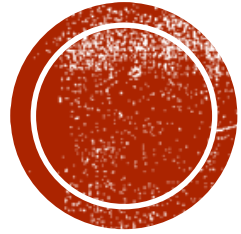# PROGRAM DATA: LIMITATIONS & FUTURE DIRECTIONS

Limitations

- Self Selection
- Low N values

Future Directions

- Retention in upper level classes
- Graduation rate
- Pass rate based on TSI score

THE ROLE OF THE SI LEADER

WHO ARE SI LEADERS?

- UHD students
- Taken and mastered the course (B or higher)

- Minimum 3.0 cumulative GPA
- Show professionalism & integrity

Spring '17 Cohort

RESPONSIBILITIES OF THE SI LEADER

University of Houston
DOWNTOWN

- Attend mandatory SI leader training
- Attend the targeted class every week
  - Be a "model student"
- Support and communicate with assigned faculty
  - Session plan feedback
  - Feedback regarding where students are struggling
- Attend and participate in SI Leader staff meetings
- Communicate with supervisor weekly

- Prepare detailed session plans
  - Session activity
  - Exam review
  - Supplemental worksheet
- Facilitate 2-4 60-minute study sessions per week
  - Be a "near peer"
- Provide additional SI sessions as necessary (e.g. prior to quizzes and exams)

ROLE OF SI LEADER IN CLASSROOM

- Role predominantly dependent on instructor
  - Can be a bridge between the instructor and students
  - Can serve as model student in group activities
  - Can help with handouts and student questions
  - Can identify specific concepts that might need further explanation

- SI leaders in classroom:
  - Are knowledgeable of class activities, learning outcomes, and course materials
  - Aid in the understanding of course content during application activities by facilitating active discussion and participation
  - Take what they learn in class (especially difficult concepts, gaps in student foundations, etc.) to enhance SI sessions

TRADITIONAL COURSES

SI Leader Carlos Guajardo facilitates a SI study session for History using Kahoot! (Fall 2016).

- Lecture-based model
  - Little to no in-class interaction amongst students/SI leader
- In-class: model student
- Out-of-class: collaborative study sessions
  - Twice a week
  - 1-2 weekly planning hours
- Communication with instructor

NON-TRADITIONAL COURSES

- Team-Based Learning (TBL)
  - Individual readiness assurance test (iRAT): individual, closed book
  - Team readiness assurance test (tRAT): team-based, open discussion

- Inverted/Flipped Lecture
  - Students cover lecture at home via online videos or book
  - Majority of the class time is focused on working problems

- Extended/Recitation
  - Class extended by 30 minutes
  - Extra time used for lecture or problem-solving

SI leader Bryttanni Duncan hosting a general biology I final exam review in the TBL classroom (Fall 2015).

ACCELERATED COURSES

- 8 week 0300/8 week 1300 or 1310

- 8 week 1300/8 week 1301

- SI leaders are staffed for accelerated developmental courses

- Class 4 times per week
  - SI interacts with students every day

- Out-of-class: collaborative study sessions
  - Four times a week
  - 2-4 weekly planning hours
 - Weekly exam reviews
  - Friday open lab for homework assistance

SI Leader Fernando Oviedo leads the MATH1300 students through a problem during their SI study session (Fall 2015).

SI STUDY SESSIONS

- SI sessions are based around activities that encourage group learning
  - Content review follows lecture
  - Each session is section-specific

- The students are the "leaders" of the session while the SI leader facilitates

- Integrate content and learning strategies

- Learning effective study habits

- Encourage study groups outside class/SI sessions

Timelines

Concept Mapping

Jigsaw
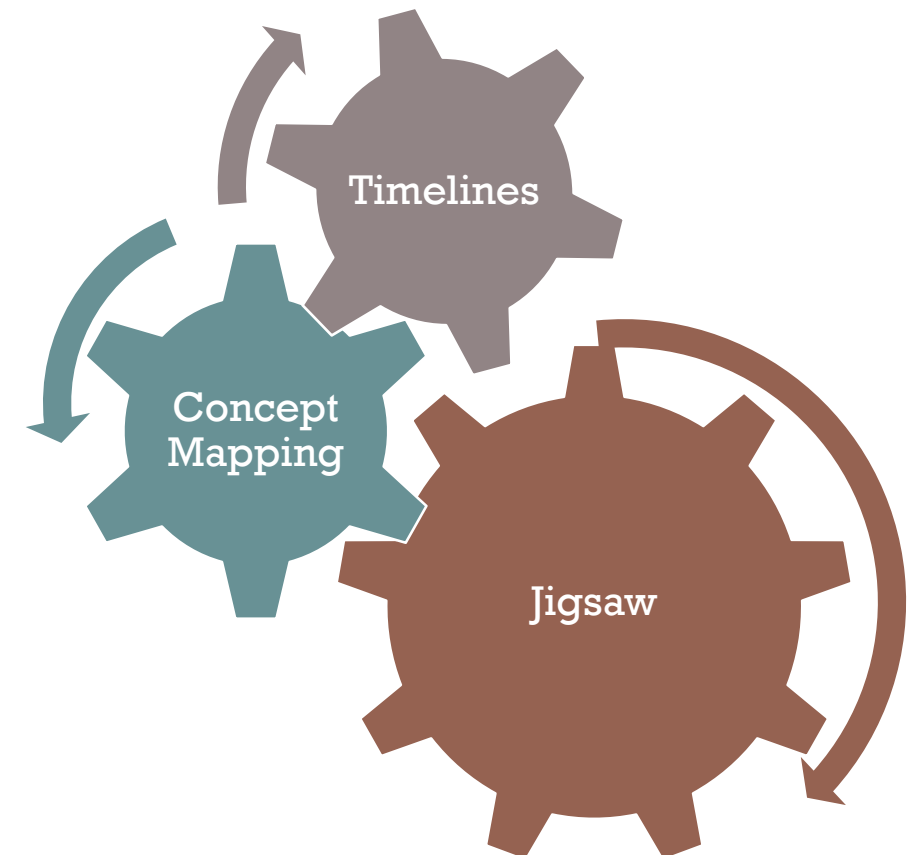
SI LEADERS VS. TUTORS

SI Leader

- Focuses on content in a specific course
- Typically works in a group setting
- Attends lectures with students
- Collaborates with course instructors regularly
- Holds sessions based upon students' availability
- Creates exam reviews based on class lecture and/or discussion with instructor

Tutor

- May focus on only the subject matter and not your specific course
- Usually one-on-one setting
- Does not attend lectures
- Is not expected to collaborate with instructors
- Tutoring sessions are by appointment
- Does not create exam reviews

SI LEADERS VS. TEACHING ASSISTANTS

SI Leader

- Peer student
- Facilitates learning by leading study sessions
- Oriented towards serving students
- Cannot grade assignments

Teaching Assistant

- An authority figure
- Teaches subject matter
- Oriented towards meeting the instructor's expectations
- Typically grades assignments

BENEFITS

To the SI Leader

- Convenient job located on campus
- Experience toward a strong recommendation letter
- Content mastery
- Opportunity to collaborate with peers and faculty
- Improved leadership and communication skills
- Excellent résumé booster
- Flexible work schedule

To the Student

- Free
- Sessions tailored to specific section
- Informal peer mentor
- Study groups outside of class
- Lasting relationships
- Especially helpful for students who may be hesitant to ask professor
- Used to identify gaps in content to instructor
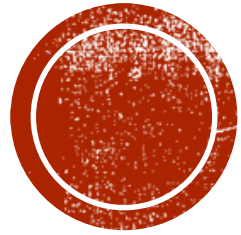
INGREDIENTS FOR A SUCCESSFUL SI PROGRAM

SI Implementation: Logistics

- Identifying difficult courses
  - DFW rate > 60%
  - Developmental, college-level, or combination

- Faculty input

- Begin program with an optimal minimum of 5 SI leaders and 1 supervisor

- Expansion
  - Supervisor-to-SI leader ratio should be kept at 1 to 20 ideally

SI IMPLEMENTATION: STAFFING

University of Houston DOWNTOWN

Recruitment

- Recruitment
  - From partnering university
  - Via email blast
  - Faculty recommendations
  - Bulletin board/media postings

Hiring

- Online application through HR
  - Faculty recommendation (required)
  - SI Leader recommendation (desirable)
- 3-part hiring process
  - 30 minute Mock SI Session
  - Group interview with SI Leaders that looks for the following attributes:
    - Professionalism
    - Written communication skills
    - Oral communication skills
    - Personality
    - Performance under stress
- One-on-one interview with coordinator

NOW HIRING!
Apply to be a Supplemental Instruction Leader!
UHD University of Houston-Downtown
Supplemental Instruction Program

The Learning Connection
Suite 405 South
One Main Building
(713) 222-5338
siprogram@uhd.edu
www.uhd.edu/si

REQUIREMENTS
- 3.0 cumulative GPA
- B or higher in desired subject
- Effective communication skills
- Faculty recommendation
- Valid social security number *(we can help with this!)*
- Must attend mandatory training prior to start of the semester
- Resume and cover letter required to be submitted with application

THE TIME TO BE AWESOME IS NOW.

The Supplemental Instruction (SI) Program is seeking SI Leaders for the following subjects:

- Biology
- Chemistry
- Mathematics
- Physics
- Geology
- History
- Political Science*
- Computer Science*
- Economics*
- Statistics*

*Need varies by semester.

For more details and to access the application, visit: www.uhd.edu/SI/apply

Note: This is a non-college work-study position. Work-study eligibility is not required.

SI IMPLEMENTATION: STAFFING

Training

- 2 Day (minimum) training in:
  - Role and responsibilities
  - SI Model - collaborative study techniques
  - Customer service (relationships)
  - FERPA
  - Title IX
  - Blackboard Learn
- 15-20 minute mock SI sessions
- First day speech practice
- Team-building activities

SI leader Evelyn Valdez holds a general biology I mock session during training (Spring 2016).

SI IMPLEMENTATION: MARKETING

- First day speech
- SI "uniforms"
- Surveying session times
- Advertising across campus
- Special events
  - Freshman Orientation
  - Welcome Week
  - Mid-term/Final review session
  - Standardized testing review
  - Open house
  - Faculty networking session

SI IMPLEMENTATION: FUNDING

- Cost/SI leader
  - $9-12/hr depending on comparative rates at your university
  - SI leaders start the first week of class and are employed until the last week of class

- Possible option: stipend

- At UHD:
  - $12/hr x 16 weeks/semester x 7 hrs/week x fringe benefits ≈ $1,500 per SI leader per semester

- Options for funding:
  - Institutional grants
  - Federal grants
  - State grants
  - Private grants
  - Fee for service?

SI IMPLEMENTATION: FACILITIES

- Optimal environment for collaborative SI sessions:
    - Group tables
    - White boards (big and small)
    - Relatively quiet
    - Projector/Smartboard

- SI session planning environment:
    - Quiet space
    - Access to computers and other materials (notecards, Post-its, etc.)
    - Course textbook

- Possible options (in case of space limitations):
    - Work from home
    - Online sessions
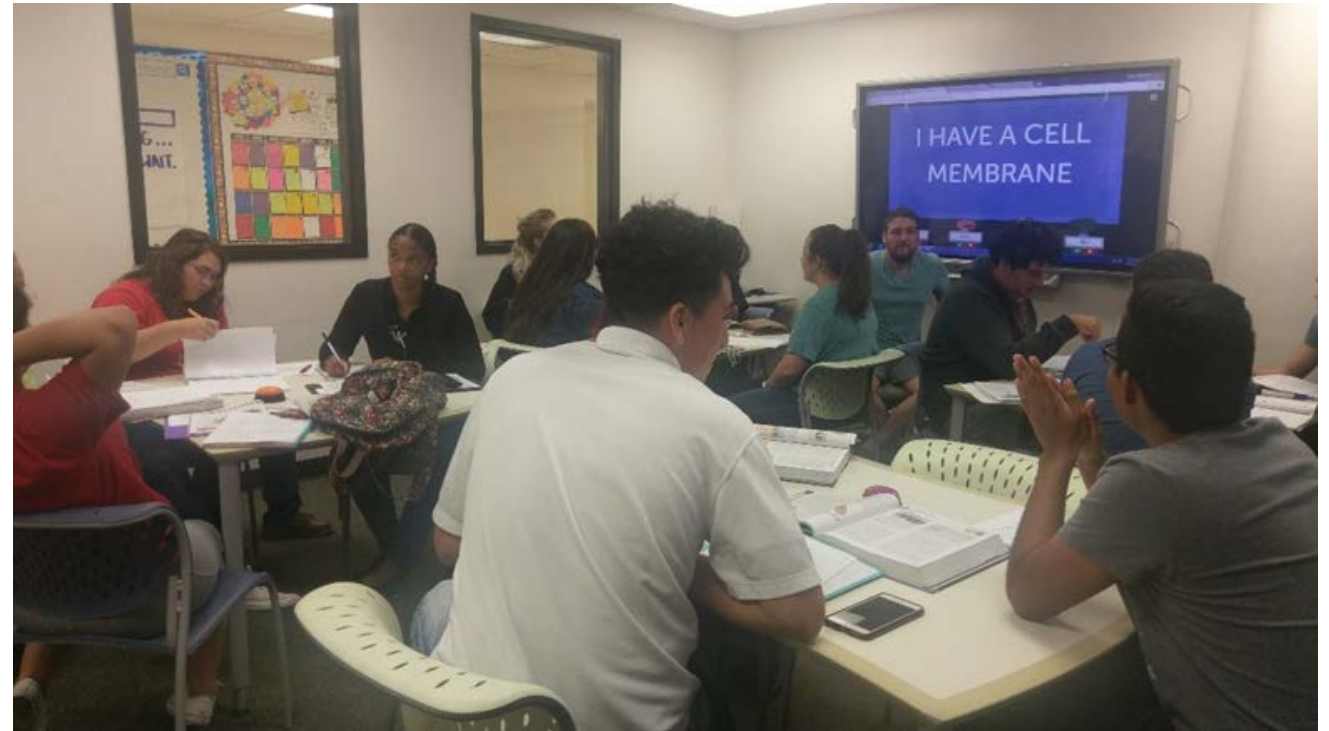
SI Leader Aaron Lee holds a biology exam review using jeopardy (Fall 2016).

SI Implementation: Supervision

- Ratio - 1 supervisor:20-25 SI leaders (max)
- Regular observations
- Weekly check-ins
- Monthly staff meetings
- Performance record/evaluation

- Mentoring of new SI leaders
- Regular communication with faculty
- Administrative assistance
  - Work study students
  - Full-time staff
  - Mentors

SI IMPLEMENTATION: MENTORING

- Mentoring program implemented in Fall 2015

- Purpose:
  - Mediate communication between SI Leader and Supervisor
  - Increase rapport and camaraderie between new and incoming SI leaders
  - Provide immediate feedback for SI leaders
  - Improve transfer of SI-related resources and advice
  - Create a record of performance in order to determine eligibility of rehire

Francisco Delgado (SI leader for history) meets with his mentee, Jackie Olvera (SI leader for history) to provide feedback about her last exam review (Spring 2016).

SI IMPLEMENTATION: ASSESSMENT

Qualitative

- Faculty surveys
  - SI leader performance in class
  - Attendance/communication
  - Participation in class activities
- Student surveys
  - SI leader performance
  - Effectiveness of SI program
  - Session scheduling feedback
- SI leader surveys
  - Effectiveness of supervision and training
  - Positive and negative experiences
  - Advice for future SI leaders

Quantitative

- At UHD: TutorTrac + Banner
- GPA comparison
- Pass Rate
- Attendance rate
- Repeat attendees

SI IMPLEMENTATION: PARTNERSHIPS

- Funding partnerships
  - Teaching and Learning Centers
  - Departmental grants that include a tutoring component
- Staffing partnerships
  - Recruiting through university honors program
  - Recruiting through field experience in teaching

- Supervision partnerships
  - Faculty liaisons
  - Graduate students
- Facilities partnerships
  - Shared tutoring space
  - Empty classrooms

POSSIBLE CHALLENGES

- Staffing limitations
  - Supervision of leaders
  - Administrative tasks (assessment, time reporting, scheduling, etc)

- Funding Limitations
  - Finding/renewing grants

- Space/noise limitations
  - Prioritizing SI with other university activities

- SI Leader burnout
  - Maintaining SI responsibilities with undergraduate coursework
  - Repeating same course multiple times

- Pushback

SI IMPLEMENTATION: RESOURCES

- UMKC supervisor training (umkc.edu/SI)
  - Held multiple times during the year
  - Training materials provided for supervisors and SI leaders
  - Can hold on-site training workshop at your university

- SI Conference
  - Regional Conference (May 2017) Texas A&M-College Station
  - International Conference (May 2018) Seattle, Washington

- SI Net (info.umkc.edu/SI/SI-net)
  - Online forum to ask questions
  - Network with other coordinators, faculty, supervisors, and SI leaders

CONCLUDING REMARKS

- Supplemental Instruction relies on collaborative study strategies to facilitate learning and team-building.

- Studies have shown students perform better when they study in groups as opposed to only studying alone.[1,2,3]

- Study showed that No. 1 positive factor in FTIC retention was group studying.[4]

- At UHD, Supplemental Instruction has become an integral part of student learning.

- It is not an easy journey!

ACKNOWLEDGEMENTS

- Texas Higher Education Coordinating Board

- Texas State University Round Rock

- University of Houston-Downtown
  - University College
  - Center for Teaching & Learning Excellence
  - Department of Math & Statistics
  - Department of Natural Science
  - Department of Urban Education
  - College of Humanities and Social Sciences

- International Center for Supplemental Instruction, University of Missouri-Kansas City
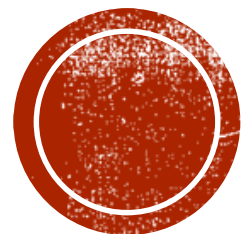
THANK YOU!

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