

The Efficacy of Online K-12 School Leadership Preparation Programs

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Abstract

The purpose of this study was to investigate the efficacy of online K-12 school leadership preparation programs. Sixty-five graduates of a K-12 school leadership preparation program from a large public university in New York State were included in this study. A survey was used to collect school leadership program graduates' scores on the New York State School Building Leader (SBL) and School District Leader (SDL) licensure assessments as well as their perceptions of their coursework and internship training in the Interstate School Leader Licensure Consortium (ISLLC) Standards. The results of this study showed no statistically significant differences on scores for SBL Part I, SBL Part II and the SDL Part I licensure assessments among the face-to-face and online groups. However, there were statistically significant differences for SDL Part II scores. The mean scores showed the online instructional program graduates scoring higher on the dimensions of Leading District Educational Programs and Managing District Resources and Compliance. There were little to no statistically significant differences found on the coursework preparation for the ISLLC Standards among the face-to-face and online program graduates. On internship preparation, there were statistically significant differences on ISLLC Standard Three: management of the organization, operations, and resources for a safe, efficient learning environment. Here, online graduates perceived better preparedness than face-to-face graduates. The implications of this research suggested that online school leadership preparation programs can be as effective as face-to-face programs.

I. Purpose

The Interstate School Leader Licensure Consortium (ISLLC) Standards were developed to direct state policy-makers and educational leaders in the selection, preparation, licensing, and continuing professional development for K-12 school leaders. Higher education accrediting councils, such as the Council for the Accreditation of Educator Preparation (formerly called the National

Council for Accreditation of Teacher Education), used the ISLLC Standards to evaluate school leadership preparation programs at colleges or universities undergoing accreditation (Council of Chief State School Officers [CCSSO] 1996; CCSSO, 2008). The ISLLC Standards became the leading standards for the profession of K-12 school leadership, with 43 states adopting them as licensure requirements for school administrators as of 2006 (Derrington & Sharratt, 2008). As of February 2, 2009, passing scores on the New York State School Leadership Assessments became a certification requirement for school administrators to practice in New York State. The New York State Education Department's assessments were based on the ISLLC Standards (Frey, 2008; New York State Education Department [NYSED], 2008a; NYSED, 2008b).

Bredeson (1996) identified program delivery as a significant factor that could impact the quality of school leadership preparation programs. The newest and fastest growing form of program delivery was online instruction. The amount of online courses had been growing by approximately 9.7 percent per year, with about 25 percent of all college students throughout the United States taking at least one online course in 2007. Many colleges or universities estimated that students will be taking over half of their courses online by 2020 (Siegle, 2010; Wuensch, Aziz, Ozan, Kishore & Tabrizi, 2009). While early studies on the quality of online instruction in K-12 school leadership courses showed promising results (Browne-Ferrigno, Muth, & Choi, 2000), there were calls for more survey research comparing groups of online and face-to-face school leadership students on the same research questions or assessments (Thiede, 2011). Because the ISLLC Standards were the premier assessments for K-12 school leadership preparation program quality and with continued calls for research on the quality of online K-12 program delivery, the purpose of this study was to compare face-to-face and online instructional groups on their scores for the New York State School Leadership licensure examinations as well as their own sense of preparedness for the ISLLC Standards.

II. Literature Review

The ISLLC Standards

Leithwood, Jantzi, and Steinbach (1999) conducted a comprehensive review of a large body of research on approaches to educational leadership. Their study was timely in that it was a representative sample of 10 years of research on effective educational leadership strategies during the same decade in which the original 1996 ISLLC Standards were written (CCSSO, 1996). Leithwood et al. (1999) analyzed 121 articles among four national and international journals which included: the *Journal of School Leadership*; *Educational Administration Quarterly*; *Educational Management and Administration*; and the *Journal of Educational Administration*. Their analysis identified 20 different leadership concepts, which they dispersed under six broader categories. These six broader categories included: "instructional, transformational, moral, participative, managerial, and contingent leadership" (Leithwood et al., 1999, p. 7). Cornell (2005) argued that the six school leadership categories identified by Leithwood et al. (1999) could all be associated with the ISLLC Standards.

ISLLC Standard One was "An education leader promotes the success of every student by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by all stakeholders" (CCSSO, 2008, p. 14). The 1996 and 2008 ISLLC Standards further defined Standard One by 29 "Knowledge," "Dispositions," and "Performances" (CCSSO, 1996, pp. 10-11) descriptors as well as five "Functions" (CCSSO, 2008, p. 14). ISLLC Standard One was derived from theories on transformational leadership (Cornell, 2005).

ISLLC Standard Two was "An education leader promotes the success of every student by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth" (CCSSO, 2008, p. 14). The 1996 and 2008 ISLLC Standards had 39 "Knowledge," "Dispositions," and "Performances" (CCSSO, 1996, pp. 12-13) descriptors as well as nine "Functions" (CCSSO, 2008, p. 14) which further defined ISLLC Standard Two. This Standard was based on instructional leadership concepts (Cornell, 2005).

ISLLC Standard Three was "An education leader promotes the success of every student by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment" (CCSSO, 2008, p. 14). The 1996 and 2008 versions had 38 "Knowledge," "Dispositions," and "Performances" (CCSSO, 1996, pp. 14-15) descriptors as well as five "Functions" (CCSSO, 2008, p. 14). ISLLC Standard Three was created from theories on managerial leadership and organizational development (Cornell, 2005; Fullan, Miles, & Taylor, 1981).

ISLLC Standard Four was "An education leader promotes the success of every student by collaborating with faculty and community members, responding to diverse com-

munity interests and needs, and mobilizing community resources" (CCSSO, 2008, p. 15). The 1996 and 2008 Standards included 29 "Knowledge," "Dispositions," and "Performances" (CCSSO, 1996, pp. 16-17) descriptors as well as four "Functions" (CCSSO, 2008, p. 15). Cornell (2005) argued that ISLLC Standard Four was developed from contingency leadership theories.

ISLLC Standard Five was "An education leader promotes the success of every student by acting with integrity, fairness, and in an ethical manner" (CCSSO, 2008, p. 15). ISLLC Standard Five was also characterized by 29 "Knowledge," "Dispositions," and "Performances" (CCSSO, 1996, pp. 18-19) descriptors as well as five "Functions" (CCSSO, 2008, p. 15). ISLLC Standard Five emerged from theories on moral leadership (Cornell, 2005).

ISLLC Standard Six was "An education leader promotes the success of every student by understanding, responding to, and influencing the political, social, economic, legal, and cultural context" (CCSSO, 2008, p. 15). The 1996 and 2008 versions of Standard Six were further defined by 19 "Knowledge," "Dispositions," and "Performances" (CCSSO, 1996, pp. 20-21) descriptors as well as three "Functions" (CCSSO, 2008, p. 15). Cornell (2005) suggested that ISLLC Standard Six was based on participative leadership theories.

By February of 2009, the ISLLC Standards were used in at least 44 U.S. States for the training, licensing, and professional development for aspiring as well as in-service K-12 school leaders (Derrington & Sharratt, 2008; Frey, 2008; New York State Education Department [NYSED], 2008a; NYSED, 2008b). Higher education accrediting agencies used these standards for evaluating the efficacy of school leadership preparation programs at colleges or universities. As a result, the ISLLC Standards have become the premier standards in the field of K-12 school leadership preparation.

K-12 School Leadership Preparation Program Internships

A major nationwide study by the National Commission on Excellence in Educational Administration (1987) was highly critical of the quality of K-12 school leadership preparation programs in colleges and universities throughout the United States for not including more clinical hours and program internships. Griffiths (1988) maintained that "schools of education must become full-fledged professional schools, not pseudo arts and science colleges" (p. 10) and that the main concern of K-12 school leadership preparation programs should be that of professional preparation. Prior to the establishment of the ISLLC Standards, there were a series of studies that called for closer ties between colleges or universities and K-12 school districts for the purpose of establishing field practica or internships to develop K-12 school leaders (Bredeson, 1996; Gerritz, Koppich, & Guthrie, 1984; Griffiths, 1988; Murphy, 1990; National Commission on Excellence in Educational Administration, 1987).

The National Commission on Excellence in Educational Administration's (1987) report led to the establishment of the ISLLC Standards, which in turn influenced K-12 school leadership preparation programs throughout the United States in adopting internships or field experiences as program requirements (CCSSO, 1996). To be sure, a populace state such as New York has the New York State Education Department mandating program internships for its registered and approved K-12 school leadership preparation programs ("Office of College & University Evaluation home page--NYS Education Department," n.d.). Research studies have continued to highlight feedback from all stakeholders involved in K-12 school leadership preparation and there is a consensus on the importance of a successful internship for candidate leadership readiness (Binbin, Patterson, Chandler, & Tak Cheung, 2009).

Online School Leadership Preparation

Hoban, Neu, and Castle (2002) suggested that "online instruction in educational administration will be and can be a significant aspect of administrator preparation in the future" (p. 24). They concluded that the quality and rigor of online school leadership preparation courses were comparable to face-to-face courses. Their findings were based on surveys disseminated to faculty and students who had experience in both modalities of instruction. Additionally, their findings were also based on the results of student scores on comprehensive exit assessments (Hoban et al., 2002).

Danzig, Zhang, and You (2005) analyzed the pros and cons of online and face-to-face school leadership preparation courses. They found online school leadership preparation to be more compatible with the concept of "Learner Centered Leadership" (p. 26), which supported many of the tenets of the ISLLC Standards. For example, students in asynchronous online discussion boards had more of a voice and freedom to influence the course discussions than was the case in face-to-face course dialogue. Furthermore, Danzig et al. (2005) argued that face-to-face courses took longer to stimulate discourse, with fewer students being vocal, whereas online courses had a much greater degree of participation spread out among the participants. As a result, online leadership courses were more conducive to the shared decision-making and collaborative dispositions of the ISLLC Standards.

According to Danzig et al. (2005), a negative aspect for teaching leadership online was the "gap between the written form of the web class and the mostly face-to-face settings in which leaders practice" (p. 34). Also, there was a tremendous amount of written communication to manage in online courses. They estimated that in an online course of 25 students, a professor and the students could very quickly have to read over 500 electronic postings, well before the course was over. The potential problem caused by this was student or faculty burnout (Danzig et al., 2005).

According to Mayadas and Picciano (2007), online courses promoted retention. This was in stark contrast to

the problems of burnout or lower motivation cited by Danzig et al. (2005). Mayadas and Picciano argued that online courses were instrumental in retaining students with career commitments. Given that many of the students in school leadership preparation programs were in-service teachers or working professionals, the findings of Mayadas and Picciano suggested that online courses would better serve aspiring school leaders (Brown-Ferrigno & Muth, 2006; Mayadas & Picciano, 2007).

A study by Wuensch et al., (2009) included data from 4789 students in 46 colleges and universities across the United States. Email, digital file sharing, asynchronous discussion boards, and presentation software were the most frequent forms of communication found among online courses in this study. These communication methods were quite similar to the most prevalent forms of communication in online courses found in a study conducted 16 years earlier (Holden & Wedman, 1993). More technologically advanced forms of communication, such as two-way audio and video communication or three-dimensional virtual environments, were infrequently utilized (Wuensch et al., 2009).

Okpala, Hopson, Fort, and Chapman (2010) studied 92 students enrolled in online courses in a Master of School Administration program. The participants' perceptions of online learning were overwhelmingly positive, with 94 percent indicating that they planned on taking additional online courses within their program of study. Approximately 82 percent of the online students "reported possessing higher cognitive/analytical skills" (Opala et al., p. 34). The online students also had more self-directed learning styles and higher self motivational skills than their face-to-face student counterparts.

Thiede's (2011) study included 100 in-service principals who were in an online program for school district leadership licensure. Similar to the Okpala (2010) study, the participants had an overwhelmingly favorable opinion of online learning. Convenience was the most frequently cited reason for choosing online courses. Thiede (2011) called for more detailed studies that compared students' perceptions of course quality among online and face-to-face school leadership programs.

Delfin (2012) compared school leadership readiness among candidates trained online and in traditional face-to-face programs. The findings of this study were that there were no significant differences among school leaders trained in online and face-to-face programs in terms of their leadership aptitude. The study concluded by calling for future studies that compared the rigor of online school leadership internships with internships in traditional programs.

III. Data Sources

The data for this study originated from a larger study, by Markson (2013), for a doctoral dissertation at Dowling College. The participants were graduates of a fully online and face-to-face program from a large public university

in New York State. Permission to conduct the study was obtained through both the Internal Review Board for the Protection of Human Subjects in Research (IRB) of the doctoral program as well as the university setting in which the participants were recruited. The participants were program graduates over a three-year period during which the New York State Education Department began mandating its School Building Leader (SBL) and School District Leader (SDL) licensure assessments.

A list of graduates was generated by the participating university and included the mailing addresses of 638 graduates, 593 of which were still valid as confirmed by the 45 returned as undeliverable by the U.S. Postal Service. Of the 593 surveys sent to the valid mailing addresses, 87 completed surveys were returned, resulting in a response rate of 14.67 percent. Of the 87 respondents, 65 were included in this study for falling into either the fully online school leadership program graduates or fully face-to-face program graduates category. Those that took a combination of face-to-face and online courses were excluded from this study. Three participants who were excluded from the prior study for submitting their surveys past the deadline were included in this study. Two were online graduates and one was from the face-to-face program.

IV. Method

Prospective participants were sent letters informing them about the details of the study and that participation was voluntary, confidential, and anonymous. The survey and return envelope were non-identifiable. The mailings included a cover letter containing instructions for the survey as well as a debriefing letter and a stamped, self-addressed return envelope was provided. Prior to the survey mailings, the program director and dean of the school sent an email to program graduates encouraging their participation. This was done to produce a high return-rate. The email also explained that the survey results would be used to guide the school leadership program for future improvements.

The survey included three parts. Part I included a question asking students to identify if they graduated from a fully online school leadership preparation program, face-to-face, or took a combination of online and face-to-face courses. For the purpose of this study, only the fully online and fully face-to-face instructional program graduates were included. The second part of the survey asked program graduates to self-report their test scores on Parts I and II of the New York State School Building Leader Assessments as well as Parts I and II of the School District Leader Assessments.

Part I of the New York State School Building Leader Assessment contained two subareas. "Developing, Communicating, and Sustaining an Educational Vision" or transformational leadership theories were concepts addressed in the first subarea (New York State Education Department, 2008a, Part One section, para. 1). Here there were 30 multiple choice questions and one written assignment, worth 25 percent and 17 percent respectively of the overall test

score (New York State Education Department, 2008a). The second subarea tested for content knowledge of "Managing Change, Making Decisions, and Ensuring Accountability" (New York State Education Department, 2008a, Part One section, para. 2). Here there were 30 multiple choice questions and one written assignment worth 25 percent and 33 percent respectively of the overall test score. Part I of the School Building Leader Assessment contained scores reported on a scale from 100 to 300, with 220 being the minimum passing score (Pearson Education Inc., 2009). The participants in this study self reported their aggregate score for Part I of the School Building Leader Assessment.

Part II of the New York State School Building Leader Assessment contained two subareas: "Leading the Schoolwide Educational Program" (New York State Education Department, 2008a, Part Two section, para. 1) and "Managing School Resources, Finances, and Compliance" (New York State Education Department, 2008a, Part Two section, para. 2). The first subarea had 37 multiple choice questions and one written assignment worth 31 percent of and 33 percent of the total test score respectively. The second subarea had 23 multiple choice questions worth 19 percent of the test score and one written assignment worth 17 percent of the test score (New York State Education Department, 2008a). Part II of the School Building Leader Assessment contained scores reported on a scale from 100 to 300, with 220 being the minimum passing score (Pearson Education Inc., 2009). The participants in this study self reported their aggregate score for Part II of the School Building Leader Assessment.

Part I of the New York State School District Leader Assessment contained two subareas. "Developing, Communicating, and Sustaining an Educational Vision" or transformational leadership theories were concepts addressed in the first subarea (New York State Education Department, 2008b, Part One section, para. 1). Here there were 30 multiple choice questions and one written assignment, worth 25 percent and 17 percent respectively of the overall test score (New York State Education Department, 2008b). The second subarea tested for content knowledge of "Supervising Districtwide Change and Accountability" (New York State Education Department, 2008b, Part One section, para. 2). Here there were 30 multiple choice questions and one written assignment worth 25 percent and 33 percent respectively of the overall test score. Part I of the School District Leader Assessment contained scores reported on a scale from 100 to 300, with 220 being the minimum passing score (Pearson Education Inc., 2009). The participants in this study self reported their aggregate score for Part I of the School District Leader Assessment.

Part II of the New York State School District Leader Assessment contained two subareas: "Leading the Districtwide Educational Program" (New York State Education Department, 2008b, Part Two section, para. 1) and "Managing District Resources and Compliance" (New York State Education Department, 2008b, Part Two section, para. 2). The first subarea had 37 multiple choice questions and one written assignment worth 31 percent of and 33 percent of the

total test score respectively. The second subarea had 23 multiple choice questions worth 19 percent of the test score and one written assignment worth 17 percent of the test score (New York State Education Department, 2008b). Part II of the School District Leader Assessment contained scores reported on a scale from 100 to 300, with 220 being the minimum passing score (Pearson Education Inc., 2009). The participants in this study self-reported their aggregate score for Part II of the School District Leader Assessment.

The third and final part of the survey instrument contained 44 Likert responses to statements regarding participants' reported attitudes toward school leadership preparation training in their program coursework and internship. The items in this part of the survey instrument were adapted from the 1996 ISLLC Standards (CCSSO, 1996); and the 2008 ISLLC Standards (CCSSO, 2008); Green (2009) and a survey created by Colletti (2012). The items were in the form of statements describing events related to learning ISLLC Standard leadership concepts or skills in the respondents' program coursework and internships. For each statement, respondents were asked to express their levels of agreement on a 5-point Likert scale consisting of the following possible responses: (1) strongly disagree, (2) disagree, (3) slightly agree, (4) agree, and (5) strongly agree (Colletti, 2012).

An independent-samples t test was conducted to compare assessment score results for SBL Parts I and II as well as SDL Parts I and II between face-to-face and online school leadership preparation program graduates. Independent samples t tests were further utilized to determine if there were differences between face-

to-face and online program graduates on their sense of preparation for coursework and internship training in the ISLLC Standards. Finally, a paired samples t test was performed for how online and face-to-face program graduates compared on their coursework and internship preparedness for the ISLLC Standards.

V. Results

Table 1 illustrated the results of the independent samples t test comparing assessment scores for both parts of the SBL and SDL examinations among face-to-face and online school leadership preparation program graduates.

There was not a statistically significant difference for SBL Part I scores for the face-to-face ($M = 250.34$, $SD = 12.69$) and online ($M = 248.18$, $SD = 19.56$) program graduates; $t(33.032) = 0.457$, $p = .651$. Similarly, there was not a significant difference for SBL Part II scores for the face-to-face ($M = 249.63$, $SD = 15.08$) and online ($M = 251.68$, $SD = 18.91$) program graduates; $t(52) = -0.444$, $p = .659$. There was also not a significant difference for the face-to-face ($M = 249.70$, $SD = 16.00$) and online ($M = 250.35$, $SD = 16.69$) program graduates in scores on SDL Part I; $t(51) = -0.143$, $p = .887$. However, there was a statistically significant difference for SDL Part II scores for the face-to-face ($M = 240.17$, $SD = 13.12$) and online ($M = 247.57$, $SD = 12.60$) program graduates; $t(51) = -2.069$, $p = .044$. The mean scores showed the online instructional program graduates scoring higher on Part II of the SDL assessment than the face-to-face program graduates indicating that the online students scored better in the dimensions of Leading District Educational Programs and Managing District Resources and Compliance.

	Modality	N	M	SD	SEM	t	df	p
SBL1	FaceToFace	32	250.34	12.69	2.24	0.457	33.032	0.651
	Online	22	248.18	19.56	4.17			
SBL2	FaceToFace	32	249.63	15.08	2.67	-0.444	52	0.659
	Online	22	251.68	18.91	4.03			
SDL1	FaceToFace	30	249.70	16.00	2.92	-0.143	51	0.887
	Online	23	250.35	16.69	3.48			
SDL2	FaceToFace	30	240.17	13.12	2.40	-2.069	51	0.044
	Online	23	247.57	12.60	2.63			

Table 2 displays the results of the independent samples t test utilized to determine if there were differences between face-to-face and online program graduates on their sense of coursework preparedness in the ISLLC Standards.

Table 2									
<i>Independent Samples t test Comparing Face-to-Face and Online Program Graduate Coursework Preparedness in the ISLLC Standards (N_{ftf} = ~40, N_{oni} = ~25)</i>									
	Modality	N	M	Range	SD	SEM	t	df	p
ISLLC1	FaceToFace	40	28.3	7-35	3.62	0.57	0.452	63	0.653
	Online	25	27.84		4.52	0.90			
ISLLC2	FaceToFace	40	24.95	6-30	3.00	0.47	-0.628	63	0.532
	Online	25	25.44		3.16	0.63			
ISLLC3	FaceToFace	39	35.7949	10-50	5.91	0.95	-0.974	62	0.334
	Online	25	37.2		5.16	1.03			
ISLLC4	FaceToFace	40	29.125	7-35	3.64	0.58	0.912	63	0.365
	Online	25	28.12		5.25	1.05			
ISLLC5	FaceToFace	40	25.55	6-30	3.37	0.53	0.185	62	0.854
	Online	24	25.375		4.13	0.84			
ISLLC6	FaceToFace	40	25.6	8-40	5.81	0.92	-0.728	63	0.469
	Online	25	26.68		5.83	1.17			

The results of the t test indicated that there were no statistically significant differences between the face-to-face and online instructional program graduates on the selected variables for their sense of coursework preparedness in the ISLLC Standards.

An independent-samples t test was conducted to compare face-to-face and online school leadership preparation program graduates on their internship preparedness for the ISLLC Standards. These results are displayed in **Table 3**.

Table 3									
<i>Independent Samples t test Comparing Face-to-Face and Online Program Graduate Internship Preparedness in the ISLLC Standards (N_{ftf} = ~40, N_{oni} = ~25)</i>									
	Modality	N	M	Range	SD	SEM	t	df	p
ISLLC1	FaceToFace	40	27	7-35	5.00	0.79	-0.693	63	0.491
	Online	25	27.84		4.34	0.87			
ISLLC2	FaceToFace	40	23.58	6-30	3.69	0.58	-1.574	63	0.121
	Online	25	24.88		2.39	0.48			
ISLLC3	FaceToFace	40	34.08	10-50	7.08	1.12	-2.415	63	0.019
	Online	25	38.24		6.21	1.24			
ISLLC4	FaceToFace	40	27.58	7-35	4.91	0.78	-1.276	63	0.207
	Online	25	29.12		4.47	0.89			
ISLLC5	FaceToFace	40	24.28	6-30	4.08	0.65	-0.698	62	0.487
	Online	24	25		3.91	0.80			
ISLLC6	FaceToFace	40	25.2	8-40	6.34	1.00	-0.412	63	0.682
	Online	25	25.84		5.68	1.14			

In **Table 3**, the results of the t test indicated that there were no statistically significant differences between the face-to-face and online program graduates on the selected variables for internship preparedness in ISLLC Standards One, Two, Four, Five, and Six. However, there was a statistically significant difference on internship preparedness for ISLLC Standard Three among the face-to-face (M = 34.08, SD = 7.08) and online (M = 38.24, SD = 6.21) program graduates; $t(63) = -2.415, p = .019$. The mean values showed the online program graduates performing higher on internship preparedness for ISLLC Standard Three than the face-to-face program graduates. ISLLC Standard Three survey items investigated how well graduates believed their internship helped them to "promote the success of every student by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment" (CCSSO, 2008, p. 14).

Table 4 illustrates the results of the paired samples t test for how online program graduates compared on their coursework and internship preparedness for the ISLLC Standards. The results of the t test indicated that there were no statistically significant differences between the selected variables for coursework and internship preparedness in ISLLC Standards among online program graduates.

VI. Conclusion

The results of this study showed that online school leadership preparation programs can be as effective as face-to-face programs as measured by program graduate scores on the New York State Education Department's School Leader licensure assessments. In some instances, online

programs were more effective as those that benefitted by graduating from an online instructional program scored higher than their face-to-face counterparts on Part II of the School District Leader licensure assessment. However, there were no statistically significant differences on Parts I and II of the School Building Leader scores as well as Part I of the School District Leader Assessment among face-to-face and online program graduates. Similarly, there were no statistically significant differences when comparing face-to-face and online instructional program graduates on their descriptions of their coursework training in the ISLLC Standards.

There was no statistically significant difference between face-to-face and online program graduates on how they described their internship preparedness on all but one of the ISLLC Standards with the exception of Standard Three, where online graduates rated their preparation higher than the face-to-face graduates. However, it should be noted that the internships in both programs were field-based and not conducted virtually, other than the Internship Seminar course which was co-scheduled with the Internship Field Experience but held virtually for the online students.

Most surprising were the results of the paired samples t test for online program graduates' coursework and internship training in the ISLLC Standards. There has been a substantial volume of studies which have shown the internship to be the most valued component of school leadership preparation programs by all stakeholders (Binbin, Patterson, Chandler, & Tak Cheung, 2009). However, the results of the current study showed no statistically significant difference on how online school leadership

Table 4

Paired Samples t test for online Program Graduates' Coursework and Internship Preparedness for the ISLLC Standards (N_{online} = ~25)

Variable	Range	M	SD	SEM	t	df	p
ISLLC1 Coursework	7-35	27.84	4.52	0.86	0.000	24	1.000
ISLLC1 Internship	7-35	27.84	4.34				
ISLLC2 Coursework	6-30	25.44	3.16	0.63	0.893	24	0.381
ISLLC2 Internship	6-30	24.88	2.39				
ISLLC3 Coursework	10-50	37.2	5.16	1.51	-0.69	24	0.497
ISLLC3 Internship	10-50	38.24	6.21				
ISLLC4 Coursework	7-35	28.12	5.25	1.03	-0.967	24	0.343
ISLLC4 Internship	7-35	29.12	4.47				
ISLLC5 Coursework	6-30	25.375	4.13	1.02	0.369	23	0.716
ISLLC5 Internship	6-30	25	3.91				
ISLLC6 Coursework	8-40	26.68	5.83	1.03	0.814	24	0.424
ISLLC6 Internship	8-40	25.84	5.68				

preparation program graduates compared their online coursework training with their field-based internship training in the ISLLC Standards.

VII. Limitations of the Study and Recommendations for Future Research

The selected population from this study was limited to graduates of a large public university in the Northeastern region of the United States. The results cannot be generalized to other colleges or universities that do not have similar demographics. Future studies should compare the on-the-job performance of in-service school leaders who graduated from online school leadership preparation programs with those who graduated from face-to-face programs.

VIII. Implications of the Research

If the results of this study remain consistent with future studies, colleges and universities should continue to offer online K-12 school leadership preparation programs. Online instructional programs were shown to be at least as effective as the traditional face-to-face programs and in some instances the online program was superior.

A qualitative interview of instructors' practices from the perspective of the students might reveal certain online behaviors of instructors that produced higher satisfaction and more learning among online students in the School District Administrator preparation program.

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