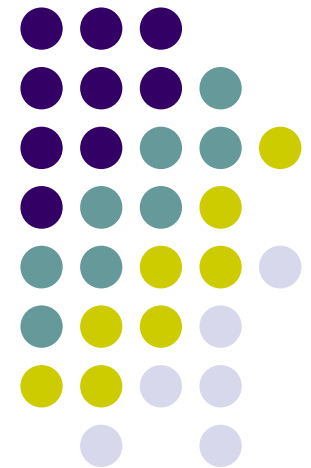
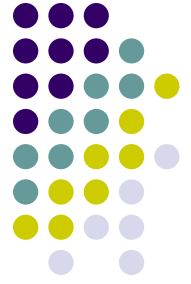


An Analysis of Student Learning Outcomes in Multi-Sections of a *Microsoft Office Software Application* Course Using Instructor Team Assessments

2007 OSRA Research Conference
March 15, 2007
San Diego, CA

Presented by
Lillie A. Robinson, EdD
Thelma C. King, PhD
NC A&T State University
Greensboro, NC



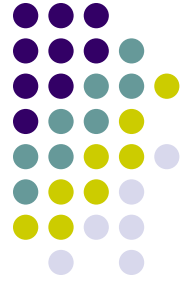


Background of the Study

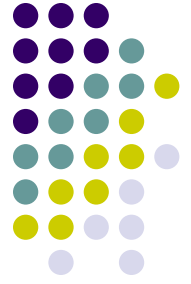
- Preparation for an AACSB-I re-accreditation visit
 - Require quantitative evidence of student achievement



Purpose of the Study



- To find best practices for assessing achievement
- To assess methods of instruction for effectiveness
- To determine if similar learning outcomes were achieved across multi-sections of the course taught by different instructors
- To assist other instructors to identify best practices for assessing student achievement and for determining teacher effectiveness

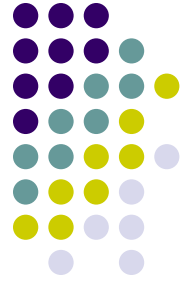


Literature Review

- Team Assessment/Collaborative Assessment
- Student Learning Outcomes in Computer Application Courses
- Methods of Teaching Computer Applications

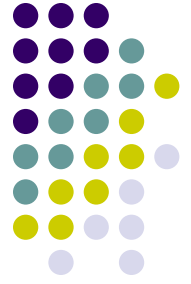


Team Assessment/Collaborative Assessment



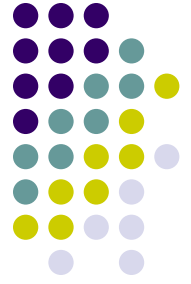
- Blythe, T, Allen, D and Powell, B S (1999) indicate that many instructors, who examine student work together, want to learn about their effectiveness as instructors and to better understand students' learning and development. They also indicate that by working together, instructors can develop more effective curriculum and assessment, and create ways to motivate students to create higher quality work.

Team Assessment/Collaborative Assessment



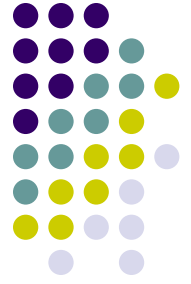
The Instructional Improvement Through Inquiry and Collaboration (IITIC) project, funded by the DeWitt Wallace-Reader's Digest Fund, the Southern Maine Partnership and the CES Northwest Center, worked with three schools to assess and improve classroom instruction. It was stated that,

- Action research, examining student work, and peer observation and coaching are the centerpieces of the project.
- In addition, one of the objectives was to pilot strategies, tools, and resources which will enable teachers to assess and improve their instructional strategies both individually and as an entire faculty.



Methods of Teaching

- Students are very diverse and have varying levels of computer experience.
- Instructors have various teaching styles and familiarity with the content. Such factors often lead to inconsistent presentation of content, style, and scope of presentation (Passerini & Granger, 1998).
- Greater learning was found to occur when instruction was carried out using varied media and interactive applications.



Methods of Teaching

In a research study conducted by Dunsworth, Martin and Igo (2004) consisting of 329 students and 11 instructors, the

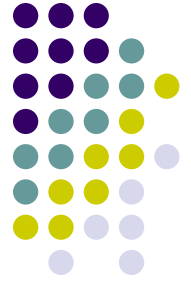
Top instructional tools preferred by students were

- ✓ classes taught using hands-on projects,
- ✓ in-class activities used to develop practical skills,
- ✓ and handouts for activities and projects.

Tools found to be least helpful

- ✓ Reading from textbook
- ✓ On-line discussions

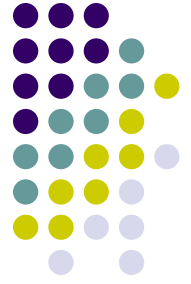
Pre-designed *PowerPoint* presentations could be used to make the information covered in multiple sections more consistent across sections.



Methods of Teaching

- Wiggs & Huter (1998) state that students benefit when they are exposed to a variety of teaching methodologies and learning environments such as
 - independent work
 - small groups
 - cooperative learning activities.

Methods of Teaching



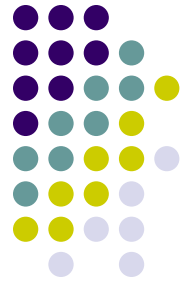
- Dunsworth et. al. state that
 - problem-solving skills should be taught along with the course content in the advanced course.
 - Use of peer tutors working with classmates help to develop and sharpen problem-solving skills.

Methods of Teaching



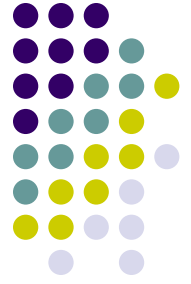
- Davis (1999) found that students
 - learn more when they are allowed to work in labs together or when
 - informal peer tutoring and support are available.
- Smith & Tarkow (1998) found that learners
 - prefer to customize learning at their own pace.

Student Learning Outcomes



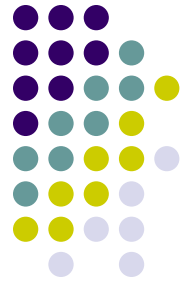
- For introductory computer applications classes is for students to gain skills using basic software concepts.
- For advanced computer applications courses is for students to be taught to use computer applications as a tool to organize and transfer skills to real-world problems, thereby, providing information to assist in problem-solving (Wiggs & Huter, 1998; Chen & Ray, Spring 2004).

Strategies for Teaching African-American Students



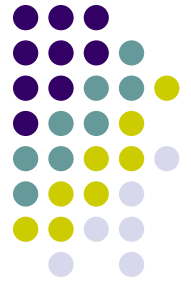
- Many African American students respond highly to cooperative learning. Consider small group assignments and projects.
- Be aware that many African Americans' discussion style is simultaneous talk instead of alternating talk.
- Many African American students prefer to study while music or conversation occurs in the room
- Efforts should be made to increase minority students' motivation and interest in testing by helping them feel comfortable and at ease.

Strategies for Teaching African-American Students cont'd.



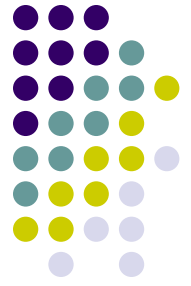
- Many African American students prefer more kinesthetic/ tactile learning.
- Many African American students prefer subdued lighting rather than bright light.
- Many African American students rely heavily on visual input rather than auditory input.

Strategies for Teaching African-American Students con.



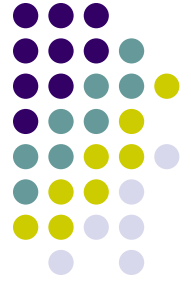
- Many African American students react intensely to being praised or criticized. They respond better to rewards such as praise, smiles, pats on the back, and the like.
- Many African American students avert their eyes while being confronted about their behavior, teachers may misinterpret their lack of eye contact as indicating insincerity and guilt.
- Whenever possible select texts and readings whose language is gender-neutral and free of stereotypes.

Methodology



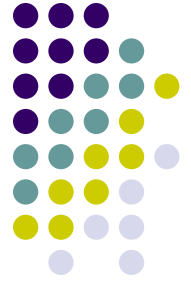
- Six class sections held in fall 2005 and spring 2006
 - 2 sections taught by Instructor 1 – 1 in fall 2005 & 1 in spring 2006
 - 4 sections taught by Instructor 2 – 2 in fall 2005 & 2 in spring 2006
- 120 students

Methodology



- Sample
 - 120 students – 34 males and 86 females
 - 63% (75) enrolled in the School of Business
 - 23% (27) enrolled in the School of Agriculture
 - 11% (13) enrolled in the College of Arts & Sciences
 - 2% (2) enrolled in the School of Education
 - 1% (1) enrolled in the School of Nursing

Methodology



- Sample Cont'd
 - 31 freshmen
 - 44 Sophomores
 - 31 Juniors
 - 14 Seniors

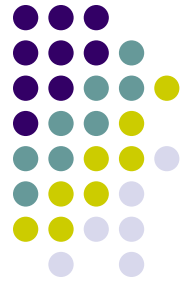
Methodology



- Student Assessment Methods
 - Jointly prepared objective tests from a test bank by the text book authors to assess learning in *Word, Excel* and *Access*
 - Jointly prepared hands-on tests in *Word, Excel* and *Access*
 - Jointly prepared rubrics to assess student outcomes on hands-on tests

Teaching Strategies & Methods using,

The O'Leary Series: Microsoft Office 2003, Volume 1



Instructor 1

- Independent practice
- Individualized Instruction
- Demonstrations
- *PowerPoint* Presentations
- On Line Text Book
- Quizzes
- Unit/Lab Overviews via lecture – 2nd Semester

Instructor 2

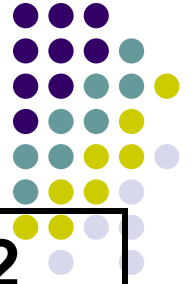
- Unit/Lab overviews via lecture
- Discussion
- Demonstrations
- Guided practice
- Individualized instruction
- Independent practice.



Teaching Strategies Used

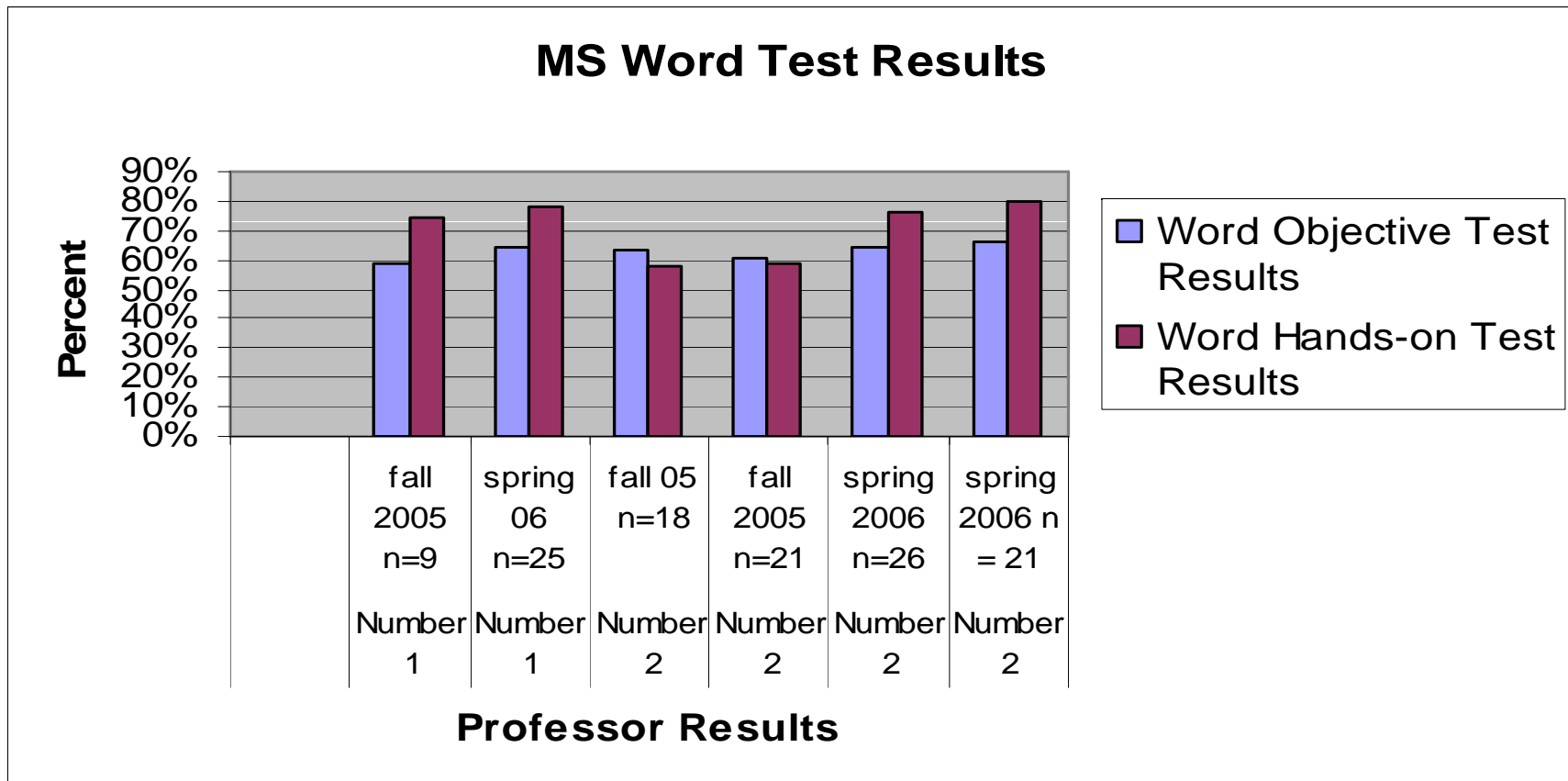
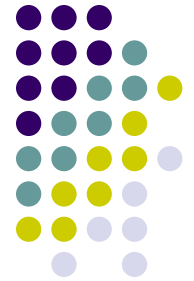
Semester	Instructor	Percent of Time for Lecture, Discussion, Demonstrations	Percent of Time for Hands-on with Individualized Instruction
Fall 2005	#1	30%	70%
	#2	40%	60%
Spring 2006	#1	35%	65%
	#2	40%	60%

Teaching Tools Used

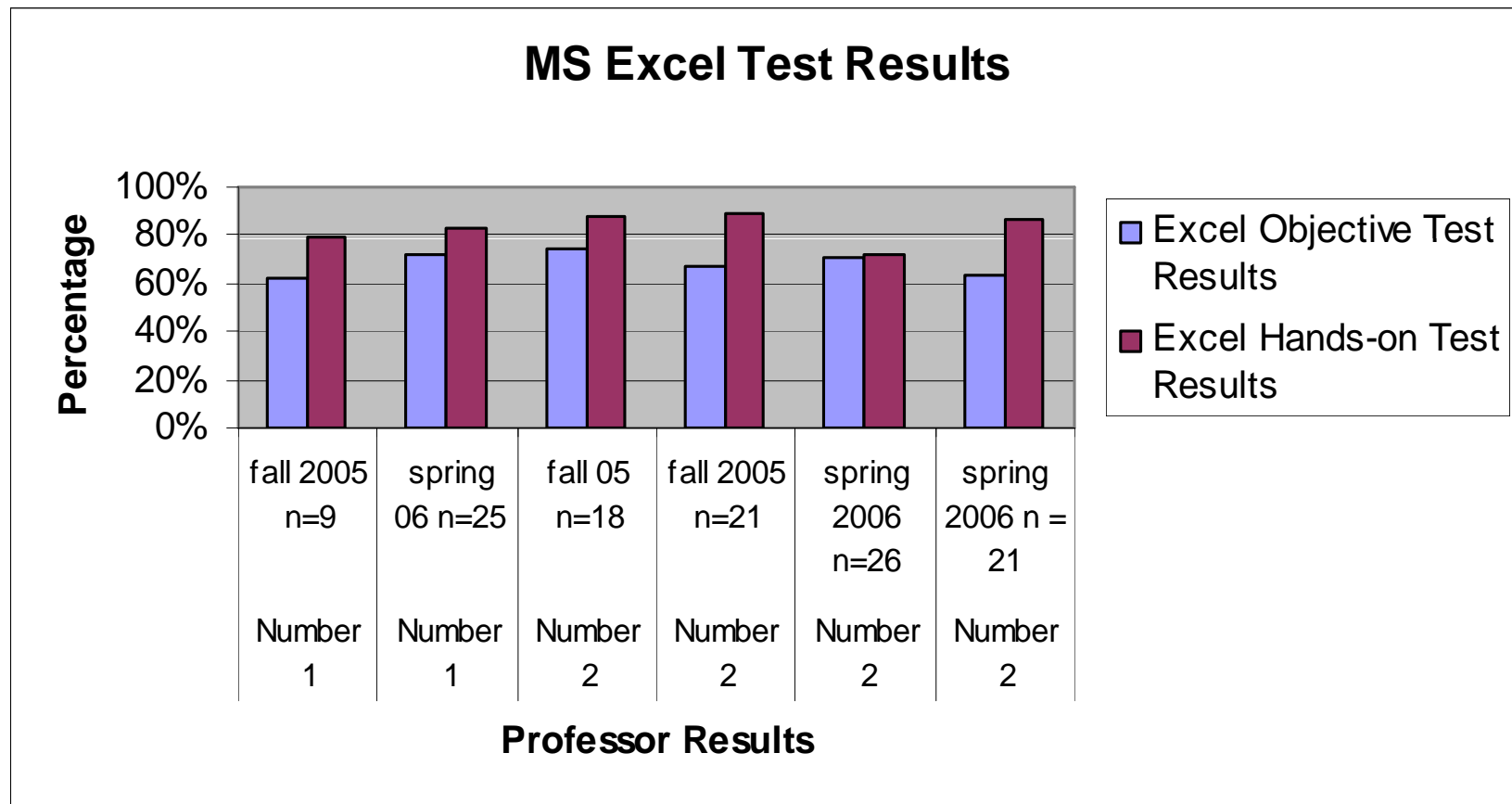


Teaching Tools	Instructor #1	Instructor #2
Textbook Power Point Slides	x	
Textbook Online Quizzes	x	
Suggest that students take online textbook quizzes	n/a	x
Assign select end of chapter homework exercises for grade		x
Check and grade all labs	x	
Give optional bonus work	x	
Peer Assistance	x	x

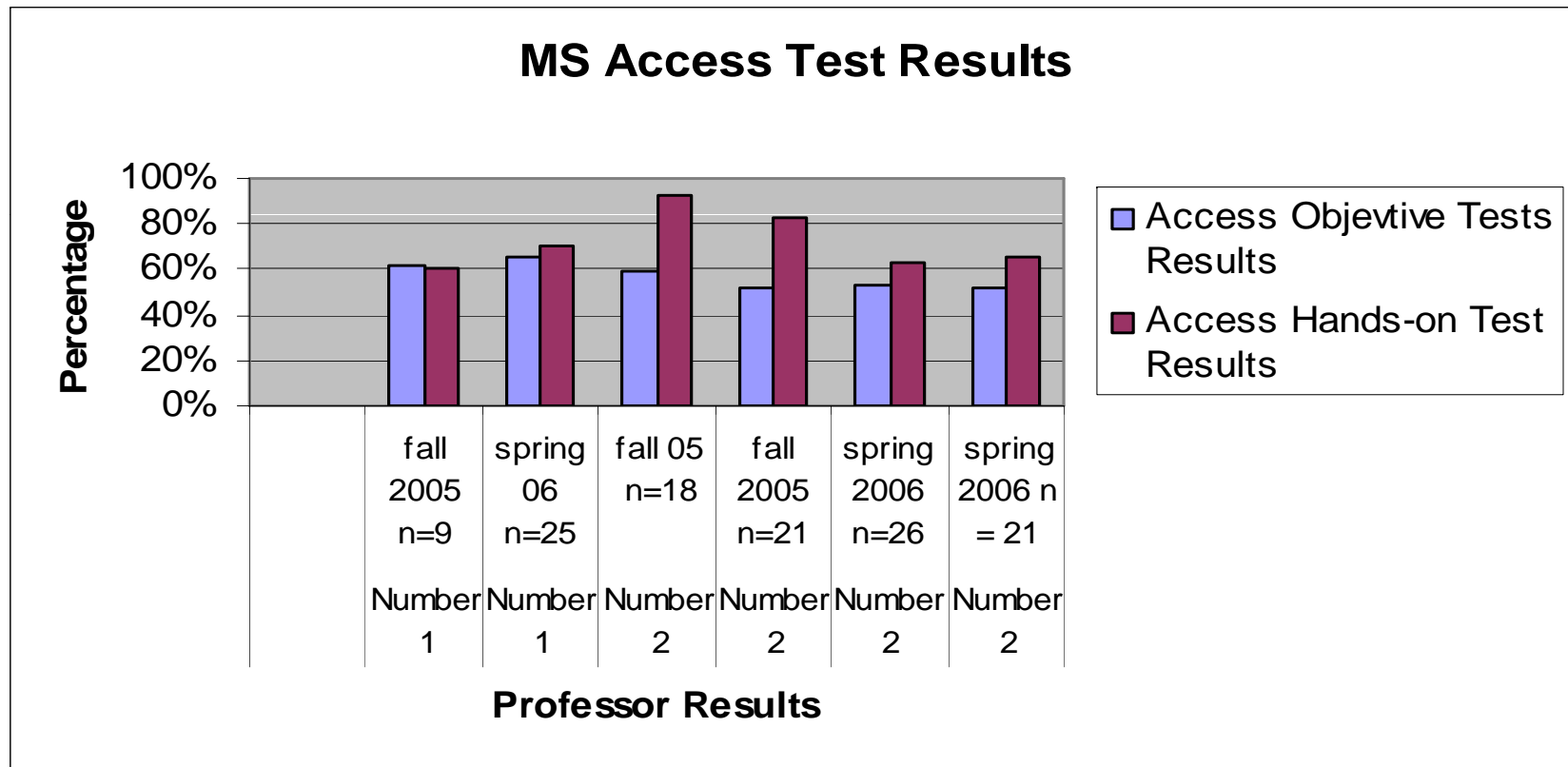
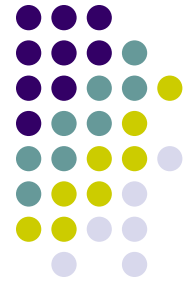
MS Word Test Results



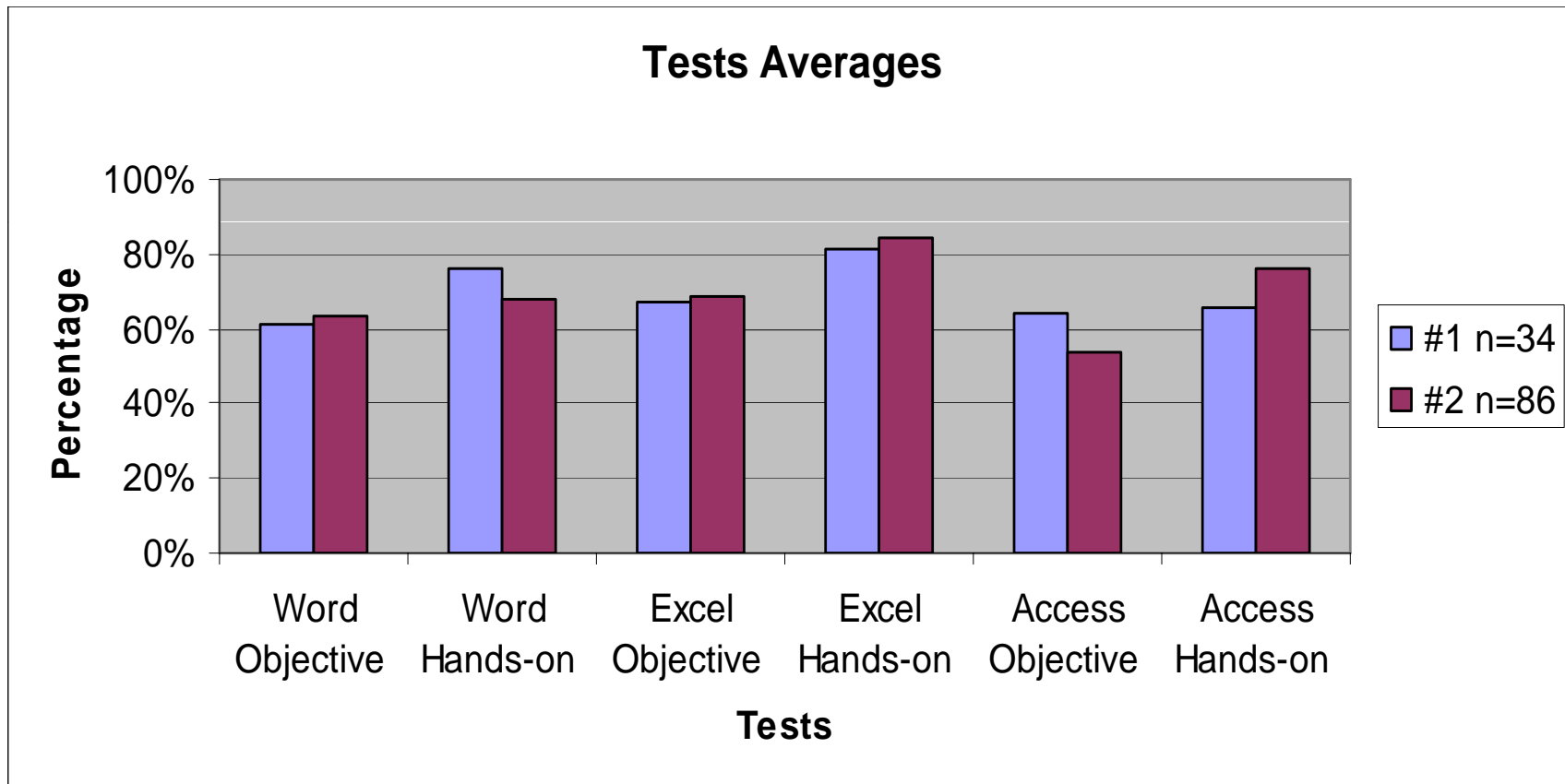
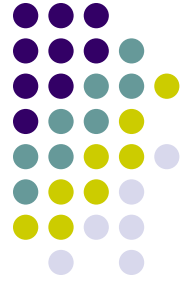
Excel Test Results



Access Test Results



Tests Averages



Suggestions/Recommendations



- Keep track of teaching strategies used each semester and adjust/change as needed
- Use pre/post tests to discern student knowledge
- Give more timed graded performance exercises
- Discuss objective test items during class and require students to take practice tests

