

INTEGRATED READING LITERACY INTERVENTIONS (IRLIS): A QUANTITATIVE ANALYSIS OF THE CHARACTERISTICS, INTENTIONS, AND OUTCOMES IN BUSINESS EDUCATION

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NOTE: This research was supported by the Delta Pi Epsilon Research Foundation

Abstract

Purpose: The purpose of this study is to determine the perceived characteristics, intentions, and outcomes of integrated reading literacy interventions (IRLIs) in business education courses and how characteristics of selected participants impact IRLI implementation and success. **Method:** A quantitative, descriptive research design was used to collect data with close-ended, Likert-based survey responses. **Results:** Findings in this study suggested that, generally, business teachers' perceptions of the characteristics, intentions, and outcomes of IRLIs cohere with existing research and best practices; although there are some significant differences among the participants, interestingly enough, the significant differences were supported by existing research. **Recommendations:** It was recommended that additional research be conducted to determine the impact of the school districts' affluence on the selection and implementation of specific IRLIs as well as research of the impact of these variables on students' academic achievement. Further, the findings show a need for professional development of business teachers in order to enhance their skills for the selection, implementation, and evaluation of IRLIs.

Introduction

Career and Technical Education (CTE) programs are an important part of the educational experience of more than 90% of all students in middle and high schools throughout the United States (National Center for Education Statistics, 2009). Specific CTE programs are supported by federal legislation and emphasize the importance of academic and technical education (Carl D. Perkins Career and Technical Education Improvement Act, 2006). This same legislation identified *integrated academics* as an essential component of CTE program curricula.

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Integrated academics are believed to improve program participants' academic and technical knowledge. Several models for academic integration have been identified in the CTE literature base (Park, Santamaria, van der Mandele, Keene, & Taylor, 2010). However, it remains unknown as to what extent the models cohered with the perceptions and beliefs of CTE educators. Coherence is an important factor in educators' decisions to select, implement, and evaluate instructional strategies in their classroom (Desimone, 2009).

Historically, in addition to specific CTE legislation, federal funding was also allocated to improvements in academic achievement by the No Child Left Behind Act of 2001 and its subsequent reauthorization in 2004. These acts called for improvement in students' reading and mathematics achievement. As a supplement, the federal government provided additional funds to support reading and mathematics programs for schools who serve a disproportionately high number of economically disadvantaged students (Title I — Improving The Academic Achievement Of The Disadvantaged, 2002). To qualify for Title-1 funding, schools were required to implement scientifically-evaluated instructional strategies.

The purpose of this study was to determine the perceived characteristics, intentions, and outcomes of integrated reading literacy interventions (IRLIs) in business education courses, as well as discover the impact of selected participant characteristics. The results of this study will lead to better understanding the implementation of IRLIs in high school business courses, as the findings will help to develop professional development and interventions that cohere with the beliefs of business educators. Coherence is a significant influence on teachers' decisions to adopt new and/or enhanced instructional practices (Desimone, 2009).

Review of Literature

Courses found in business education programs prepare students for careers in the global workforce and in post-secondary training and development, and to function as informed consumers (Hosler & Meggison, 2013). Business educators design and develop curricula to support student knowledge and development in business management and administration, information technology, and other related career pathways (Lambrecht & Kesten, 2012). Business educators accomplish these tasks through selecting and implementing a broad array of instructional interventions (Fletcher, in press).

Business educators support the development of students' reading skills through the implementation of instructional interventions (Polkinghorne & Hagler, 2011). These interventions emphasize the role of reading in preparing students for career and college. While business educators integrate reading literacy strategies throughout their business courses, there is a strong desire for professional development opportunities for teachers (Polkinghorne & Hagler, 2011).

Professional development provides teachers with the opportunity to enhance their classroom knowledge (Desimone, 2009). Furthermore, Polkinghorne and Hagler (2011) reported that educators prefer to participate in opportunities that cohere with their beliefs and the expectations of employers, parents, and policy makers. In order to accomplish this task, professional development must align with teacher perceptions and, at times, bridge gaps between ideology and empiricism. Thus, the framework for this study is guided by the identification of business teachers' perceptions of characteristics, intentions, and outcomes of integrated reading literacy interventions specifically designed for business education courses. Over time, these three variables of business teachers' characteristics, intentions, and outcomes have been examined. However, this research intends to examine all three variables and how perceptions may impact the implementation and success of IRLIs.

Characteristics of IRLIs

Characteristics are defined as the elements of a program that distinguish it from others (Agnes, 2007). Several studies have identified characteristics of effective reading programs (Park, Santamaria, van der Mandele, Keene, & Taylor, 2010). While the majority of the studies have focused on non-business education curricula, it is clear that effective reading programs are designed to be explicit, meaningful, and long-term (Sejnost & Thiese, 2010).

Explicit. Explicit reading instruction occurs when students understand the importance of literacy and the tools and resources teachers utilize to improve their knowledge and skills (Vacca, Vacca, & Mraz, 2014). Through explicit instruction, students are taught primary assumptions of reading strategies and appropriate context for deployment. Without explicit instruction, students may improve their reading skills, but lack the knowledge to transfer the strategies to other instructional context – the ultimate goal in reading instruction.

Meaningful. The meaningful deployment of reading strategies requires instructors to strategically select and implement tools that align with the unique literacy needs of their students. In reading education, students primarily need assistance with one of three reading tasks: (a) phonemic awareness, (b) vocabulary acquisition, or (c) reading comprehension (National Institute for Literacy, 2007). It is imperative that instructors diagnose the specific literacy needs of the students and then select the most appropriate literacy interventions to remediate knowledge deficiencies.

Long-term. By the time struggling readers enroll in business education courses, they may have had deficiencies in their reading skills for many years. These long-term problems often are not able to be quickly remediated; instead, they require significant resources to be dedicated over months or even years (National Institute for Literacy, 2007). Thus, business educators must select from a cadre of reading

literacy strategies and continuously implement these strategies to improve their students' reading literacy skills.

Teachers support professional development that leads toward improved student knowledge (Polkinghorne, in press). Evidence exists that identifies effective characteristics for reading programs (Sejnost & Thiese, 2010). However, the extent to which business educators perceive the importance of explicit, meaningful, and long-term professional development for integrated reading literacy interventions for business courses remains largely unknown.

Intentions of IRLIs

Reading is a multi-faceted term. Effective readers rarely develop proficient skills by chance. Effective readers develop their skills throughout reading programs guided by instructional interventions that enhance their phonemic awareness, vocabulary acquisition, and text comprehension skills (National Institute for Literacy, 2007).

Phonemic awareness. Students typically develop their phonemic awareness skills within the first few years of their formal education (National Reading Panel, 2000). However, for students who lack fluency in spoken English, this task may need remediation throughout their schooling. Effective phonemic instruction leads towards the ability to decode letter sounds and the ability to sound out words with appropriate tone and fluency (National Institute for Literacy, 2007).

Vocabulary acquisition. Instruction that leads to mastery of phonemic awareness is often followed by a focused study of vocabulary. Vocabulary acquisition leads towards the development of a robust register of words and phrases from which students can draw to construct sentences and paragraphs. Some students, especially those from low socioeconomic backgrounds, lack exposure to word rich environments and resources such as books (Rowe, 2008).

Text comprehension. Effective readers master phonemic awareness and vocabulary acquisition knowledge. This provides a strong framework for the development of text comprehension skills. Text comprehension is often developed through focused reading programs in middle and high schools. Text comprehension provides students with the ability to make sense of written and symbolic text and the knowledge to create original presentations of text (Duke & Carlisle, 2011).

Effective readers develop their skills through a continuum. Reading programs establish students' skills by focusing on preparing students to make sense of the sounds of each letter of the alphabet until they are able to pronounce whole words. Then, students are exposed to word-rich environments until they are able to create phrases and sentences. Finally, students are taught to contextualize the meaning of words, phrases, and whole sentences – generating understanding of their lives through this contextual framework.

Outcomes of IRLIs

Many students graduate from high school with significant deficiencies in their reading knowledge (Miller, McCardle, & Hernandez, 2010). In many cases, these deficiencies are a result of ineffective reading programs that fail to equip students with the knowledge to be successful in college and in their chosen careers (Gambrell, Malloy, & Mazzoni, 2011). Therefore, a student's level of success in meeting social and economic goals may be hindered as a result of deficiencies in their reading skills.

Social goals. For some students, social goals may be to graduate from high school, avoid incarceration, or graduate from college. These goals, while diverse, require students to have the requisite literacy skills to make sense of the world around them. Ineffective literacy skills are a significant barrier to reaching many social goals (Winn & Behizadeh, 2011).

Economic goals. Economic goals focus on the ability of individuals to pursue self-sufficiency through financial resources. Reading literacy is a significant predictor of one's ability to secure gainful employment that is not low-wage and/or low-skill (Chetty et al, 2011). Thus, it is critically important for low-level reading knowledge to be remediated. Reading deficiencies significantly impact the ability to reach many of these economic goals.

The outcomes of effective reading programs include the knowledge required for students to graduate from high school, avoid incarceration, and to be self-sufficient. These goals revolve around students' ability to identify, comprehend, and carry-out tasks. Therefore, having effective reading skills provides opportunities for individuals to reach their unique social and economic goals.

Research Problem and Purpose

This study addresses a paucity of research focused on establishing the perceived characteristics, intentions, and outcomes of integrated reading literacy interventions (IRLIs) in business education courses. This study is important because business educators have revealed they need additional professional development to enhance their ability to select, implement, and evaluate instructional interventions to enhance their students' reading knowledge (Polkinghorne, Hite, & Railsback, 2008). Polkinghorne and Hagler (2011) investigated this problem through a qualitative study; however, the generalizability of qualitative research is not advisable (Creswell, 2013).

Therefore, the purpose of this study was to determine the perceived characteristics, intentions, and outcomes of integrated reading literacy interventions (IRLIs) in business education courses, as well as discover the impact of selected participant characteristics. Specifically, this study was framed around the following research questions:

1. What are the perceived characteristics of integrated reading literacy interventions (IRLIs) in business education courses?
2. What are the perceived intentions of integrated reading literacy interventions (IRLIs) in business education courses?
3. What are the perceived outcomes of integrated reading literacy interventions (IRLIs) in business education courses?
4. What participant characteristics significantly interact with the perceived characteristics, intentions, and outcomes of integrated reading literacy interventions in business education courses?

Methods and Procedures

This study is a quantitative, descriptive research design. Quantitative data were collected from a sample of in-service business teachers ($n = 158$) who revealed their perceptions by selecting Likert-type responses to close-ended survey items. The survey instrument was developed based on the qualitative findings posited by Polkinghorne and Hagler (2011). Collected data were analyzed for frequency, central tendency, variance, and statistical interaction.

Instrument

The researchers developed a survey instrument which aligned with the qualitative findings revealed in the study by Polkinghorne and Hagler (2011). In addition to participant demographics, nine Likert-type statements were developed to measure participant perceptions. The validity of the instrument was established through a content review by a panel of experts, and reliability was controlled through a pilot study.

Validity. A panel of six experts was asked to determine the extent to which the survey instrument measured participant perceptions in relationship to the research questions under investigation in the study. The panel consisted of researchers in business education who had earned a doctorate of education, currently served as a tenured or tenure-track professor engaged in the preparation of business teachers at a regionally accredited university, and had published three or more studies that had utilized quantitative methodology and focused on students' development of academic skills or teacher professional development. Based on the comments and suggestions of the panel of experts, some grammar and sentence structure within the instrument were modified.

Reliability. A pilot study of the survey instrument was conducted to establish reliability. The pilot study consisted of collecting data from 30 in-service business educators (who were not selected to participate in the final study). The pilot study participants were selected from a population of members of a regional affiliate of

the National Business Education Association (N=30). Approximately 60% (N=18) of the selected participants agreed to participate. The data obtained in the pilot study were analyzed via the SPSS v.19 statistical software package. Data were analyzed via the Cronbach's alpha statistical test. It was determined that the alpha measure was .84, indicating that the instrument was internally reliable (Fowler, 2014).

Participants

Participants in the study were identified via a procedure where the Common Core Data Set from the National Center for Education Statistics (2009) was queried to determine a population of rural and suburban public comprehensive high schools (grades 9-12) in a Midwestern state (N= 635). The list of high schools was then subjected to a systematic selection technique where every fourth eligible high school was selected for inclusion in the study. This procedure resulted in 24.88% (N=158) of the overall population of comprehensive high schools being identified.

In accordance with the suggestion of Bartlett, Kotrlik, and Higgins (2001), the obtained population was sufficient for generalization. To identify a sample of business teachers for inclusion in the study, the website for each of the eligible high schools was searched to determine both the email address and the identity of the employed business teachers. In cases where the identity and/or email address of the intended participant was unavailable, the researcher returned to the queried list and identified the next high school on the list and utilized the same procedure shown above to identify suitable participants. At the conclusion of the procedure, 570 teachers were identified and selected for participation in the study.

Data Collection

Data were collected via the Qualtrics (n.d.) electronic survey administration and management tool. An email message was sent to eligible participants every two weeks over an eight-week period. During each administration of the instrument, those who had already responded to the request for participation were excluded from subsequent mailings. In each mailing, participants were asked to visit an Internet link where they were provided with the purpose of the study and an informed consent to participate. Sixteen participants declined to share their perceptions and were removed from the study. Overall, 188 (32.98%) members of the sample participated in the study.

To address non-response bias, the collected data were divided into two groups: early responders (those who participated in either round 1 or round 2 of data collection) and late responders (those who participated in either round 3 or 4 of data collection). Then, the data from the early responders were tested utilizing the Mann-Whitney U-test to determine significant differences ($p < .05$), if any, between

the two data sets. It was determined that there were no significant differences, which indicated that even with additional responses, the findings revealed in this study would not have been significantly different (Livak & Schneider, 2014).

Data Analysis

Data were analyzed via the SPSS v.19 statistical software to determine measures of frequency, central tendency, variance, and statistical interaction. Statistical interactions were determined via the t-test technique, where the mean was analyzed between groups to determine significant differences. The researchers elected to assume unequal variances, even in those cases where it was clear that variances were equal, a measure deployed to further reduce the chance of type-1 error (Philip, Ramsey Barrera Hachimine-Semprebom, & Liu, 2011; Stephens, 2013).

Findings

Findings in the study are presented by the research question; summary tables are provided where appropriate.

Research Question #1: What are the perceived characteristics of integrated reading literacy interventions (IRLIs) in business education courses?

Data indicated that the majority (192, 94.12%) of participants perceived that IRLIs in business education courses occur when reading activities are added, brought together, and/or combined with business content. In addition, a majority of participants (168, 82.35%) perceived that IRLIs are created by teachers based on their experiences. Finally, it was also revealed that the majority (184, 90.20%) of participants perceived that IRLIs require that teachers purposefully teach reading literacy content in addition to business content. These findings are summarized in Table 1.

Research Question #2: What are the perceived intentions of integrated reading literacy interventions (IRLIs) in business education courses?

The largest number of participants (184, 90.20%) perceived that IRLIs in business education courses are primarily intended to improve students' reading comprehension. The finding was followed by 172 (84.31%) responses that indicated that the primary intention of IRLIs in business courses was to improve students' vocabulary. The fewest number of participants (100, 49.02%) indicated the primary intention of IRLIs in business courses was to improve students' pronunciation of words and symbolic content, as shown in Table 2.

Table 1
Likert-type Summary Table, Characteristics of IRLIs

Descriptor	Strongly Agree		Agree		No Opinion		Disagree		Strongly Disagree	
	n	%	n	%	n	%	n	%	n	%
<i>IRLIs in business education courses are characterized by</i>										
adding, bringing together, and/or combining reading activities with business content	76	37.25	116	56.86	4	1.96	8	3.92	0	0.00
teachers creating IRLIs based on their experiences	36	17.65	132	64.71	8	3.92	8	3.92	20	9.80
the purposeful teaching of reading literacy content in addition to business content	76	37.25	108	52.94	4	1.96	16	7.84	0	0.00

Table 2
Likert-type Summary Table, Intent of IRLIs

Descriptor	Strongly Agree		Agree		No Opinion		Disagree		Strongly Disagree	
	n	%	n	%	n	%	n	%	n	%
<i>IRLIs in business education courses are primarily intended to improve students'</i>										
Comprehension	96	47.06	88	43.14	12	5.88	4	1.96	4	1.96
Pronunciation	20	9.80	80	39.22	24	11.76	72	35.29	8	3.92
Vocabulary	36	17.65	136	66.67	12	5.88	16	7.84	4	1.96

Research Question #3: What are the perceived outcomes of integrated reading literacy interventions (IRLIs) in business education courses?

The largest number of participants (188, 92.16%) revealed that IRLIs in business education courses are primarily designed to reach outcomes associated with comprehending specific tasks. Many participants (184, 90.20%) also perceived that IRLIs in business education courses are primarily designed to identify specific tasks. The smallest number of participants (180, 88.24%) indicated that the primary outcome of IRLIs in business education courses is to improve students' ability to carry out specific tasks. These findings, among others, are summarized in Table 3.

Research Question #4: What participant characteristics significantly interact with the perceived characteristics, intentions, and outcomes of integrated reading literacy interventions in business education courses?

Selected participant characteristics resulted in significant interactions. It was determined that (a) licensure, (b) degree attainment, (c) environment, and (d) title-1 eligibility had a significant ($p < .05$) interaction on the participants' perceptions. In the subsections that follow, findings are revealed by each specific characteristic.

Licensure. Data were collected to determine the extent to which degree attainment and licensure influenced the findings in the study. Data analysis revealed that there was a significant difference in the reported perceptions for teachers certified as vocational teachers ($M = 2.38$, $SD = 1.062$) and those certified as both academic and vocational teachers ($M = 2.04$, $SD = .842$) conditions; $t(203) = 2.174$, $p = 0.031$ when asked to indicate their level of agreement with the statement that IRLIs in business education courses are characterized by *teachers creating IRLIs based on their experience*. In addition, a significant interaction was also revealed by teachers certified as vocational teachers ($M = 2.19$, $SD = 1.194$) and those certified as both academic and vocational teachers ($M = 1.85$, $SD = .759$) conditions; $t(203) = 2.021$, $p = 0.045$ when asked to indicate their level of agreement with the following statement, *IRLIs in business education courses are primarily designed to reach outcomes associated with comprehending specific tasks*. Additional details are revealed in Table 4.

Degree attainment. All study participants had earned at least a baccalaureate degree or a master's degree, while a few ($N = 3$) had earned a doctorate. Because the group who had earned a doctorate was too small to test for significant interactions, data from this subset of the sample was excluded from further testing, resulting in an adjusted sample size of 201. Data analysis indicated that there was significant interaction between teachers with a baccalaureate ($M = 1.82$, $SD = .390$) and those who had earned a master's degree ($M = 2.25$, $SD = 1.054$) conditions; $t(200) = -4.060$, $p = 0.045$ when asked to indicate their level of agreement with

Table 3
Likert-type Summary Table, Outcome of IRLIs

Descriptor	Strongly Agree		Agree		No Opinion		Disagree		Strongly Disagree	
	n	%	n	%	n	%	n	%	n	%
comprehending specific tasks	48	23.53	140	68.63	12	5.88	4	1.96	0	0.00
identifying specific tasks	32	15.69	152	74.51	12	5.88	8	3.92	0	0.00
carrying out specific tasks	44	21.57	136	66.67	16	7.84	8	3.92	0	0.00

IRLIs in business education courses are primarily designed to reach outcomes associated with

Table 4
T-Test Interaction Summary Table, Licensure

Question stem item detail	Vocational		Academic & Vocational		t-test*
	M	SD	M	SD	
<i>IRLIs in business education courses are characterized by</i>					
adding, bringing together, and/or combining reading activities with business content	1.88	1.000	1.67	.547	NS
teachers creating IRLIs based on their experiences	2.38	1.062	2.04	.842	2.174
the purposeful teaching of reading literacy content in addition to business content	1.69	.588	1.80	.866	NS
<i>IRLIs in business education courses are primarily intended to improve students'</i>					
comprehension	1.88	1.000	1.78	1.138	NS
pronunciation	2.88	1.062	2.63	1.099	NS
vocabulary	2.13	.864	2.19	1.060	NS
<i>IRLIs in business education courses are primarily designed to reach outcomes associated with</i>					
carrying out specific tasks	2.19	1.194	1.89	.789	NS
comprehending specific tasks	2.19	1.194	1.85	.759	2.021
identifying specific tasks	2.06	.906	1.96	.748	NS

* t-test scores are shown for significant ($p < .05$) findings only, NS = not significant

the following statement, *IRLIs in business education courses are characterized by teachers creating IRLIs based on their experience*. In addition, a significant interaction was revealed by those with a baccalaureate ($M = 1.55, SD = .663$) and those with a master's ($M = 1.78, SD = .578$) conditions; $t(200) = -2.153, p = 0.033$ when asked to reveal their level of agreement with the statement, *IRLIs in business education courses are characterized by the purposeful teaching of reading literacy content in addition to business content*. These results are shown in Table 5.

Environment. Data were collected to determine the impact, if any, on the perceptions of teachers employed in suburban and rural schools. The analysis indicated that a significant interaction occurred between those employed in rural schools ($M = 2.00, SD = .899$) and those employed in suburban schools ($M = 2.41, SD = 1.079$) conditions; $t(203) = -2.802, p = 0.006$ when asked to reveal their level of agreement with the following statement, *IRLIs in business education courses are characterized by teachers creating IRLIs based on their experience*. A significant interaction was also noted by those teaching in rural schools ($M = 1.68, SD = .618$) and those teaching in suburban schools ($M = 2.00, SD .858$) conditions; $t(203) = -2.900, p = 0.004$ when asked to reveal their level of agreement with the statement that *IRLIs in business education courses are characterized by the purposeful teaching of reading literacy content in addition to business content*. Further, a significant interaction was also noted when teachers in rural schools ($M = 1.92, SD = .800$) and suburban schools ($M = 2.27, SD = 1.182$) conditions; $t(203) = -2.364, p = 0.019$ were asked to reveal their level of agreement with the statement, *IRLIs in business education courses are primarily designed to reach outcomes associated with carrying out specific tasks*. These results are shown in Table 6.

Title-1 Eligibility. Participants were asked to reveal the title-1 eligibility of their employing school district. Twenty participants indicated they did not know if their school was eligible to participate in the federal title-1 program; as a result, their data were excluded from further testing. The adjusted sample size for analysis was 184. Analysis of the data revealed that the greatest number of statistical interactions (four) resulted when comparing responses based on the title-1 eligibility of the participants' school district. In fact, the following statistical interactions were noted:

1. A significant interaction occurred between teachers employed at title-1 eligible schools ($M = 2.03, SD .916$) and nontitle-1 eligible schools ($M = 2.63, SD = 1.238$) conditions; $t(183) = -2.526, p = 0.012$ when asked to reveal their level of agreement with the statement, *IRLIs in business education courses are characterized by teachers creating IRLIs based on their experiences*.
2. A significant interaction occurred between teachers employed at title-1 eligible schools ($M = 1.63, SD .549$) and nontitle-1 eligible schools (M

Table 5
T-Test Interaction Summary Table, Degree Attainment

Question stem item detail	Baccalaureate		Masters		t-test*
	M	SD	M	SD	
<i>IRLIs in business education courses are characterized by</i>					
adding, bringing together, and/or combining reading activities with business content	1.82	1.126	1.70	.565	NS
teachers creating IRLIs based on their experiences	1.82	.390	2.24	1.054	-4.060
the purposeful teaching of reading literacy content in addition to business content	1.55	.663	1.78	.578	-2.153
<i>IRLIs in business education courses are primarily intended to improve students'</i>					
comprehension	1.73	1.149	1.68	.875	NS
pronunciation	2.73	.872	2.65	1.124	NS
vocabulary	2.27	.973	2.00	.808	NS
<i>IRLIs in business education courses are primarily designed to reach outcomes associated with</i>					
carrying out specific tasks	1.91	1.096	2.03	.857	NS
comprehending specific tasks	1.82	1.126	1.92	.675	NS
identifying specific tasks	2.00	1.057	2.00	.660	NS

* t-test scores are shown for significant ($p < .05$) findings only. NS = not significant

Table 6
T-Test Interaction Summary Table, Environment

Question stem item detail	Rural		Suburban		t-test*
	M	SD	M	SD	
<i>IRLIs in business education courses are characterized by</i>					
adding, bringing together, and/or combining reading activities with business content	1.68	.886	1.86	.459	NS
teachers creating IRLIs based on their experiences	2.00	.899	2.41	1.079	-2.802
the purposeful teaching of reading literacy content in addition to business content	1.68	.618	2.00	.858	-2.900
<i>IRLIs in business education courses are primarily intended to improve students'</i>					
comprehension	1.72	.877	1.68	1.028	NS
pronunciation	2.64	.798	2.68	1.19	NS
vocabulary	2.08	.748	2.00	.959	NS
<i>IRLIs in business education courses are primarily designed to reach outcomes associated with</i>					
carrying out specific tasks	1.92	.800	2.27	1.182	-2.364
comprehending specific tasks	1.88	.820	2.09	1.002	NS
identifying specific tasks	2.04	.724	2.14	1.019	NS

* t-test scores are shown for significant (p < .05) findings only. NS = not significant

- = 2.13, SD = 1.185) conditions; $t(183) = -2.283$, $p = 0.024$ when asked to reveal their level of agreement with the statement, *IRLIs in business education courses are characterized by the purposeful teaching of reading literacy content in addition to business content.*
3. A significant interaction occurred between teachers employed at title-1 eligible schools ($M = 1.97$, $SD .709$) and nontitle-1 eligible schools ($M = 2.63$, $SD = 1.519$) conditions; $t(183) = -2.384$, $p = 0.018$ when asked to reveal their level of agreement with the statement, *IRLIs in business education courses are primarily designed to reach outcomes associated with carrying out specific tasks.*
 4. A significant interaction occurred between teachers employed at title-1 eligible schools ($M = 2.03$, $SD .709$) and nontitle-1 eligible schools ($M = 2.63$, $SD = 2.63$) conditions; $t(183) = -2.266$, $p = 0.025$ when asked to reveal their level of agreement with the statement, *IRLIs in business education courses are primarily designed to reach outcomes associated with carrying out specific tasks.*

The above findings, among others, are shown below in Table 7.

Discussion

Integrated academic study in career and technical education (CTE) programs is supported by the federal *Carl D. Perkins Career and Technical Education Improvement Act* (2006). The legislation clearly identifies that funded programs should lead towards improving academic achievement in reading and mathematics. In addition, federal legislative support is also offered by the *Title-1 Improving the Academic Achievement of the Disadvantaged* (2002). In 2011, both legislative acts provided more than \$15.7 billion to improve the academic achievement of public school children and adults.

Based on the *de facto* approval of federal legislation and existing studies, it is clear that business teachers support the integration of reading literacy in their programs (Polkinghorne & Hagler, 2011; Polkinghorne, Railsback, & Hite, 2008). However, little is known about how they actually perceive IRLIs to be characterized and the intent and outcomes of integrated study in business. In addition, it is still unknown the extent to which business educators' perceptions aligned with research-based practices (National Reading Panel, 2000; Sejnost & Thiese, 2010).

In this study, the perceptions of the participants in relationship to the characteristics, intentions, and outcomes of Integrated Reading Literacy Interventions (IRLIs) were determined. Data analysis revealed that the perceptions of business teachers cohered with the literature that suggested IRLIs should add, bring together, and/or combine reading activities with other content and that IRLIs should be explicitly taught to students by integrating the IRLIs specifically

Table 7
T-Test Interaction Summary Table, Title-I Eligibility

Question stem	Yes		No		t-test*
	M	SD	M	SD	
<i>IRLIs in business education courses are characterized by</i>					
item detail					
adding, bringing together, and/or combining reading activities with business content	1.73	.817	1.75	.672	NS
teachers creating IRLIs based on their experiences	2.03	.916	2.63	1.238	-2.526
the purposeful teaching of reading literacy content in addition to business content	1.63	.549	2.13	1.185	-2.283
<i>IRLIs in business education courses are primarily intended to improve students'</i>					
comprehension	1.77	1.124	2.00	1.244	NS
pronunciation	2.63	.879	2.75	1.503	NS
vocabulary	2.23	.994	2.13	1.185	NS
<i>IRLIs in business education courses are primarily designed to reach outcomes associated with</i>					
carrying out specific tasks	1.97	.709	2.63	1.519	-2.384
comprehending specific tasks	1.93	.730	2.13	1.185	NS
identifying specific tasks	2.03	.709	2.63	1.431	-2.266

* t-test scores are shown for significant (p < .05) findings only. NS = not significant

into the course content through assignments, activities, and projects instead of implicitly (National Institute for Literacy, 2007; Vacca, Vacca, & Maraz, 2014).

Interestingly, it appears that teachers who have earned a master's degree and who were employed in suburban schools, or were certified to teach both academic and vocational courses, were more likely to indicate that they disagreed with the statement that teachers should create IRLIs based on their experience. In opposition, teachers employed in title-1 schools were more likely to agree that business teachers create IRLIs based on their experience. These findings aligned with those suggested by Rowe (2008).

Data analysis revealed that participants ranked the primary intentions of IRLIs in business education courses to be based on (1) comprehension, (2) vocabulary, and (3) pronunciation, respectively. These findings did not cohere with other less generalizable studies in the context of business education courses (Polkinghorne & Hagler, 2011). In fact, the findings closely matched the suggestions of the National Institute for Literacy (2007), the National Reading Panel (2000), and Vacca, Vacca, & Maraz (2014).

Many students graduate from high school without the necessary skills to comprehend, carry out, and identify tasks required in both college and career (Gambrell, Malloy, & Mazzone, 2011; Miller, McCardle, & Hernandez; 2010). Participants in this study revealed that the perceived primary outcome of IRLIs in business courses is to be ranked as follows: (1) comprehension, (2) identification, and (3) carry out specific tasks although it was revealed that significant differences in perceptions were present. Specifically, teachers employed in non-title-1 eligible schools ranked comprehension higher than both carrying out and identifying tasks. In addition, those participants with both an academic and vocational licensure ranked comprehension higher than other reading literacy tasks.

Recommendations

It is recommended that additional research be conducted to (a) determine the extent to which the school districts' affluence impacts the desired outcomes of IRLIs in business education courses, (b) identify how business teachers select IRLIs in business education courses, (c) identify the types of IRLIs implemented in business courses, and (d) determine the impact of specific IRLIs on students ability to comprehend, carry out, and identify college and career-related tasks. In the interim, it is recommended that the following practices be implemented: (a) provide professional development opportunities that focus on empirically-based IRLIs for business education courses and cohere with the expectations of business teachers, (b) encourage practicing business teachers to participate in the selection, implementation, and evaluation of IRLIs for business education courses by completing advanced coursework that may increase their knowledge and use of available IRLIs, and (c) develop individualized plans to address the specific needs of all students that will enhance their reading literacy skills to comprehend, carry

out, and identify specific tasks that they will need to meet their diverse social and economic goals, which includes college and/or careers.

Conclusions

The perceptions of business teachers cohere with best practices and existing research in effective methods of integrating reading literacy interventions with the exception that IRLIs are created based on teacher experience. This finding suggests that business teachers had little awareness of sources from which to obtain empirically validated IRLIs to guide their instructional practices. Further, it was likely that as financial resources and teacher degree levels increased, teachers became more aware of the literature base for effective IRLIs in business education courses. Finally, overall the participants in the study revealed that reading comprehension is the primary outcome of IRLIs in business courses.

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