

INTEGRATED READING LITERACY INTERVENTIONS (IRLIS): A MIXED-METHOD ANALYSIS OF THE PERCEIVED CHARACTERISTICS FOR EFFECTIVE PROFESSIONAL DEVELOPMENT

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Abstract

Background: Business educators play a strong role in preparing individuals for the workforce. The contemporary workforce requires participants to have the ability to organize, synthesize, and evaluate written and symbolic material, which is reading literacy (Hyslop, 2010). Business teachers reported they believe reading literacy is important; however they need additional professional development to enhance their ability to improve student reading literacy skills. **Purpose:** The purpose of this study was to identify the preferred characteristics of professional development focused on integrated reading literacy interventions in business courses. **Method:** A mixed-methods technique was utilized to collect both focus-groups (n=10) and survey data (n=204) from Midwestern business educators. **Results:** Findings revealed that business educators prefer “long-term” and applied professional development that includes “hands-on activities.” Participant characteristics data was determined to have limited effect on responses; although business educators employed at Title-1 eligible schools were more likely to perceive “volunteer” as compared to “mandatory” professional development as more effective. **Conclusions and Recommendations:** Business educators desire professional development which is coherent, focused on the teaching of business, long-term and requires them to be active and collective learners. Because, we still do not know the impact of each of those factors, it is recommended they be further investigated; however, in the meantime professional development should at minimum be long-term, relevant to the content area, hands-on and delivered in authentic settings.

Introduction

Business educators are being held increasingly accountable, through federal and state legislation, to improve student reading skills (Carl D. Perkins Career and Technical Education Act of 2005, 2006; Carver, 2012). As a result, business teachers are increasingly concerned over their level of preparation to teach reading in the context of teaching for and about business (Polkinghorne, Groneman-Hite, & Railsback, 2008). With the growing emphasis placed on the Common Core Standards, in all subject-matter areas at the high school level, in addition to those posited by the National Business Education Association (2007), it is likely that business educators will continue to strive to improve their students’ reading skills.

The body of research that documents career and technical education programs’ efforts to integrate reading skill and knowledge has greatly expanded over the

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last decade (National Center for Career and Technical Education Research, n.d.). However, few studies examined the preferred characteristics for the delivery of professional development programs. The intent of this study was to collect, analyze and report the preferred characteristics of effective professional development focused on integrated reading literacy interventions in business courses at the middle and high school level.

Review of Literature

Business education courses offer students an alternative context to enhance their reading literacy skills; moreover, they are designed to prepare individuals to enter the workforce or further their education – both of which require reading literacy skills which is the ability to organize, synthesize, and evaluate written and symbolic materials (Hyslop, 2010; Polkinghorne & Hagler, 2010). There is little question that teachers should integrate reading literacy in their classrooms; however, many teachers report they have limited professional development focusing on methods of teaching reading (Santamaria, Taylor, Park, Keene, & van der Madele, 2010; O'Connor, 2010). As a result, many teachers need to enhance their knowledge and skills through professional development opportunities focused on the selection and implementation of reading literacy interventions.

Practicing business educators are not alone in their need for additional professional development focused on the integration of reading literacy interventions in coursework; business teacher educators also desired additional professional development (Polkinghorne, Hagler, & Anderson, 2010; Polkinghorne, Groneman-Hite & Railsback, 2008). Business teacher educators prepare business teachers in methods of instruction, one of the top three areas where practicing business teachers desire additional professional development (Shumack & Forde, 2010).

Determining the elements to improve the impact of instructional methods is important; because millions of dollars are spent by federal and state governments each year to improve teachers' instructional outcomes (Wei, Darling-Hammond & Adamson, 2010). As a result, the literature base for effective professional development has grown exponentially over the last decade. In fact, much of that research has concluded that teachers enhance their professional knowledge and skills, through reading and reviewing professional literature, collaborating with peers, in-service training, attending conferences, and other activities. Effective professional development requires active learning, coherence, content, duration, and collective participation.

Active learning is defined as the opportunities for teachers to engage in professional development, in comparison to passive participation. For example, effective professional development includes activities such as role playing, observation, and interactive discussion. Coherence is the extent to which teachers perceive importance in the professional development topic (Hill, 2009). In other words, if teachers do not

buy-in to the topic presented they are unlikely to alter their teaching practices. For example, if teachers do not perceived it to be their responsibility to improve students reading literacy skills, they are unlikely to benefit from professional development focused on the topic. Effective professional development is most effective when delivered by individuals who understand the unique nature of the teachers' content specialization (Draper, 2008). Thus, the instructional practices of teachers are most impacted when professional development is delivered in the context of teaching mathematics. For example, professional development focused on technology integration for math teachers should be delivered by someone who understands both teaching mathematics and technology integration. Thus, an individual proficient in technology may not be the best professional development provider for technology integration in mathematics.

Effective professional development requires an appropriate duration of time to master, apply, and evaluate the impact of activities on student learning; a conclusive time span has not been determined; although there is some indication professional development over an entire academic semester or about 20 hours has the largest impact on instructional practices (Desimone, 2009). Further, professional development that allows for collective participation is important to improving instructional practices (Drew & Clopper, 2013).

We have learned much about the elements of effective professional development; however, existing research has focused on core academic teachers (such as those teaching reading, math and science) in lieu of teachers of business and/or career and technical education.

Purpose and Research Questions

The purpose of this study was to identify middle and high school level business teachers' preferred characteristics of effective professional development for improving their instructional practices in the implementation of integrated reading literacy interventions in business education courses. Answers to the following questions were sought:

1. What are the preferred characteristics for the delivery of professional development focused on integrated reading literacy interventions do teachers of high school business courses prefer?
2. What is the relationship between participant characteristics and their preferred delivery methods of professional development?

Methods and Procedures

A mixed-method research design was deployed to collect data related to professional development for integrated reading literacy interventions in middle and high school level business courses. The mixed-method design was selected because adequate description of the phenomena under investigation

did not exist; however, generalizability of the findings to a large population was desirable. As a result, the qualitative component allowed for a robust description of the phenomenon to emerge, while the quantitative component allowed for generalizability of the findings to a larger population, to include analysis for statistical difference between study participants. Thus, a study that included both qualitative and quantitative findings was appropriate (Creswell, 2013).

In this study, the exploratory sequential mixed-method design was implemented. Thus, quantitative data was secondary to qualitative data, because qualitative data were collected and analyzed in the first phase of the study and used to guide the construction of the quantitative instrument. This procedure resulted in a low-level of interaction between quantitative and qualitative strands; however the priority (qualitative before quantitative) had a high-level of influence on the findings reported in the study. Finally, the qualitative findings allowed the researcher to robustly describe the investigated phenomena, and the quantitative findings allowed the researcher to generalize to a larger population. This procedure allowed a holistic mixing of findings for a robust description and quantification of the phenomena under investigation (Bogdan & Biklin, 1998; Creswell, 2012).

Qualitative Study

In the first phase of the study, participants responded to a semi structured interview protocol. The semi-structured interview protocol allowed for the researcher to mine for additional details and clarity in participant statements, a limitation of structured protocols. Participants were allowed to respond to the questions until they had reached consensus and/or indicated they had adequately answered each question (in this study approximately 90 minutes).

Instrument. In this study a semi structured interview protocol was developed based on a thorough review of literature and designed to elicit data in relationship to Desimone's (2009) conceptual framework for effective professional development, to include content, active learning, coherence, duration, and collective participation. Specifically, the following questions were constructed for participant response:

1. What characteristics do you perceive are important for effective professional development focused on integrated reading literacy interventions?
2. What context do you prefer for the delivery of professional development focused on integrated reading literacy interventions?
3. Who do you prefer to deliver professional development focused on integrated reading literacy interventions?

The instrument was reviewed and approved by the Institutional Review Board prior to a face validity review in which a panel of experts that consisted of two researchers, who had more than 10 years of experience as both business educators and researchers. Members of the panel of experts had also published one or more

studies focused on reading in the context of teaching business. The panel of experts indicated the questions were valid within the content domain investigated in the study.

Procedures. Interviews were conducted in-person and simultaneously facilitated in separate rooms by two trained researchers, who followed a semi structured interview protocol, which allowed the researchers to probe for clarifying information.

Data were recorded on audio tape and transcribed. To establish inter-coder reliability, both researchers reviewed the transcripts and assigned participant statements to themes, which included content, learning method, coherence, duration, and participation. The themes were identified via a literature review of published articles that examined the requirements for effective instruction; the themes are described in more detail in the literature review section of this article. Two researchers' assigned data to the themes, this cross-analysis enhanced the validity of the qualitative phase of the study (Bogdan & Biklin, 1998).

Participants. Two groups of five practicing business educators (n=10), who responded to an email request for participation and who were located within a 100-mile radius of a southern section of a Midwestern state, participated in the study. The researcher constructed two near-salient focus groups. Near salient refers to the fact that the focus groups participants were placed into groups so that their demographic characteristics were similar, by selecting participants for group participation based on their demographic data, each focus group represented male and female beginning (0-5 years), middle-career (6-10 years) and veteran (10+ years) teachers of traditional business and/or computer technology who practiced in urban, suburban, and rural schools. Group membership by participant demographic characteristics is shown in Table 1.

Table 1
Focus Group Membership by Demographic Characteristics

		Focus Group 1	Focus Group 2
Career Stage			
	Beginning	2	2
	Middle	1	1
	Veteran	2	2
Gender			
	Female	4	4
	Male	1	1
Geographic Setting			
	Rural	3	3
	Suburban	1	1
	Urban	1	1
School Category			
	Title-1	4	4
	Non-title 1	1	1

Quantitative Study

The quantitative method was selected to add additional validity to the findings of the qualitative study and the instrument was designed based on those findings. To determine generalizability, a random selection of Midwestern teachers of middle and high school business were surveyed. Instrument, participants and procedures are described in the subsequent sections.

Instrument. The survey instrument contained a series of 30 Likert-type statements; the 30 items were developed based on the findings of the qualitative study and expanded the three qualitative questions to a total of 30 quantitative survey items, which allowed for robust statistical analysis. The questions were designed to elicit the participants' level of agreement, in relationship to the purpose and questions posed in the study. The Likert-type responses consisted of the following options: "strongly agree", "agree", "disagree", "strongly disagree" and "no response". A "neutral" option was excluded, so that the study participants had to take a stance on their response or choose not to respond. The instrument was reviewed by a panel of three experts in business teacher education to obtain face validity in the study. Minor alterations to the survey were made to satisfy the panel of experts, who agreed the statements were sufficient to answer the questions under investigation. The instrument was then pilot tested with a group of practicing business educators (n=30). Data from the pilot study participants were input into the SPSS v.18 statistical software and tested for reliability via Cronbach's Alpha resulting in reliability of $=.84$.

Participants. The participants in the study were identified via data mining of the Common Core Data available from the National Center for Educational Statistics (2010). Data were mined to obtain a listing of all public comprehensive high schools in a Midwestern state; one school district was excluded because it was not possible to identify participants-- business teachers-- in a method that was consistent with that used to identify other participants (n=1,586).

A systematic selection technique was deployed, where every fourth school location was selected. Participants and their email address, at the selected locations, were identified by searching the school systems' website. In cases where a participant or participants could not be identified, the next school location (as recorded on the original list) was selected. In all, a sample of 502 potential participants was obtained (n=502) or approximately 31.65% of the total population under investigation in the study.

Procedures. Members of the sample were sent an email message that outlined the purpose of the study and elicited their participation. Those who agreed to participate selected an Internet link that pointed their Internet browser to an electronic survey instrument, administered via the Qualtrics survey system. The survey instrument was sent to participants, up to five times, with two-weeks between administrations, to elicit their participation. In all, a survey response rate of 40.64% was obtained (n=204). Data were tested for internal consistency via the Mann-Whitney U-Test. In that test, survey responses were divided into two

groups. Group A was those who responded before the survey was administered during the second round, and Group B consisted of those who responded after the fifth and final round of the survey. No significant differences were noted ($p > .04$). While the Mann-Whitney U-test was not as powerful as collecting non-response data, it was sufficient in determining that even if the survey response rate had been higher, the increased data would not differ significantly from that which was obtained.

Findings

In this mixed-method study, findings are presented in two phases, presentation by qualitative theme and then by the research questions that guided the quantitative study.

Qualitative Phase

Qualitative Theme 1: Practical professional development. Participants in the study revealed that they preferred to engage in practical professional development delivered by a knowledgeable provider, in practical contexts which included demonstrations of instructional strategies for integrating reading literacy interventions in the business classroom.

Findings revealed that business educators desired professional development to be delivered by those with knowledge of providing instruction for and about business to middle and high school students; in lieu of someone with a background in reading without knowledge of the unique outcomes for participants in business classes. Further describing their desire for professional development delivered by a person knowledgeable of business education program outcomes was the extension of their comments to include, delivery in “practical contexts” and applied applications.

Professional development that did not explicitly target the unique nature of business curriculum had little effect on increasing participants perceived level of competency to improve their ability to deliver integrated reading literacy interventions in the context of teaching for and about business. Participants further indicated that they believed that the theoretical background for integrated reading literacy interventions was important; however, they preferred practical suggestions based on experience; because “theory [was] handy,” however, they do not have time to decode theoretical guidelines.

Participants perceived themselves as “teachers, not researchers;” as such, they revealed that professional development topics should be described in practical terms and suggestions should be clearly provided in the context of teaching for and about business, not in general educational terms. The term “practical contexts” was extended to include demonstrations led by the provider of professional development. Sessions should include “role-plays” and other “real-life” scenarios so that they could “actually use the strategies in their classroom.” Further

extending their comments in relationship to applied professional development, participants indicated that their time to interpret “packets of things” was limited and would have little impact on their teaching knowledge and skills in the area of integrated reading literacy strategies.

Qualitative Theme 2: Long-term voluntary professional development.

Focus group members revealed that they have little time to specifically dedicate to professional development and that it was “difficult to attend conferences” and other activities that were not provided in their place of employment. However, they believed professional development was important. They reported that they preferred professional development to be delivered “over-time” in lieu of day-long seminars that typically were thorough and delivered in “several hours all at one time;” “quick” professional development would not lead to shifts in their instructional practices.

Extending their preferred characteristics for the delivery of professional development, they indicated little support for “mandatory” professional development. Thus it was clear that they preferred to engage in “voluntary” professional development instead of being forced to attend “mandatory” sessions, because “the reality is that not every teacher is willing to change their old practices and develop new ones.”

Quantitative Findings

The qualitative study provided a rich description of the phenomenon under investigation. However, as a limitation of the research method was not generalizable and no attempt was made to determine significant differences in participant perception. However, the quantitative study allowed for the collection of participant characteristic data, to include demographics. As a result, quantitative analysis allowed for the data to be treated to statistical analysis to determine generalizability. In that light, findings are headed by research questions.

Research Question #1: What characteristics related to the delivery of professional development do teachers of high school business courses prefer?

Quantitative findings indicated that approximately 136 (78.33%) participants perceived that “professional development for integrated reading literacy interventions are more effective when provided to teachers who volunteer, in lieu of being mandatory.” When the participants were asked to indicate the influence of selected professional development formats on positive student achievement, Table 2 data show that 172 (86.00%) reported that “hands-on activities” were the most valuable, and 164 (85.42%) reported that “conferences” were the least effective.

Table 2
Influence of Professional Development Format (n=200)

	Most Effective		Moderately Effective		Least Effective	
	n	%	n	%	n	%
Hands-on activities	172	86.00	16	8.00	12	6.00
Collaboration with peers	132	66.00	24	12.00	44	22.00
Conferences ¹	12	6.30	24	12.50	164	82.00
Lectures	28	14.00	56	28.00	108	54.00

¹in the cases of conferences only 192 participants responded

When asked to rank the influence of selected durations of professional development activities, the majority or 44 (72.00%) of the participants ranked ongoing development first, 132 (68.75%) indicated professional development “over a set period of time” as the second most effective, and 148 (75.51%) recommended professional development delivered “all-at-one time” as the least effective of the three.

Research Question 2: What is the effect of participant characteristics on their preferred delivery methods of professional development?

Participants’ licensure type, highest degree earned, and the Title 1 eligibility of their school were tested against findings in the study; a statistically significant interaction was noted in three areas: (a) “volunteer” versus “mandatory” professional development, (b) the influence of selected delivery formats for professional development, and (c) the duration of professional development activities. No significant differences were noted in relationship to the collected variables, other than “Title-1 eligibility. As shown in Table 3, a significant interaction resulted from the “Title-1 eligibility” status of the participants’ school.

Table 3
ANOVA—Impact of “Volunteer” vs “Mandatory” Professional Development

One-Way Analysis of Variance of perceived impact of “volunteer” as compared to “mandatory” professional development					
Source	Df	SS	MS	F	P
Between groups	2	4.95	12.14	19.25	.00
Within groups	185	144.16	.63		
Total	187	149.11			

The significant finding was further analyzed using the Scheffé Post-Hoc statistical analysis to determine significant variables. The Scheffé analysis was selected because the underlying data distributions were skewed and failed to meet the normality distribution required by other post-hoc test, such as the

more common Tukey. It was determined that teachers who responded that they were or did not know if they were employed by a school that was eligible for Title-1 funding had a significant differences of perceptions than those who were employed by Title-1 eligible schools. The difference in perceptions was noted in two areas: voluntary participation in professional development and method of professional development delivery,

Voluntary participation

A significant finding $F(2, 185) = 19.25, p < .000$ was noted for those who “volunteer” to participate in professional development related to integrated reading literacy interventions than making those opportunities “mandatory.” Further investigation with the Scheffé Post-Hoc analysis indicated that those who were not employed by a Title-1 eligible school were more significantly ($M = 2.88, SD = .209$) likely to “disagree” or “strongly disagree” with the statement that “professional development for integrated reading literacy interventions [IRLIs] is more effective when provided to teachers who volunteer, in lieu of being mandatory”.

Method of delivery

In addition, post-hoc analysis indicated that those who were employed by a “Title-1 eligible” school were statistically more likely to indicate that “collaboration with peers” was more effective ($M = 1.7, SD = .90$) than “hands-on activities”; “hands-on activities” were more likely to impact their instruction than “lecture” ($M = 2.83, SD = .46$); and that “conferences” were the least likely to impact their instruction ($M = 2.21, SD = .76$).

Conclusion and Discussion

Business educators believe professional development is important to improving their instructional knowledge and skills in the integration of reading literacy in their business courses. The search presented in this manuscript adds clarity to the knowledge base for the desired characteristics of professional development focused on integrated reading literacy interventions by describing the preferred methods of delivery of professional development focused on integrated reading literacy interventions.

As a result, the findings in this study are important for those who select, implement, and evaluate professional development activities; because, designing professional development for business teachers that consider the findings in this study may lead to more effective instructional delivery in business education. The discussion is framed in the context of the guiding conceptual framework in the study and is organized by five pillars for effective professional development: active learning, coherence, collective participation, content, and duration (Desimone, 2009).

Active learning is important to business educators, in the study they revealed that “hands-on activities” were the most effective means of developing their professional knowledge and skills. This finding was confirmed in both the qualitative and quantitative component of this study and affirms findings from the existing literature base. As a result, in the consistency between this study, which focused on business educators, and the larger literature base that spans across other teaching content areas, it is clear that professional development that capitalizes on active learning is the preferred modality for the delivery of integrated reading literacy focused professional development.

Coherence is important for effective professional development. The participants in the study confirmed that it is important for those that participate in professional development to believe that instructional improvement is important. In fact, they made it clear that professional development should only be required of those who want to participate; as not all teachers are willing to change existing practices, even if it may lead to instructional improvement. Matching professional development to teachers’ values and beliefs is important, and while collective participation is desirable, there is little good in forcing teachers to attend professional development.

Business educators revealed that *collective participation* is desirable; however, they preferred to participate in professional development that was offered on a “voluntary” basis as compared to being “mandatory.” Study participants who were not employed by “Title 1” eligible schools were more likely to report that professional development should be “mandatory”. However, little indication was revealed that they did not prefer *collective participation*.

Participants at “Title-1” eligible schools were more likely to favor “collaboration with peers” over “hands-on activities” or “conferences” than their peers at non-eligible schools. A statistical difference in relationship to volunteer and mandatory professional development exists for Title-1 schools; however, these schools must specifically target the reading literacy skills of their students or face a reduction in funding. As a result, these schools typically engage in a large amount of professional development focused on reading literacy. Therefore, it may be that teachers in Title-1 schools have so many professional development opportunities in the area of reading literacy that requiring them to attend all opportunities may have a negative impact on their professional practices by reducing their time in the classroom.

Participants in this study perceived that the *content* of effective professional development for integrated reading literacy interventions should be practical in nature, focused on real-life demonstration facilitated by those who understand the unique nature of business education curriculum a finding that was consistent in both the qualitative and quantitative findings and supported the existing literature base. The participants further revealed that they preferred professional development to be delivered in their home schools, in lieu of professional conferences so that they

could actually see how to implement the integrated reading literacy strategies with their specific content area and students.

Duration is an important concept in determining the success of professional development, in this study participants indicated that professional development that was delivered on an “on-going” basis was most effective; although delivery “over a set period of time” was a close second. Further they revealed that professional development delivered “all-at-one-time” was the least preferred method as compared to professional development that occurred longitudinally. These findings were consistent throughout both stages of this study and confirmed the findings presented in the existing literature base.

Recommendations

In this study, participants’ perceptions were collected, analyzed, and reported; however, no attempt was made to determine the actual outcome of their perceptions on their integrated reading literacy practices. In that light, the following recommendations for research and practice are made:

Practice

Because teachers are already being held accountable to improve the reading skills of their students and additional research will take time, the following recommendations for immediate practices are made:

1. Extend professional development opportunities beyond one-day formats.
2. Provide teachers with the opportunity to participate in hands-on professional development opportunities.
3. Provide a forum for teachers to collaborate with their peers to professionally develop their knowledge and skills for the delivery of integrated reading literacy interventions in the context of teaching for and about business.

While a paucity of research exists to empirically validate the above recommendations for practice, they are aligned with research from other non-business content areas and may have a significant positive effect on student reading literacy achievement in business courses.

Further Research

Little is known about the actual outcome of professional development delivered in the context of the participants’ perceived method and/or duration; it is interesting that the “Title-I” eligibility status of their place of employment triggered a significant statistical interaction; as a result the following recommendations for further research are made:

1. Expand the investigation to determine why participants at Title-1 eligible schools reported perceptions that were significantly different than the study's overall population.
2. Expand the investigation to include the effect of professional development duration, context, and content on the practices of in-service business education.

The recommendations for further research could shed additional light on why teachers at Title-1 eligible institutions have different perceptions than those at non-title 1 eligible schools; thereby improving the professional development opportunities for that unique group of teachers. Further research that documents the effect of professional development delivered over a period of time, in an appropriate context and with a focus on content-teacher preparation could provide information to improve the overall instructional knowledge and skills of practicing teachers of business and positively impact student achievement in reading literacy.

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