

2008 NABTE  
Research Conference

Book of Readings

San Antonio, Texas  
March 2008

Listing of 2008 NABTE Research Conference Presenters

8:30 am – 9:20 am

THE ROLE OF PRACTICE IN THE LEARNING PROCESS

Dr. Judy Clark

Northwest Missouri State University

AN ANALYSIS OF RESEARCH THEMES IN BUSINESS EDUCATION RESEARCH  
REPORTED IN *DPE* AND *NABTE REVIEW* JOURNALS

Dr. Teresa Yohon, Senior Research Scientist

Colorado State University

and

Dr. Cyril Kesten, Professor of Education, Faculty of Education

University of Regina

9:30 am – 10:20 am

ADMINISTRATIVE TECHNOLOGY SUPPORT IN BUSINESS EDUCATION  
CLASSROOMS

Dr. Glenn A. Bailey, Assistant Professor and Business Teacher Education Program  
Coordinator

Illinois State University

PROFESSIONAL DEVELOPMENT IN BUSINESS EDUCATION: STATUS, NEEDS,  
MOTIVATORS, AND IMPACT ON INSTRUCTION

Ms. Kellie A. Shumack, Business Education Teacher

Prattville High School

and

Dr. Connie M. Forde, Professor

Instructional Systems, Leadership, and Workforce Development

Mississippi State University

10:30 am -11:30 am

THE TEACHER EDUCATION SUMMIT TASK FORCE REPORT

Dr. Wayne A. Moore, Professor and NABTE President-Elect

Indiana University of Pennsylvania

**The Role of Practice in the Learning Process**

**Dr. Judy Clark**  
**Northwest Missouri State University**

**Dr. David W. Brooks**  
**University of Nebraska – Lincoln**  
**Teaching, Learning, & Teacher Education**

## *Introduction*

We are able to design robust learning environments that facilitate a student's acquisition of skilled learning, thinking, and problem solving (De Corte et al., 2004). Practice activities can be implemented to introduce the student to novel information. These activities should be performed frequently as it is believed that the amount of practice directly correlates to the level of performance (Dunn & Shriner, 1999). This practice must be a specific type of practice that is focused and intensive (Brooks & Crippen, 2005; Hodges, Starkes, Kerr, Weir, & Nananidou, 2004). As the students devote time to practice, they are able to develop cognitive structures that mediate learning. In time, those structures can be automated to further enhance the student's performance.

The purpose of this study was to determine if learner practice results in a higher level of performance in a college-level computer skills course. The two research questions to be answered were: 1) Is there a significant correlation between the amount of training activities practiced by the student and the student's score on the actual assessment, and 2) Is there a significant correlation between the amount of training activities practiced by the student and the student's normalized gain score?

## *Student Assessment Procedures*

Assessments were given at scheduled intervals throughout the semester during regularly scheduled class periods. The computer application assessments were administered using a commercial software program called SAM (Skills Assessment Manager). This software has both training and assessing components. The student first completed a pretest to help determine their current knowledge level. The students were then given the opportunity to prepare for an assessment by completing training components. SAM provided the student with tasks that supported a self-regulated learning environment, provided the student with feedback, and offered the student an opportunity to practice corrected performance which van Gog, Ericsson, Rikers, and Paas (2005) consider an essential characteristic of practice activities.

## *Results*

Reports generated from the SAM server revealed a student's assessment scores and the number of practice activities completed prior to the assessment. Each student completed six pretests and six actual assessments – Word, Excel A, Excel B, PowerPoint A, PowerPoint B, and Access. SPSS software was used for the statistical analysis of the data. A Pearson Correlation was used to determine if there was a significant correlation between the actual assessment scores and the amount of training completed prior to the assessment.

The pretest scores and the actual assessment scores were analyzed to determine the normalized gain score  $g$  using the Hake model (as cited by Meltzer, 2002).

$$g = \frac{\text{assessment score} - \text{pretest score}}{\text{maximum possible score} - \text{pretest score}}$$

The Pearson Correlation was used to measure the relationship between the normalized gain score  $g$  and the amount of training completed by the participant prior to taking the actual assessment.

Follow-up tests were conducted to evaluate the three pairwise differences among the means for the participants based on their level of practice activities completed.

Because six measures were involved, to be deemed significant in this study, a measure was required to have an alpha level of  $\leq 0.002$  (Weisstein, 2004).

In each case, the data revealed a significant correlation between the number of practice activities completed by the participant and the participant's actual assessment score (Table 1).

Table 1  
*Pearson Correlation for Practice Completed and Post Test*

Question	Number of Tasks	Pretest Score	Practice Completed	Post Test	Pearson Correlation
1 - Word	30	11.63	16.35	25.20	0.343*
2 - Excel A	25	11.61	17.46	23.22	0.358*
3 - Excel B	25	10.38	16.66	22.13	0.304*
4 - PowerPoint A	25	14.54	15.97	23.76	0.299*
5 - PowerPoint B	25	12.98	17.02	23.49	0.311*
6 - Access	25	8.54	16.68	19.46	0.527*

\*Correlation is significant at the 0.002 level.

The participant's results were then divided into three groups based on the number of practice activities completed. The three groups were those students completing all of the practice activities, those completing some of the practice activities, and those not completing any practice activities. A one-way ANOVA comparing the exam scores of the participants based on their level of practice activities completed was computed. A significant difference was found for the Word, Excel A, Excel B, PowerPoint B, and Access Exams.

Tukey's HSD was used to determine the nature of the difference between the levels of practice completed. This analysis revealed that those students who had completed all of the practice activities scored significantly higher on the Word, Excel A, PowerPoint A, and the PowerPoint B Exams than those completing no practice activities. This analysis also revealed that those students completing all of the practice activities scored significantly higher on the Excel B and the Access Exam than those completing either some or no practice activities.

A normalized gain score was calculated using the Hake model. According to Hake (1998), a normalized gain score that is  $> 0.7$  is a high gain score. The results revealed a high gain score on the Word, Excel A, Excel B, PowerPoint A, and PowerPoint B exams.

The Access exam revealed a medium gain score ( $M = 0.657$ ,  $SD = 0.250$ ). A Pearson correlation coefficient was calculated for the relationship between the number of practice activities completed by the participant and the participant's normalized gain score. The correlation was found to be significant for the Word, Excel A, Excel B, PowerPoint B, and Access exams.

The normalized gain scores were divided into three groups based on the number of practice activities completed. The three groups were those completing all practice activities, those completing some practice activities, and those not completing any practice activities. A one-way ANOVA comparing the normalized gain scores of the participants based on their level of practice activities completed was computed. A significant difference was found for the Word, Excel A, Excel B, PowerPoint B and Access Exams.

Tukey's HSD was used to determine the nature of the difference between the levels of practice completed. This analysis revealed that those students completing all of the practice activities experienced a significantly higher gain score on the Word, Excel A, and PowerPoint B Exams than those participants completing no practice activities. This analysis also revealed that those students completing all of practice activities experienced a significantly higher gain score on the Excel B and Access exams than did those completing some or no practice activities.

### *Summary*

The data revealed that those students utilizing all of the training activities performed best on the tests and achieved the highest normalized gain scores. Even though the practice activities were available, the students had to determine for themselves the amount of time they were willing to invest in order to prepare for the actual tests.

There could have been some learning from test and retest. Although both the pretests and the practice activities covered the same concepts as the performance tasks, the student had to apply the learning in a different context in order to be successful on the actual exam.

This study revealed that students were able to improve their level of performance regardless of the number of practice activities completed. However, the students completing all of the training activities were able to perform at a higher level on the assessments than were those students completing either no or some practice activities.

## References

- Brooks, D. W. & Crippen, K. J. (2005). *Understanding why worked examples work*. Retrieved on February 1, 2006, from <http://dwbrr.unl.edu/iTech/TEAC960/Read/Chem.pdf> .
- De Corte, E., Verschaffel, L., & Masui, C. (2004). The CLIA-model: A framework for designing powerful learning environments for thinking and problem solving. *European Journal of Psychology of Education*, 19, 365-384.
- Dunn, T. & Shriver, C. (1999). Deliberate practice in teaching: what teachers do for self-improvement. *Teaching and Teacher Education*. 15, 631-651.
- Hake, R. R. (1998). Interactive-engagement vs traditional methods: A six-thousand-student survey of mechanics text data for introductory physics courses. *American Journal of Physics*, 66(1), 64-74.
- Hodges, N. J., Starkes, J. L., Kerr, T., Weir, P. L., & Nananidou, A. (2004). Predicting performance times from deliberate practice hours for triathletes and swimmers: What, when, and where is practice important? *Journal of Experimental Psychology*, 10(4), 219-236.
- Meltzer, D. E. 2002b. "Normalized Learning Gain: A Key Measure of Student Learning," Addendum to Meltzer (2002a). Retrieved August 9, 2006 from [http://www.physics.iastate.edu/per/docs/Addendum\\_on\\_normalized\\_gain.pdf](http://www.physics.iastate.edu/per/docs/Addendum_on_normalized_gain.pdf).
- van Gog, T., Ericsson, K, Rikers, R., & Paas, F. (2005). Instructional design for advanced learners: establishing connections between the theoretical frameworks of cognitive load and deliberate practice. *Educational Technology Research and Development*, 53(3), 73-81.
- Weisstein, E. W. (2004) "*Bonferroni Correction*." Retrieved on August 17, 2007, from <http://mathworld.wolfram.com/BonferroniCorrection.html>.

**An Analysis of Research Themes in Business Education Research  
reported in *DPE* and *NABTE Review* Journals**

**Dr. Teresa Yohon  
Senior Research Scientist  
Colorado State University**

**Dr. Cyril Kesten  
Professor of Education  
Faculty of Education  
University of Regina**

### *Research Study's Purpose and Objectives*

The goal of this research study is to understand the nature of published business education research literature. This analysis will allow business educators to identify the current strengths in business education literature as well as needed research areas.

Business Education is still defining itself. Research is one way to determine its definition and focus. Therefore a consideration of content in our major research journals is a timely endeavor. This research session will identify the research themes in business education literature through an analysis of 12 years (1994-2006) of research as published in the *NABTE Review* and the *DPE Journal*.

This study is a follow-up to prior studies on business education research needs. For example, in a volume of the *DPE Journal*, Rader and Wilhelm (2002) provided a long list of prioritized research topics. NABTE regularly polls its members to describe the condition of Business Teacher Education in the United States. Chalupa (2003) suggested a number of areas to be considered for research projects.

This study is framed by three broad research questions:

- What do we know based on business education research?
- What do we know about business education in relation to business teacher education, and in relation to business education content?
- Can we define business education by looking at research?

Ultimately this analysis will be intertwined with the data and results of other studies to assist in identifying unifying foci for the future of research in Business Education.

### *Methodology and Procedures*

Prior frameworks used to understand the state of business education and other areas of research were reviewed to determine data categories. All articles published in the *NABTE Review* and the *DPE Journal* from 1994 to 2006 were reviewed, analysed and described using the following framework:

Title of the article  
Journal  
Date of publication  
Author (s)  
Author's institution(s)  
Context/Purpose of the study  
Questions addressed by the study  
Design of study (quantitative/qualitative)  
Study Type Descriptor (e.g. survey)  
Procedure

Conclusions  
Recommendations  
Further research  
Researcher's impressions  
Area of Business Education  
Contribution to Business Education

To test the framework, the researchers separately analyzed one year of *NABTE Review* and *DPE Journal* articles. Framework categories were modified for clearer delineation of information into categories; however, researchers did not differ in their interpretations of articles given the framework. Therefore interrater reliability was maintained.

The completed framework was analyzed to determine a concept map of business research knowledge over the past twelve years, level of rigor of statistical analysis and methodology, and recommendations for future research. Identified themes were then compared to recommendations made by PCBEE, DPE and NABTE as to what are the important research issues in business education.

### *Theme Analysis*

To support this framework analysis, the general literature concerning theme analysis was reviewed. In a theme analysis approach to understanding research literature, the analyst attempts to describe the recurring ideas, characteristics, themes and approaches of the literature in question. (McMillan & Schumacher, 1997). Creswell (2002) suggests a six step approach to analyzing qualitative data. The first four steps are relevant to this project.

1. Organize and prepare the data for analysis
2. Read through all the data
3. Determine relevant characteristics and code these for each item
4. Analyze the coded data to describe the themes.

Thematic analysis demands that the researcher organize the data in logical and meaningful data sets through a consideration of the meaning of the individual bits of data. This organization then becomes a way of understanding and defining the data.

This step of the research process was discussed by the researchers in a presentation and proceedings paper entitled *A meta-analysis of business education research literature at the 2005 DPE Research Conference*. (2005)

According to Blaszczyński and Scott (2003), finding research literature on Business Education is becoming more difficult. This study is intended to create a theme analysis of the content of the articles published in the premier journals in Business Education. The research 'conversations' revealed in the contents of the articles will establish a baseline for consideration of future research efforts within Business Education. What has been

researched and reported over the last twelve years must be considered in terms of whether these articles will define the future of research in this area.

### *Findings*

Initial findings of this study were presented at the 2006 DPE Conference in a presentation entitled Looking at Business Education Literature. The 2006 presentation provided information on the ‘demographics’ of the data, identified the themes and compared these to the suggestions made by Rader and Wilhelm (2002).

The current proposal is to make a presentation which will answer the following questions:

- 1, What relationship can be found between the research themes and recent policy statements, standards documents, and research reports in education and workforce development?
2. Given these relationships, what areas of research in Business Education are well served and which need further research attention?

Researchers are currently gathering policy statements, current education research reports, and research symposium documents for analysis. NBEA policy statements will also be reviewed. A similar theme development process as used for developing business education themes in business education literature in the prior study will be used to identify information about educational and workforce trends. Themes will be compared and commonalities and differences will be identified. Given the gaps between business education research and education and workforce research and policy, future research directions, program configurations, and curriculum updates will be suggested.

Researchers anticipate the development of a Venn diagram summarizing overlaps and differences between overall education and workforce policy and research direction and business education policy and direction.

### *References*

- Blaszczynski, C., & Scott, J. C. (2003). The business education literature: Going, going, gone? *NABTE Review*, 30, 23-35.
- Chalupa, M. R. (2003). Business Education in the United States: 2001-2002 NABTE Survey Results. *NABTE Review*, 30, 10-15.
- Creswell, J. W. (2002). *Research Design: Qualitative, Quantitative, and Mixed Methods*. Thousand Oaks, CA: Sage Publications.
- Rader, M. H. and Wilhelm, W. J. (2002). Business education research: Identification and prioritization of topics. *Delta Pi Epsilon Journal*, 44 (3), 157-174.
- Yohon, T., & Kesten, C. A meta-analysis of business education research literature, 2005 DPE Fall Conference Book of Readings November 2005

**Administrative Technology Support in Business Education Classrooms**

**Glenn A. Bailey**  
**Assistant Professor**  
**and Business Teacher Education Program Coordinator**  
**Illinois State University**

## **Administrative Technology Support in Business Education Classrooms**

### *Introduction*

Business education teachers have a rich tradition of working with technology. They were among the first to embrace word processing instruction in the 1980's; they integrated computer education to include Windows technology in the 1990's; and they have continued to lead with the use of computers in their classrooms into the Twenty-First Century.

### *Purpose and Research Questions*

The purpose of the research study was to determine the number of business educators who use technology for administrative classroom support.

1. With what frequency do business educators report using technology for taking attendance, posting homework, posting grades, communicating with parents, preparing grade books, and lesson planning?
2. With what frequency do business educators report using technology which they have created themselves for taking attendance, posting homework, posting grades, communicating with parents, preparing books, and lesson planning?
3. With what frequency do business educators report using commercially-prepared technology programs for taking attendance, posting homework, posting grades, communicating with parents, preparing grade books, and lesson planning?
4. With what frequency do business educators report the school-wide use of commercially-prepared technology for taking attendance, posting homework, posting grades, communicating with parents, preparing grade books, and lesson planning?

### *Literature Review*

Business educators must continue to demonstrate the use technology to their students and to use technology as an administrative support tool in their classrooms. The 2007 National Standards for Business Education indicates that educators must focus on the use of technology as a tool for facilitating business functions (NBEA, 2007). Many states require teacher education graduates to be able to demonstrate technology competence for the management of their classrooms. The technology standards for all Illinois Educators indicate "The competent teacher will apply tools for enhancing personal professional growth and productivity; will use technology in communicating, collaborating, conducting research, and solving problems, and will promote equitable, ethical, and legal use of computer/technology resources," (Illinois State Board of Education, 2007). The National Educational Technology Standards for Teachers (NETS) which are published by the International Society for Technology in Education (ISTE) indicates that teachers should use technology to enhance their productivity and their communication with peers, parents, and the larger community (ISTE, 2007). The No Child Left Behind Act asks teachers to support local efforts by using technology to promote parent and family involvement in education and communication among students, parents, teachers,

principals, and administrators, (U.S. Dept. of Education, 2001). A growing trend in schools is to use technology to support administrative tasks in the form of an electronic grade book which is designed to build databases of student performance by collecting, recording, and sharing information about student attendance, performance, and progress (Tetreault, 2005).

### *Procedures*

A survey instrument was created to determine whether teachers used technology as an administrative tool in their classrooms. Teachers were asked if they used technology for taking attendance, posting homework, posting grades, communicating with parents, creating a grade book, and lesson planning. A panel of business education teachers representing elementary through college grade levels was used to validate the survey instrument and to gather suggestions for improving the instrument.

Respondents were asked to provide demographic information including gender, school size, age, years of teaching experience, and the highest academic degree earned. Respondents were asked whether they use technology for administrative classroom support and whether they created their own technology tools or whether they used commercially-prepared technology tools. Respondents were also asked to indicate whether commercially-prepared administrative support tools were used school wide.

The population included 404 business education teachers selected from the membership list for a state business education association. Only those reported in the active membership category and those who were determined to currently be teaching were included in the survey population to ensure the respondents would be in a position to comment on the use of technology as an administrative tool in their classrooms. The Institutional Review Board at the researcher's university approved the research procedures and the survey instrument.

### *Findings*

Emails were sent to 404 members of the state business education association from a Midwestern state, asking them to complete the online survey. A total of 216 usable responses were completed for a return rate of 53.5%. Demographic questions were included within the survey. Of the 216 respondents, 170 (78.7%) were females, and 44 (20.4%) were males with two missing responses. When asked to describe the population of their school building, 99 (45.8%) indicated their building population was between 1 and 1000; 39 (18.1%) indicated their building population was between 1001 and 2000; and 77 (35.6%) indicated their building population was over 2000. When asked to indicate their job titles, 196 (90.7%) indicated they were teachers or professors, 12 (5.6%) indicated they were administrators, 4 (1.85%) indicated they were both teachers and administrators, 1 (.5%) indicated he or she was a trainer, 1 (.5%) indicated he or she was unemployed, and 2 (.93%) did not respond to the question. When respondents were asked to indicate their ages, 63 (47.3%) indicated they were between 21 and 38; 118 (54.6%) indicated they were between 39 and 56; and 33 (15.3%) indicated they were 57

or more years old. When asked to indicate their highest academic degree earned, 56 (25.9%) indicated a bachelor's degree; 138 (63.9%) indicated a master's degree; 12 (5.6%) indicated a doctorate degree; and 10 (4.6%) indicated they earned a combination of a degree and additional hours and/or certification.

When asked how they used technology for taking attendance, 22 (10.2%) of the respondents indicated they prepared their own technology, 36 (16.7%) indicated they do not use technology, 130 (60.0%) indicated they used a commercially-prepared program, and 28 (13%) did not respond. When asked if the commercially-prepared program was used school wide, 127 (58.8%) indicated the program was used school wide, 10 (4.6%) indicated the program was not used school wide, and 79 (36.6%) did not respond.

When asked how respondents use technology for posting homework, 29 (13.4%) indicated they prepared their own technology, 74 (34.3%) indicated they did not use technology, 84 (38.9%) indicated they used a commercially-prepared program, and 29 (13.4%) did not respond. When asked if the commercially-prepared program was used school wide, 70 (32.4%) indicated the program was used school wide, 36 (16.7%) indicated the program was not used school wide, and 110 (50.9%) did not respond.

When asked how respondents use technology for posting grades, 12 (5.6%) indicated they prepared their own technology, 34 (15.7%) indicated they did not use technology, 136 (62.9%) indicated they used a commercially-prepared program, and 34 (15.7%) did not respond. When asked if the commercially-prepared program was used school wide, 129 (59.7%) indicated the program was used school wide, 14 (6.5%) indicated the program was not used school wide, and 73 (33.8%) did not respond.

When asked how respondents use technology for communicating with parents, 36 (16.7%) indicated they prepared their own technology, 45 (20.8%) indicated they did not use technology, 92 (42.6%) indicated they used a commercially-prepared program, and 43 (19.9%) did not respond. When asked if the commercially-prepared program was used school wide, 84 (38.9%) indicated the program was used school wide, 18 (8.3%) indicated the program was not used school wide, and 114 (52.8%) of those surveyed did not respond.

When asked how respondents use technology for creating a grade book, 36 (16.7%) indicated they prepared their own technology, 12 (5.6%) indicated they did not use technology, 136 (63.0%) indicated they used a commercially-prepared program, and 32 (14.8%) did not respond. When asked if the commercially-prepared program was used school wide, 116 (53.7%) indicated the program was used school wide, 20 (9.3%) indicated the program was not used school wide, and 80 (37.0%) did not respond.

When asked how respondents use technology for lesson planning, 97 (44.9%) indicated they prepared their own technology, 62 (28.7%) indicated they did not use technology, 22 (10.2%) indicated they used a commercially-prepared program, and 35 (16.2%) did not respond. When asked if the commercially-prepared program was used school wide, 14

(6.5%) indicated the program was used school wide, 28 (13.0%) indicated the program was not, and 174 (80.6%) of those surveyed did not respond.

### *Conclusions and Recommendations*

#### Conclusions

1. Respondents frequently use technology for taking attendance, posting homework, posting grades, communicating with parents, lesson planning, and as a grade book. Over 50% of respondents indicated they use technology for all of the activities.
2. The most frequently reported topics for using technology as a support system pertained to calculating and reporting grades with 79.7% of respondents using technology as a grade book and 68.5% using technology for posting grades.
3. The category where the lowest usage of technology was reported for classroom support was lesson planning where 55.1% of the respondents reported using technology support.
4. Many of those who reported using technology for classroom support indicated the program they used was adopted school wide with the exception of using technology for lesson planning.

#### Recommendations

1. Teacher educators should include the use of technology as a support system within teacher education methods courses.
2. Those who market commercial classroom support services using technology should consider marketing their products to school district administration.
3. An untapped market appears to exist for providing technology support for lesson planning.

### *References*

- Illinois State Board of Education. 2007. *Technology standards for all Illinois teachers*. Retrieved July 6, 2007, from <http://spr14.isbespr1.isbe.net:8765/query.html?col=external&qt=Technology+Standards&pw=80%25>
- International Society for Technology in Education. 2007. *National educational technology standards projects*. Retrieved July 9, 2007, from [http://cnets.iste.org/teachers/t\\_stands.html](http://cnets.iste.org/teachers/t_stands.html)
- National Business Education Association. 2007. *National Standards for Business Education*. Reston, Virginia: NBEA.
- Tetreault, D. (2005). Administrative technology: new rules, new tools. *T.H.E Journal*, 32 (4), 39—43.
- United States Department of Education. (2001) *No child left behind: Enhancing education through technology act of 2001*. Retrieved April 23, 2007, from <http://www.ed.gov/policy/elsec/leg/esea02/pg34.html>

**Professional Development in Business Education: Status, Needs,  
Motivators, and Impact on Instruction**

**Kellie A. Shumack  
Business Education Teacher  
Prattville High School**

**Dr. Connie M. Forde  
Professor  
Instructional Systems, Leadership, and Workforce Development  
Mississippi State University**

## **Professional Development In Business Education: Status, Needs, Motivators, And Impact On Instruction**

### *Purpose*

This research investigated the impact of teacher in-service and individual professional development for business educators in the following areas: classroom instruction, teacher motivation, how continuous current practices are with individual professional development, the professional development needs of business educators compared with those of other teachers, the status of business education professional development, and the manner in and extent to which current professional development activities are meeting needs. Satisfaction levels with in-service and individual professional development were also identified. Lastly, this study examined the role of business educators in determining local in-service events.

### *Justification*

Professional development yields teachers who “learn to think and teach differently” (PCBEE, 2005a, ¶14), teachers whose roles are strengthened, and students whose learning improves. If classroom instruction does not improve as a result of a teachers’ professional development activity, then that activity was of no value to the students (Deojay & Pennington, 2000); therefore, determining whether instruction actually changed is an important step towards establishing meaningfulness in professional development. Knowing what motivates teachers to participate in professional development is also imperative for promoting improved classroom instruction. The ultimate goal in evaluating professional development is determining the benefits to students and the impact on student learning (Guskey, 2005a).

With the reality of ever changing technology, it is important that educators remain current, and in meeting that goal, specific needs should be identified for continued training. Secondary business educators teach a variety of skills related to business and technology. The National Business Education Association (Crew, Moore, Rader, & Rowe, 2006) recently published the research areas most important to business education. Among those were the questions “How are we assessing the needs for in-servicing experienced business teachers?” and “What are the professional development needs of business educators” (p. 23). In fact, professional development was named one of the two most important research issues. Professional development for the business educator has implications for teacher retention, curricula in teacher education programs, activities of professional organizations as well as significant teaching improvements and student achievement (Crew et al.).

### *Research Method*

The primary mode of data collection for this study was through an instrument created by the researcher. A random sample Alabama business educators was asked to participate. The survey considered teachers’ perceptions, preferences, and time spent in professional

development activities. Descriptive and inferential statistics were used in this study to describe the data collected and to make suppositions about business educators and their professional development. For comparison, data was also used from a survey conducted by the in-service center directors across the state of Alabama using all 2006-2007 public secondary teachers in Alabama.

### *Findings and Results*

Eight research questions were used to determine the impact of professional development on instruction, the factors motivating teachers to pursue professional development, and the overall status of professional development for business educators.

Respondents indicated top areas of in-service training: classroom technology, emerging technology, special needs students, and school safety. Individual attendance at workshops on software ranked highest; classroom-related workshops followed. Overall, 67% expressed satisfaction with in-service training, and 82.1% expressed satisfaction with individual professional development. On average, respondents received 158.1 hours of professional development during the previous year. Computer workshops received the most attendance while professional meetings received the least. Impact on instruction was considered modest; the mean impact score of 118 reflected a restrained agreement with impact statements. Qualitative responses were given on specific impacts in the classroom. No significant correlation was found between the impact of professional development on instruction and the number of hours spent in professional development. ANOVA was conducted and that impact scores of teachers were not significantly affected by years of experience or satisfaction levels with in-service. Teachers are generally motivated to pursue professional development. The desire to learn how to better teach a skill was the greatest motivator. Time and money were the greatest barriers. The majority of teachers are continually pursuing professional development over a 5-year period but not doing so annually. Business educators' topic preferences were similar to regular education teachers', especially in the area of technology. Student motivation and technology were top categories of need. Most business educators have never served on an advisory committee to suggest in-service activities.

### *Conclusions and Recommendation*

The status of professional development in Alabama suggests that teachers are receiving professional development training in the areas of technology but also want more in this area. When asked what future professional development they needed, 61% reported emerging technologies and 62% reported web page design (other areas were mentioned but were not technology related). The individual teacher comments imply that teachers want professional development that is specific, such as webpage design, emerging technologies, interactive white board use and set-up and computer maintenance and repair.

Of the four applications and methods-related individual professional development activities listed on the researcher's survey, personal finance applications and methods

(16%) was the most attended. In-service in Alabama appears to be shifting with the technology needs of the culture and also addressing the NCLB directives to focus on students of all ability levels; however, business education teachers in this research expressed lower levels of satisfaction with their in-service training on teaching children with special needs. Conversely, teachers had the greatest overall level of satisfaction with in-service on using technology in the classroom ( $M=3.29$ ). Student motivation ( $M=2.95$ ) and classroom discipline ( $M=2.89$ ) were also areas of dissatisfaction with in-service. Along with improved special education training, this may indicate a need for improvement in these areas.

Of the hours spent in professional development, professional meetings were the least attended. This is a logical development since professional organization membership is on the decline (O'Neil & Willis, 2005). The current study shows that business education teachers are not consulted (63% have never served on a committee to impact in-service decisions), but they are proactive in obtaining professional development, evidenced by the number of hours on average despite the barriers of time and money. In Alabama, business education teachers on average acquire in one year (158.1 on average) more than is required in 15 years, both for recertification (50 hours every 5 years) and the state professional development requirements (7 hours per year). On average, business teachers in Alabama are experiencing positive impacts on their instruction due to professional development activities.

Results from this current study show no correlation between the hours of professional development and the impact score. These findings do not agree with the USDOE study (1999) that reports increased time in professional development contributes to a teacher's perception of improvements to his or her teaching. The current study also reports that impact scores are not significantly affected by teachers' years of experience nor their satisfaction level with in-service. Sixty individual comments were examined for specific impact on instruction. These comments are focused on teacher attitudes, technology benefits to teachers, impact on teaching methods, and classroom management techniques.

Lohman (2006) writes that a teacher's personal initiative is a motivating factor in whether to participate in individual professional development. In the current study, personal initiative ( $M=4.32$ ,  $SD=.71$ ) was a high ranking motivator for teachers in pursuing professional development. This research also found that constant changes in technology ( $M=4.54$ ,  $SD=.629$ ) was another top motivator that teachers had when pursuing professional development.

This study suggests that over a five-year period, almost all teachers are keeping the professional development process ongoing; only 50% were continual on an annual basis. Teachers requested more in-depth instruction and were not satisfied with the basic skill levels of some professional development, saying it was "elementary in nature." This seems to indicate that business teachers do not need the same level of technology instruction that a regular teacher would require.

Recommendations include 1) investigating why Alabama teachers are not using professional organizations as a means of professional development, and look at the opinions of teachers and current trends in technology and education in program planning to offer practical, content-specific topics at professional meetings; 2) administrators should consider examining ways to reduce the main barriers (time and money); obtain input from business education teachers about the technology content of in-service activities; examine ways to use in-service time for content specific professional development; 3) teachers should consider asking schools to fund attendance at professional organization conferences; be proactive in telling administrators what content is needed for in-service (i.e. do not wait to be assigned to a committee); 4) further research should be done to determine what element of (i.e. content, delivery method) professional development does impact instruction.

### *References*

- Crews, T. B., Moore, W. A., Rader, M. H., & Rowe, B. A. (2006). NBEA research task force study: Important research questions for business education. *Business Education Forum*, 60(4), 18-26.
- Policies Commission for Business and Economics Education (2005a). *Policy statement 60*. Retrieved October 2, 2006, from <http://www.nbea.org/curfpolicy.html>.
- Deojay, T. R. & Pennington, L. L. (2000). Reaching heather. [Electronic Version.] *Journal of Staff Development*, 21(1), 42-46.
- Guskey, T. R. (2005a). Five key concepts kick off the process. [Electronic Version.] *Journal of Staff Development*, 26(1), 36-40.
- O'Neil, S. L. & Willis, C. L. (2005). Challenges for professional organizations: Lessons from the past. *Delta Pi Epsilon Journal*, 47(3), 143-153.
- Lohman, M. C. (2006). Factors influencing teachers' engagement in informal learning activities. [Electronic Version.] *Journal of Workplace Learning*, 18(3), 141-156.
- United States Department of Education (January, 1999). *Teacher quality: A report on the preparation and qualifications of public school teachers*. [Electronic Version.] National Center for Education Statistics (NCES 1999-080).