

THE DEVELOPMENT AND FIELD TEST OF AN EMPLOYMENT INTERVIEW  
SYSTEM TO IDENTIFY SUCCESSFUL SCHOOL PRINCIPALS

By

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## **Abstract**

The purpose of the study was to examine the reliability and validity of the employment interview system for Principals (ICIS-Principal). This instrument attempts to predict the effectiveness of principal applicants as building leaders, determined through a set of employment interview questions aligned with the primary themes found within the current literature on principal effectiveness. In particular, this study asks whether a set of effective questions can be created and, when administered by a skilled interviewer; accurately predict whether a candidate will be a successful building principal as defined by ratings from the central office. Study participants were obtained from a public school district, Guilford County Schools, North Carolina. The basis for the ICIS-Principal interview system is founded on the 2008 Educational Leadership Policy Standards, the updating of the 1996 Interstate School Leaders Licensure Consortium (ISLLC).

Reliability was established through the use of Cronbach's Alpha to determine how well the interview questions correlated with the constructs. Pearson correlations were utilized to determine how well the total interview instrument was able to predict the rating of job performance provided by the central office. The relationship between scores on the instrument was not positively correlated with supervisor ratings.

These results did not produce the findings sought by the study. Thus, this particular structured interview instrument, which was based upon best practices for principals, did not prove to be a good indicator of principal performance considered exemplary by central office personnel.

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## **Chapter One: Introduction**

Because school personnel are the most costly factor in any district budget and have the greatest effect on the quality of the educational program provided for students, perhaps the most critical role for an educational administrator is the screening and selection of school personnel (Applegate, 1987; Caldwell, 1993). Given the importance of screening and selection, it follows that the goal in any hiring process is to select the most competent and knowledgeable individuals available. In fact, the selection of quality educators is the single best predictor of how successfully a school operates (Emley & Ebmeier, 1997).

The research establishes a significant link between an effective principal and student outcomes (Bossert, Dwyer, Rowan, and Lee, 1982; Bulach, Malone, and Castleman, 1995; Kelley, Thornton, and Daughtery, 2005; Deal and Peterson, 1990; Valentine and Bowman, 1987; Waters, Marzano, and McNulty, 2004). More specifically, schools that make a difference in students' learning are led by principals who make a significant and measureable contribution to the effectiveness of staff and to the learning of pupils in their charge (Andrews & Soder, 1987; Bossert, Dwyer, Rowan & Lee, 1982; Murphy & Hallinger, 1982).

Hallinger and Heck (1996) conducted a meta-analysis over a fifteen year period that explored the relationship between principal leadership and student achievement. The authors conclude the general pattern of results drawn from their review was statistically significant and meaningful, supporting "the belief that principals exercise a measureable, though indirect, effect on school effectiveness and student achievement" (p. 186).

### *Purpose of Study*

The purpose of the study was to examine the reliability and validity of the Interactive Computerized Interview System for Principals (ICIS-Principals). This instrument attempts to

predict the effectiveness of principal applicants as building leaders, determined through a set of employment interview questions aligned with the primary themes found within the current literature on principal effectiveness. In particular, this study asks whether a set of effective questions can be created and, when administered by a skilled interviewer, accurately predict whether a candidate will be a successful building principal as defined by ratings from the central office. This research has important implications in that significant results would support a predictive tool districts could use in their search for building administrators, strengthening the match between a building leadership position and the most suitable candidate.

## **Chapter Two: Review of Literature**

### *Historical Use of the Employment Interview*

The personal employment interview has historically served as the foundation and most common tool utilized within the hiring process in many fields including education (Castetter & Young, 2000; Eder, 1989). Information gathered during an interview helps enable employers to make an informed decision about prospective employees. Because of the importance placed upon the interview in the candidate selection process, over the past few decades much research has been conducted to examine the effectiveness of the interview. There have been a number of meta-analyses of interview validity (e.g., Huffcutt & Arthur, 1994; McDaniel, Whetzel, Schmidt, & Maurer, 1994; Wiesner & Cronshaw, 1988; Wright, Lichtenfels, & Pursell, 1989) and of interview reliability (Conway, Jako, & Goodman, 1995). Collectively, these studies suggest that employment interviews have the potential to aid in predicting job performance (Huffcutt, Conway, Roth, & Stone, 2001), especially when the interviews are structured. Campion, Palmer, and Campion (1997) defined structure as “any enhancement of the interview that is intended to increase psychometric properties by increasing standardization or otherwise assisting the interviewer in determining what questions to ask or how to evaluate responses” (p. 656). Note taking during the interview, asking all applicants the same questions that are applicable to the requirements of the job, and using a consistent approach to question administration by well-trained interviewers are all methods to increase the interview structure. Unfortunately, reviews of commercial selection interview instruments most commonly used in education have not been positive, citing the lack of internal reliability and failure to establish both content and predictive validity (Metzger & Wu, 2003; Young & Delli, 2002; Baskin et al. 1996).

### *Psychometric Issues*

Thayer (as cited in Emley & Ebmeier, 1997) indicates criticisms of the typical interview include: weaknesses in the way the information is gathered, judgment bias, and errors in decision-making through various sources of errors made by untrained interviewers. For example, interviewers may unintentionally influence candidate responses by asking questions not based on specific and precise job skills, failure to control the interview session by talking too much or by not following up when appropriate, display of nonverbal behaviors, and/or make employment decisions early in the interview prior to all data being collected and evaluated. However, despite its limitations, the interview is likely to remain a popular tool for employee selection (Carlson, Thayer, Mayfield, & Peterson, 1971; Murray, 1990).

### *Interview Practices for Building Principals*

According to Harvey and Struzziero (2000), many of the general methods most districts use to assist in differentiating one candidate from another are not based on highly reliable or valid standards. For example, a job candidate's experience in a field does not necessarily indicate competence in a field, a mistaken assumption often applied in the interview. Furthermore, job references tend not to be helpful as they are predictably positive or neutral. In addition, poorly developed interviews are weak indicators of the potential success of a candidate in the educational setting.

Variations exist in the screening, interview, and hiring processes utilized among school districts due to size, resources, and the individuals in district leadership positions. A common approach for larger districts is the reliance on the approach of using multiple interviewers (a team of individuals conducting an interview together) as well as serial interviews (separate interviews) to provide a broader sampling of answers.

Selection Committees are often charged with developing a consistent pool of questions to be asked of each candidate. These may or may not be well aligned with professional standards or the primary indicators of on-the-job performance. An example of typical questions, as published on the Placement Office website of the School of Education at the University of Illinois at Champaign-Urbana, illustrates this point (University website, 2009):

- Describe your teaching experiences and your involvement with teachers.
- What are your career goals and timelines?
- Just finishing up your degree, do you see this position as just a jumping-off point or would you be satisfied in sticking with it for a while?
- After reading the job description, why are you interested in this job?
- If you had an ideal situation, how would you like to divide your time in a position like this one? What do you feel are the priorities of this position?
- How would you develop a good relationship with the staff?
- How would you develop a supervisory relationship with a teacher who has 25 years of experience and sees you as having relatively little experience?
- Describe your administrative style. Do you feel you are more authoritarian or laissez-faire?
- How flexible are you in enforcing policies and rules? How much do you stick by the rules?
- What do you feel your relationship should be like with the superintendent? With the board?
- How would you handle a decision made from higher up that was against your personal/professional philosophy?
- What role do you feel parents should play in education, and how would you develop that?
- How would you handle criticisms made to the board about a teacher under your supervision?
- How well do you accept criticism? Failure? Defeat?
- What model(s) of teacher supervision and evaluation would you follow?
- What is your philosophy surrounding student discipline?
- What would your response be to racial confrontations?
- How do you feel about living in this district?

As evidenced by the questions listed above, few align themselves directly with the Interstate School Leaders Licensure Consortium (ISLLC) 2008 standards and the specific job responsibilities expected of a building principal; rather, the questions reflect an unstructured approach. Interviewers may ask traditional questions such as those listed above that are common in unstructured interviews but not based on job analysis (e.g., How do you feel about living in

this district? How well do you accept criticism? Failure? Defeat? What are your career goals and timelines?).

Standards and other guidelines specifically related to job responsibilities have been shown to be essential components in not only creating effective pre-service training programs for principals but by being influential in the process for screening and hiring school leaders. In response to requests from the field of educational leadership for updated leadership standards, the Educational Leadership Policy Standards: ISLLC (Interstate Leadership Licensure Consortium) 2008, were adopted by the National Policy Board for Educational Administration. The ISLLC 2008 standards provide high-level guidance, while organizing the functions and insight about the responsibilities expected of school leaders. These six standards serve as the basis for many state level certification programs in the field of building leadership:

1. Setting a widely shared vision for learning;
2. Developing a school culture and instructional program conducive to student learning and staff professional growth;
3. Ensuring effective management of the organization, operation, and resources for a safe, efficient and effective learning environment;
4. Collaboration with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources;
5. Acting with integrity, fairness, and in an ethical manner; and
6. Understanding, responding to, and influencing the political, social, legal, and cultural contexts.

One well-known instrument that currently exists for assessing the knowledge level of a building principal is the Praxis, developed and published by Educational Testing Service (ETS,

2003). The School Leadership Series test is used for licensure and certification purposes in several states. The states that currently require the School Leaders Licensure Assessment as part of the state licensure process are Arkansas, California, Colorado, Connecticut, District of Columbia, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Mississippi, Missouri, New Jersey, North Carolina, Pennsylvania, Tennessee, Virginia, U.S. Virgin Islands, and Utah. These assessment instruments reflect the most current research, professional judgment and experience of educators across the country, and are based on both a national job analysis study and a set of standards for school leaders identified by the Interstate School Leaders Licensure Consortium (Educational Testing Service, 2003). While this test measures content knowledge, it is not an interview tool.

#### *Characteristics of an Effective Interview*

Interviews are pre-employment tests and, as such, their questions should sample on-the-job behaviors. Questions that are deemed the best predictors, according to Ebmeier, Dillon and Ng (2003) utilize existing job descriptions or nationally developed standards that identify desirable behaviors for the specific position. Consequently, while the interview, both as a screening tool and as a final selection tool, is central to the selection process, there still exists a need to align interview questions with the qualities thought to be required of successful principals.

The purpose for a structured interview is to improve the validity of the tool in identifying potential candidates. Questions asked of candidates in an unstructured interview typically vary in content across candidates, do not exhibit similar scoring methodologies thus have less predictive validity. Questions asked of a candidate in structured interviews have greater predictive validity

due to the uniformity across candidates as well as in the similarity of scoring methodology (Campion, Palmer, and Campion 1997).

The use of well-defined rubrics, analysis of ratings throughout the process, and skillfully developed interview questions based on a thorough job description analysis are several important characteristics of a structured interview process as identified by Dipboye and Gaugler (1993). An effective interview results in obtaining information about the candidate's skills , knowledge and abilities needed for successful job performance. Meta-analytic reviews of validity studies have unanimously supported the advantage of structured interviews. Across studies, corrected validities for unstructured interviews ranged from .14 to .33 and for structured interviews from .35 to .62 (Huffcutt & Arthur, 1994; Hunter & Hunter, 1984; McDaniel, Whetzel, Schmidt, & Maurer, 1994; Wiesner & Cronshaw, 1988; Wright, Lichtenfels, & Pursell, 1989; see also Conway, Jako, & Goodman, 1995; Marchese & Muchinsky, 1993).

A review of the last six years of interview research confirms that considerable attention has centered on the reasons “structured” interviews show greater predictive validity compared to “unstructured” interviews. As research efforts continue to examine the construct-related validity of interviews, this area could gain from a shift in inquiry from what an interview measures to developing individual studies designed to measure the construct of interest (Ployhart, 2006). More studies about what constructs could be measured or what constructs are best measured in employment interviews are needed (Posthuma et al., 2002). Macan (2009) argues that to advance research in this area and obtain a greater understanding of the role of structure on the reliability and validity of interviewer judgments, a common taxonomy and measure of the degree of interview structure is necessary. Previous researchers have laid a strong foundation on which

future research efforts can build this important missing link (e.g., Campion et al., 1997; Huffcutt & Arthur, 1994; Dipboye et al., 2004; Dipboye, 2005).

Numerous meta-analyses have shown that the extent to which a selection interview is structured, it is both reliable and valid (e.g., Huffcutt & Arthur, 1994; McDaniel, Whetzel, Schmidt, & Maurer, 1994). Moreover, Cortina, Goldstein, Payne, Davison, and Gilliland (2000), through a series of meta-analyses, found that highly structured interviews have incremental validity beyond cognitive ability and conscientiousness combined. According to Campion, Palmer, and Campion (1997) panels, or selection committees, may be more reliable due to all interviewers hearing the same answers; however, serial interviews (interviews conducted separately in a series) may be more valid because they obtain a broader sampling of answers.

#### *Standards from Field of School Leadership*

The Council of Chief State School Officers (CCSSO), consisting of leading education officials in each of the states and the District of Columbia, created a special study group called the Interstate School Leaders' Licensure Consortium (ISLLC) who produced *The Interstate School Leaders Licensure Consortium (ISLLC) Standards for School Leaders* in a partnership with the National Policy Board for Educational Administration (NPBEA) in 1994–95. The initial research base, identified by the NPBEA, contains empirical research reports as well as policy analyses, leadership texts, and other resources considered to be “craft knowledge” and “sources of authority” in the field (ISLLC 2008). The ISLLC study was a major attempt to represent the best in leadership thinking as it relates to schools. In the years since its initial 1996 publication, it has become the leading standard for school leadership and is currently a significant component of the licensure and educational leadership development work for most

state education boards. The group conducting the ISLLC study named six domains, or standards, that are essential for a school leader to be successful.

#### ISLLC Standards (2008)

**Standard One:** A school administrator is an educational leader who promotes the success of students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.

**Standard Two:** A school administrator is an educational leader who promotes the success of students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.

**Standard Three:** A school administrator is an educational leader who promotes the success of students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.

**Standard Four:** A school administrator is an educational leader who promotes the success of students by collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources.

**Standard Five:** A school administrator is an educational leader who promotes the success of students by acting with integrity, fairness, and in an ethical manner.

**Standard Six:** A school administrator is an educational leader who promotes the success of students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.

#### *Praxis School Leader Assessment*

States recognized that schools and districts would struggle meeting increasing demands for students achievement without the support and guidance of effective leaders. Addressing these demands, the most current set of policy standards for education leadership are represented in

*Educational Leadership Policy Standards: ISLLC 2008.* Providing guidance for state policymakers, these standards reflect lessons learned about education leadership, lessons gathered from practitioner-based organizations, researchers, higher education officials and leaders in the education field.

The Interstate School Leader Licensure Consortium (ISLLC), organized by the Council of Chief State School Officers, was formed for the purpose of developing model standards and assessments for school leaders. The Wallace Foundation recognized the need to update the standards from 1996—which were developed with little consensus on the qualities of effective school leaders and thus provided support to review the base of research in education leadership.

The ISLLC 2008, which informs licensing and induction programs, assesses new leader professional knowledge (ISLLC 2008) through tools like The Praxis School Leader Assessment (ETS, 2003)—an instrument that aspiring school leaders must demonstrate adequate professional knowledge on before moving into their position. Twice over the course of a year, National Advisory Committee (NAC) members convene to develop new tests or review and revise specifications for existing tests. Committee members include 12-15 licensed practitioners and higher education faculty who are involved in teacher preparation course work.

The ETS Examination #1010 consists of 3 sections designed to test the candidate against the standards set out by the Interstate School Leaders Licensure Consortium (ISLLC). The assessed modules are as follows:

- I) Evaluation of actions – Scenarios are presented in which the principal is required to take action in a dilemma, or commonly faced complex situation. The situations involve legal, community, teacher, and teaching and learning scenarios.
- II) Synthesis of information and problem solving – Two one-hour cases are presented in which the candidate must provide detailed reasoning and a description for their course of action in a teaching and learning situation.
- III) Analysis of information and decision-making – “In this module, test takers are presented with seven documents typical of those encountered by school administrators. At least six of the seven documents relate to issues involving learning and teaching. Using the information in each document, test takers respond to two questions about the document. The types of documents used in this module may include: assessment data, portions of school improvement plans, budget information, schedules, resource allocation documents, staff evaluations, or curriculum information.” (ETS Exam #1010 Published Guide, p 2)

The Praxis School Leader Assessment, reports individual scores to the state departments of education for building level leadership licensure.

*The McREL Report*

Major documents produced by professional organizations as well as review of the literature are currently available to provide the basis for identifying the key knowledge and skills for a building principal. In addition to those already cited, the Mid-continent Research for Education and Learning (McREL) group has created a Balanced Leadership Framework, based upon findings from two separate studies of quantitative research conducted between 2001 and 2004. The framework attempts to more closely align the ISLLC standards for principals with student achievement. The Balanced Leadership Framework consists of 21 specific leadership responsibilities and 66 practices that were proven, using McREL's method of quantitative research, to correlate significantly and positively with student learning. The 21 responsibilities are (Waters, Marzano, and McNulty, p 4):

- Culture – Fosters shared beliefs and a sense of community and cooperation
- Order – Establishes a set of standard operating procedures and routines
- Discipline – Protects teachers from issues and influences that would detract from their teaching time or focus
- Resources – Provides teachers with materials and professional development necessary for the successful execution of their jobs
- Curriculum, instruction, assessment – Is directly involved in the design and implementation of curriculum, instruction, and assessment practices
- Focus – Establishes clear goals and keeps those goals in the forefront of the school's attention
- Knowledge of curriculum, instruction, assessment – Is knowledgeable about current curriculum, instruction, and assessment practices
- Visibility – Has quality contact and interactions with teachers and students
- Contingent rewards – Recognizes and rewards individual accomplishments
- Communication – Establishes strong lines of communication with teachers and among students
- Outreach – Is an advocate and spokesperson for the school to all stakeholders
- Input – Involves teachers in the design and implementation of important decisions and policies

- Affirmation – Recognizes and celebrates school accomplishments and acknowledges failures
- Relationship – Demonstrates an awareness of the personal aspects of teachers and staff
- Change agent – Is willing to and actively challenges the status quo
- Optimizer – Inspires and leads new and challenging innovations
- Ideals / beliefs – communicates and operates from strong ideals and beliefs about schooling
- Monitors / evaluates – Monitors the effectiveness of school practices and their effect on student learning
- Flexibility – Adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent
- Situational Awareness – Is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems
- Intellectual stimulation – Ensures that faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school's culture

*NAESP Standards for Training and Credentialing*

In 2001, The National Association of Elementary School Principals (NAESP) merged its "periodically updated" documents, Standards for Quality Elementary & Middle Schools and Proficiencies for Principals, into a new guide, *Leading Learning Communities: NAESP Standards for What Principals Should Know and Be Able to Do*. The impetus for this change was their belief that one "cannot have a first-rate school without first-rate school leadership" and that school leaders need to exhibit more than charisma and good management skills. As such, NAESP has tied these standards to its "Indicators of Quality Schools": Leadership that places student and adult learning at the center of schools; Expectations for and commitment to high standards of academic performance; Safe and secure learning environments for students; Curriculum and instruction tied to school and student learning goals; Collaborative learning community for adults; and An engaged community. NAESP has derived its standards from what principals themselves see as their appropriate role and focus. NAESP's Standards for What Principals Should Know and Be Able to Do, (NAESP 2009):

- Lead schools in a way that places student and adult learning at the center.
- Set high expectations for the performance of all students and adults.
- Demand content and instruction that ensure student achievement of agreed upon academic standards.
- Create a culture of continuous learning for adults tied to student learning and other school goals.
- Use multiple sources of data as diagnostic tools to assess, identify and apply instructional improvement.
- Actively engage the community to create shared responsibility for student and school success.

Each document was reviewed to assess the correspondence of suggested competencies knowledge with those identified in the ISLLC standards. Table 1 represents an integration of the various current reports mentioned earlier, illustrating how the essential elements of the building principal position from the competencies provided in the ISLLC standards are incorporated into the various national standards, documents and building level leadership exam.

Table 1: Comparison Table of National Standards with National Documents and Exam

<b>ISLLC Standards</b>	<b>NAESP Standards</b>	<b>ETS Exam #1010</b>	<b>Marzano's 21 Specific Leadership Responsibilities</b>
<p><b>Standard One:</b> A school administrator is an educational leader who promotes the success of students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community</p>	<p><i>Lead schools in a way that places student and adult learning at the center.</i></p> <p><i>Demand content and instruction that ensure student achievement of agreed upon academic standards.</i></p>	<p><i>Evaluation of actions</i></p> <p><i>Synthesis of information and problem solving</i></p> <p><i>Analysis of information and decision-making</i></p>	<p><i>Curriculum, instruction, assessment</i></p> <p><i>Focus</i></p> <p><i>Knowledge of curriculum, instruction assessment</i></p> <p><i>Input</i></p>
<p><b>Standard Two:</b> A school administrator is an educational leader who promotes the success of students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth</p>	<p><i>Set high expectations for the performance of all students and adults.</i></p> <p><i>Demand content and instruction that ensure student achievement of agreed upon academic standards.</i></p> <p><i>Create a culture of continuous learning for adults tied to student learning and other school goals.</i></p>	<p><i>Evaluation of actions</i></p> <p><i>Synthesis of information and problem solving</i></p> <p><i>Analysis of information and decision-making</i></p>	<p><i>Curriculum, instruction, assessment</i></p>
<p><b>Standard Three:</b> A school administrator is an educational leader who promotes the success of students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment</p>		<p><i>Evaluation of actions</i></p> <p><i>Synthesis of information and problem solving</i></p> <p><i>Analysis of information and decision-making</i></p>	<p><i>Order</i></p> <p><i>Discipline</i></p> <p><i>Resources</i></p> <p><i>Communication</i></p> <p><i>Monitors / evaluates</i></p>

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2

<sup>1</sup> The ISLLC Standards don't specifically address using multiple sources of data as diagnostic tools to assess, identify and apply instructional improvement.

<sup>2</sup> The ISLLC Standards don't specifically address visibility, contingent rewards, affirmation, change agent, optimizer, flexibility, situational awareness or intellectual stimulation as mentioned in the McREL research.

<b>ISLLC Standards</b>	<b>NAESP Standards</b>	<b>ETS Exam #1010</b>	<b>Marzano's 21 Specific Leadership Responsibilities</b>
<b>Standard Four:</b> A school administrator is an educational leader who promotes the success of students by collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources	<i>Actively engage the community to create shared responsibility for student and school success.</i>	<i>Evaluation of actions</i> <i>Synthesis of information and problem solving</i> <i>Analysis of information and decision-making</i>	<i>Outreach</i> <i>Relationship</i>
<b>Standard Five:</b> A school administrator is an educational leader who promotes the success of students by acting with integrity, fairness, and in an ethical manner		<i>Evaluation of actions</i> <i>Synthesis of information and problem solving</i> <i>Analysis of information and decision-making</i>	<i>Ideals / beliefs</i>
<b>Standard Six:</b> A school administrator is an educational leader who promotes the success of students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context		<i>Evaluation of actions</i> <i>Synthesis of information and problem solving</i> <i>Analysis of information and decision-making</i>	<i>Culture</i>

## **Chapter Three: Methodology**

### *Purpose of the study*

The purpose of the study was to determine whether the ICIS-Principal instrument, as developed based on a wide-ranging and large body of research and theory on the topics of leadership, principals, and school effectiveness when administered by a skilled interviewer, could predict the success of a principal as defined by central office evaluations. This research has important implications in that significant results would support a predictive tool districts could use in their search for building administrators, strengthening the match between a building leadership position and the most suitable candidate.

### *Description of Sample*

Study participants came from a large public school district in North Carolina with a student population of over 71,000. Guilford County Schools employs over 10,000 full and part-time individuals. There are nearly one hundred languages spoken and over seventy countries of origin represented within the district's 120 school building sites. The district operates buildings in both urban and rural areas, of which 67 are elementary, serving grades K through 5, or Pre-K through 5. The district also operates 22 middle schools, 26 high schools, two special education schools (Gateway and McIver), two SCALE sites, which provide an alternative to long-term suspensions, and Saturn Academy, which offers a flexible schedule to complete graduation requirements for high school students. Additionally, the district has the High School Ahead Academy and the GCS Newcomers School.

A total pool of 100 candidates was identified and, of these, 52 sitting pre-kindergarten through high school principals from Guilford County public schools district in Guilford County,

North Carolina participated in the study. Participating subjects were randomly assigned to four doctoral graduate students who conducted the interviews using the newly developed ICIS Principal instrument. The candidates were labeled as performing at the highest level of effectiveness (8-10), the middle level of effectiveness (5-7), and those who were ranked as least effective (1-4). Of the participants, the Director of Human Resources rated eleven (21%) of the participants in the lower group, thirty-eight (73%) in the middle group and 2 (.04%) in the higher group. All ratings were provided to the faculty advisor at KU sponsoring the study. Neither the researchers nor the participants were aware of the rating of the Human Resource Director when conducting the interviews. Table 2 presents the breakdown of the sample by level. Thirty-two subjects (62%) were female and twenty (38%) were male. Experience ranged from those in the first year of their principalship to those with several years of experience. Fifty-two percent of the subjects were Black; the remaining 48% were Caucasian. Twenty two buildings (42%) had below 50% of their student population recognized as low socio-economic status while thirty buildings (58%) had more than 50% of their student population recognized as low socio-economic status.

Table 2: *Total Building Principal Sample by Level*

<u>Level</u>	<u>N</u>	<u>Percent</u>
Pk-5	22	42.30
K-5	7	13.46
K-8	1	0.02
6-8	10	19.23
<u>9-12</u>	<u>12</u>	<u>23.07</u>

### *Data Collection Procedures*

Four researchers, practicing administrators in the greater Kansas City area and University of Kansas graduate students, were required to pass the training module associated with the ICIS-Principal with 90% accuracy. The training module consists of a recorded and simulated interview in which respondents answer a variety of questions. Trainees watched the video clips and responded with appropriate ratings. After completing the training, each interviewer was provided with a list of twenty randomly selected current GCS principals with whom to conduct interviews. Prior to each phone interview, participants were read a standardized statement informing them of their right to opt out of the interview at anytime . After this information was provided and oral consent was obtained, the interview was conducted using the ICIS-Principal (described below), typically lasting 30-45 minutes each. Data from the interviews was collected and sent to the research advisor.

### *Instrument Development*

The ICIS-Principal is similar to the original ICIS-Teacher Version developed in 2002-2003. The ICIS-Teacher Version attempted to create an adaptive interview that conserved time and assured reliability. Using the research provided from the Teacher of the Future and Praxis III: Classroom Performance Assessments documents, a guideline for the development of the ICIS was created. Instrument development centered on the formation of questions based upon four clusters (Working with Others, Knowledge of Teaching, Knowledge of Instruction, and Knowledge of Content). Within each cluster, a bank of questions was formed. To ensure construct validity on the early development stages of the original version of ICIS, questions selected for use in the Teacher Instrument were associated with constructs found in both pillar documents on which the instrument was founded. Each question was associated with a specific

rubric measuring the level of each response. Questions for each cluster continued until the variance stabilized at 0.75 or the test bank ran out of questions. The levels of responses include Level Three, excellent answer, Level Two, moderate answer, and Level One, poor answer. The entire interview is conducted with the use of a laptop computer, which assists in the compilation of data and conserves time.

The basis for the ICIS-Principal interview system is founded on the 2008 Educational Leadership Policy Standards, the updating of the 1996 Interstate School Leaders Licensure Consortium (ISLLC). The six established ISLLC standards defining strong school leadership are:

1. Setting a widely shared school vision;
2. Developing a school culture and instructional program conducive to student learning and staff professional growth;
3. Ensuring effective management of the organization, operation, and resources for a safe, efficient, and effective learning environment;
4. Collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources;
5. Acting with integrity, fairness, and in an ethical manner; and
6. Understanding, responding to, and influencing the political, social, legal, and cultural contexts.

Initially, a bank of questions was created for the ICIS-Principal containing 140 questions in five broad content areas closely associated with the six standards established by ISLLC. The five content areas are:

- Developing a School Vision and Culture;
- Developing and Maintaining the Instructional Program;
- Managing the Organization;
- Collaboration with Families and Community Members;
- Acting with Integrity, Fairness, and in an Ethical Manner.

Once created, graduate students and education professors at the University of Kansas reviewed each question, selecting those that most closely represented the ISLLC standards. These questions were then reviewed by practicing administrators and teachers from Guilford County Schools for practicality and desired job performance and functions. They were then narrowed down to a bank of 68 questions that best aligned with the ISLLC standards and with the job functions of a school principal. Table 3 shows the distribution of questions.

Table 3: *Distribution of Interview Questions*

<b>Theme</b>	<b>Number of questions</b>
Acting with Integrity, Fairness, and in an Ethical Manner	10
Collaboration with Families and Community Members	10
Developing and Maintaining the Instructional Program	16
Developing School Vision and Culture	17
Managing the Organization	15

A scoring rubric was developed for each question based on the quality of the subject's response. A three-point scale was utilized with 1 representing the lowest response and 3 representing a response that demonstrated the highest level of skill, competence, or knowledge for each question. Rubrics were designed to be rather specific in the level of answer required to obtain each score in order to enable a range of independent interviewers to utilize them with consistent results. The initial rubrics were provided to the two education professors at the University of Kansas for evaluation. Suggested changes intended to clarify desired responses were incorporated into the final version, increasing the face validity of the rubric. During the

interview, the ICIS instrument generates questions randomly within the specific content areas (Management of the Organization, Developing School Vision and Culture, Developing and Maintaining the Instructional Program, Collaborating with Families and Community Members, or Acting with Integrity, Fairness and in an Ethical Manner) from the 68 question bank. The program will continue to select questions from the particular content bank until the variance of the ratings for the responses drops below 0.75, suggesting some consistency of responses or that the bank has been exhausted. Table 4 contains examples of the questions utilized and the rubrics created.

Table 4: *Sample Scoring Rubric*

<b>Question</b>	<b>Score</b>	<b>Criteria</b>
How will you serve as a role model in the school?	3	Candidate has clear concepts of the importance of modeling behavior. Indicates he or she will engage in activities such as: modeling best teaching practices, holding constructive conversations before decisions are made, reflecting on own work, administering policies in an equitable, legal, and defensible way, etc.
	2	Candidate believes in the concept of a role model and has suggestions, but does not fully grasp the importance of modeling behavior in the teaching and leadership process.
	1	Candidate knows he or she will be a role model but focuses on superficial elements.
How should the schools and the community collaborate?	3	Candidate states the purpose and is able to identify key components of collaboration, such as : shared vision, shared goals, interdependence, and standardized process – a routine mechanism by which goals are achieved.
	2	Candidate offers specific suggestions for interaction with the community focusing on reactive response and use of collaboration rather than routine.
	1	Candidate states that collaboration is important but cannot explain why and has only sketchy ideas of how to engage in this process.
What are some principles of effective instruction?	3	Candidate states instruction is typically defined in terms of understanding students, engaging in interactions with students, selecting relevant and important content, delivering content and using instructional methods appropriate for student learning, and appropriate assessment strategies.

	2	Candidate offers general principles but without any structure. They often appear randomly as the candidate thinks of them rather than a comprehensive set.
	1	Candidate cites specific programs (cooperative learning, teaming, PLC, etc.) but not general concepts related to learning. Candidate lacks an integrated view of how learning occurs and what underlies this process.

### *Validity*

#### *Content Validity*

Content validity is “the extent to which the questions on the instrument and the scores from these questions are representative of all the possible questions that a researcher could ask about the content or skills” (Cresswell, p 164). Content validity of the potential questions was assured by question review by practicing educators who are in the final stages of a doctoral program, by review of practitioners from the Gilford County school district, and finally by review of the question by 449 administrators across Missouri (Tulipana, 2009). Each practicing educator was provided with the list of questions from the corresponding theme description and asked to indicate on a five-point Likert scale the extent to which the interview question represented the content of the theme presented. The Likert scale ranged from 1 (strongly does not represent) to 5 (strongly represents). Based upon the feedback provided by this group, 72 questions were eliminated.

#### *Concurrent Validity*

A high level of concurrent validity, a second aspect of validity, is indicated by significant correlation between outcomes. Criterion-related validity is concerned with whether the scores on one instrument match the scores on another measure; often the outcome the first instrument is trying to predict (Cresswell 2005, p. 165). In the case of this study, do the scores on individual questions, specific sections, or the instrument as a whole relate directly to supervisor ratings of

job effectiveness? As discussed under the sample description, concurrent validity was tested in this study by collecting independent ratings of subject job performance from a supervisor within the district.

### *Reliability*

Reliability is the consistency of a set of measurements or measuring instrument, often used to describe a test. This can be whether the measurements of the same instrument give or are likely to give the same measurement (test-retest).

Internal consistency is a measurement of how well the items that reflect the same construct yield similar results. Cronbach's Alpha methodology was utilized to determine internal consistency of the individual items and each scale - the higher the alpha the more reliable the instrument's scores or ratings. A reliability coefficient, in current literature, of 0.70 or higher is considered desirable (Nunnally, 1978). When the items have a strong relationship to one another, the items are considered highly inter-correlated and assumed to measure the same construct. Such internal consistency may be measured in different ways, including the use of coefficient alpha (also known as Cronbach's coefficient alpha).

## **Chapter Four: Results**

This chapter presents the results of the study to examine whether the ICIS-Principal (Interactive Computerized Interview System) is a predictive tool districts could use in their search for effective building administrators, strengthening the match between a building leadership position and the most suitable candidate.

### *Description of the Sample*

A total of 100 study participants were identified by Gilford County public schools district in North Carolina; of these, fifty-two subjects participated. Twenty-two of the participants were Pre-kindergarten through fifth grade elementary principals, seven were kindergarten through fifth grade elementary school principals, one was a kindergarten through eighth grade principal, ten were middle school principals and the remaining 12 were high school principals. Twenty of the participating subjects were male and thirty-two were female. Fifty-two percent of the subjects were Black; the remaining 48% were Caucasian. Experience ranged from those in the first year of their principalship to those with several years of experience.

### *Reliability*

To examine the internal consistency reliability of the survey, coefficient alphas were computed. The Cronbach's Alpha scores for each category were as follows: Vision ( $\alpha=.728$ ), Instruction ( $\alpha=.671$ ), Management ( $\alpha=.717$ ), Collaboration ( $\alpha=.704$ ), and Integrity( $\alpha=.648$ ). To determine the minimum number of questions needed for the instrument for future use and development, the Spearman Brown prediction formula was also employed. The Spearman-Brown prediction formula is a formula relating reliability to test length and used by researchers

to predict the reliability of a test after changing the test length. Predicted reliability,  $\rho_{xx'}^*$ , is estimated as:

$$\rho_{xx'}^* = \frac{N\rho_{xx'}}{1 + (N - 1)\rho_{xx'}}$$

where  $N$  is the number of "tests" combined and  $\rho_{xx'}$  is the reliability (Cronbach's alpha) of the current "test". The formula predicts the reliability of a new test composed by replicating the current test  $N$  times. Thus  $N = 2$  implies doubling the exam length by adding items with the same properties as those in the current exam. Test length must grow by increasingly larger values as the desired reliability approaches 1.0. Table 5 illustrates the Spearman Brown coefficients for each of the instrument categories with increasing test length.

*Table 5: Reliability Coefficients with Differing Number of Questions Per Scale*

Number of questions	3	4	5	6	7	8	9	10
Vision	0.728	0.780	0.816	0.843	0.862	0.877	0.889	0.899
Instruction	0.549	0.620	0.671	0.710	0.741	0.765	0.786	0.803
Management	0.603	0.670	0.717	0.752	0.780	0.802	0.820	0.835
Collaboration	0.704	0.760	0.798	0.826	0.847	0.864	0.877	0.888
Integrity	0.648	0.710	0.754	0.786	0.811	0.830	0.847	0.860

Italicized numbers indicate number of questions on the original version used in this study

### *Correlational Analysis*

Subject responses were scored on a three-point rubric, with 1 representing the lowest response and 3 representing a response that demonstrated the highest level of skill, competence, or knowledge for each question. The strength of the relationship between scores assigned using

the interview instrument and the HR Director ratings of job performance were assessed with the Pearson Product moment correlation coefficient ( $r$ ). Correlation coefficients range from -1.0 to 1.0. Zero indicates no relationship while 1 indicates a perfect correlation and, therefore, a direct linear relationship between two variables. Conversely, a negative linear relationship is indicated by a correlation coefficient of negative one, that is, a decrease in the value of one of the variables is perfectly correlated with an increase in the value of another variables. In the behavioral sciences correlation coefficients with an absolute value of 0.10, 0.30, and 0.50 are interpreted as small, medium, and large, respectively (Green & Salkind, 2003). Research variables within the correlation chart represent the following:

- **Total Weighted** - the average of all instrument questions with three of the scales (Developing School Vision and Culture, Developing and Maintaining the Instructional Program, and Managing the Organization) counting more than the remaining two (Acting with Integrity, Fairness and in an Ethical Manner and Collaboration with Families and Community Members) depending on the questions contained within each theme
- **Total Average** - the average of the five scale scores
- **HR Director Rating** - the rating provided by the Director of HR to the participants in either the highest level of effectiveness (8-10), the middle level of effectiveness (5-7), and those who were ranked as least effective (1-4) in relation to other building principals in the district
- **Interviewer Rating** - the rating provided by the graduate students conducting the phone interviews. Each participant was assigned an overall score of effectiveness based on their responses, from 1-10, highest level of effectiveness (8-10), the middle level of effectiveness (5-7), and those who were ranked as least effective (1-4) based on their responses

The correlation coefficient results are presented in Table 6. Table 7 summarizes the mean and standard deviation results from responses by all participants in this study.

Table 6: *Correlation of Variables*

Research Variables	Total Average	HR Director Rating	Interviewer Rating
Total Weighted	0.994**	0.149	0.853**
Total Average		0.160	0.855**
HR Dir. Rating			0.122

Note: n=52. \*\*p<.01

Table 7: *Mean and Standard Deviations*

Content Area	Mean	Standard Deviation
Vision	2.48	0.46
Instruction	2.62	0.36
Management	2.57	0.36
Collaboration	2.55	0.49
Integrity	2.72	0.4
Total Average Weighted	2.58	0.32
Total Average	2.59	0.33

### *Regression Analysis*

A simple linear regression analysis was conducted to examine the relationship between the multiple variables. The dependent variable was the HR Director's rating, while the independent variables included the race, the gender, and the grade span of the principals, as well as the interviewer rating.

The overall significance ( $p$ ) of the equation was .190. The  $R^2$  between the HR Director rating (the dependent variable) and the race, grade and gender of the principal and interviewer rating was .12. The effects of the independent variables together predicted 12% of the variance in the HR Director's ratings. Table 8 illustrates the values obtained through linear regression analysis.

Table 8: *Results of Simple Linear Regression Analysis*

Independent Variables	B	Standard Error	Beta	t	Sig.
Race	-0.180	0.343	-0.080	-0.525	0.602
Gender	-0.606	0.340	-0.263	-1.783	0.081
Interviewer Rating	-0.036	0.172	-0.057	-0.208	0.836
Grade Span	0.143	0.100	0.217	1.428	0.160
Total Average	1.887	4.484	0.545	0.421	0.676

Dependent variable: HR Director Rating

The Standardized Beta Coefficient gives a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The *t* and *Sig.* (*p*) values give a rough indication of the effect of each predictor variable – a large absolute *t* value and small *p* value suggests that a predictor variable is having a big effect on the criterion variable. As a result, the higher the beta value the greater the effect of the predictor variable on the criterion variable.

## **Chapter Five: Discussion**

### *Summary*

The primary purpose of the study was to test the ICIS-Principal pilot interview instrument, determine the minimum number of questions needed to establish reasonable reliability and examine the concurrent validity of the instrument through correlations with the ratings of the HR Director. Reliability of the instrument was established through the use of Cronbach's Alpha to determine how well the building principal interview questions correlated with the constructs. The overall Cronbach's alpha score for the total tool was  $\alpha=.842$ . Pearson correlations were utilized to determine how well the various themes and the total interview instrument were able to predict the quality of the building principal as rated by the HR Director.

### *Increasing Reliability of the Instrument*

All analyses were performed on data collected from mock interviews using the ICIS-Principal pilot instrument. If the reliability of the instrument is to be improved, then the minimum number of test questions needed in the instrument for desired reliability ( $> 0.8$ ) was determined to be: Vision (5), Instruction (10), Management (8), Collaboration (6), and Integrity (7). Reliabilities greater than 0.70 are considered acceptable for use in basic research with scores above 0.90 considered excellent (Kaplan & Saccuzzo, 1989). Given that the interview tool used to conduct the research generated 19 questions; Vision (3), Instruction (5), Management (5), Collaboration (3), and Integrity (3), with each participant in the span of 30-45 minutes, it would be reasonable to extend the number of questions in each scale to the minimum amount suggested

above by the Spearman Brown, thus doubling the interview length to approximately 60-90 minutes, still a realistic amount of time for an actual job interview.

#### *Limitations of Study*

One potential limitation of this study is the actual administration of the instrument by the interviewers. Four different interviewers conducted the 52 interviews. The results were dependent upon the ability of these interviewers to accurately assign ratings to the individual subject responses using the established scoring rubric. Independent interviewer rating as correlated with the HR Director ratings showed the following Pearson Correlation coefficients: Interviewer 1=.356, Interviewer 2=.123, Interviewer 3=.198, and Interviewer 4=.000 indicating a weak, at best, correlation between the HR Director and Interviewer 1; the coefficients for the remaining interviewers indicate a poor correlation with the HR Director's rating. This may be explained by the fact that the interviews were mock employment interviews conducted over the phone, and the subjects had prior knowledge that the situation was not authentic and a job was not at stake. This could have had an effect on the quality of responses given as some subjects may have taken the process more seriously than others. Another explanation of the results could be the amount of training each interviewer received. Although all interviewers participated in a simulation with a training module for the ICIS-Principal, this alone may not have been sufficient in order to prepare the Interviewers, potentially resulting in the low correlations.

Another critical variable was the rating provided by the HR Director. This director may not have known much about the quality of the building principals she was rating due to the large number of principals in the district (over 100) and these ratings were not necessarily aligned with the standards of practice found in the research literature. Rating inconsistency, in which elements of job performance align with best practices, may not have been valued in some of the individual

ratings and could be a potential limitation of the study. The uncertainty of the dependent measure (the HR Director's ratings) may have resulted in lower correlations than in a previous study of this instrument.

Green (2006), Smith (2006), Beutel (2006), Emley and Ebmeier (1997) used similar approaches as the ICIS Principal pilot interview instrument to interview classroom teachers, counselors, and school psychologists with good reliability and validity estimates. Collectively, these studies support the notion that selection instruments based on job-related criteria that contain clear scoring rubrics can be very useful in determining successful candidates.

In comparison, a possible hypothesis for the more productive results of the aforementioned research could involve the near perfect alignment between professional standards and guidelines, as mentioned in Smith (2006). An examination of the representative description of the topics covered suggests strong overlap with the skills and knowledge encompassed in the ten domains from the major documents as well as those described in the NASP practice standards for school psychologists. Conversely, the overlapping documents (NAESP Standards, ETS Exam #1010, and Marzano's 21 Specific Leadership Responsibilities) mentioned in this study, Table 1, did not exemplify a similar consensus for the core set of competencies established by the National Policy Board for Educational Administration Educational Leadership Policy Standards: ISLLC (Interstate Leadership Licensure Consortium) 2008.

Another possible contributing factor for poor results is the lack of novice principals in the study. The restricted range associated with employing only veteran principals potentially limited variability and appear to have dampened the correlations. Future studies should include novice and aspiring principals to see how this range reduction problem affects the overall results.

Several differences exist between this study and Beutel's research from 2006. The three variables that contributed to higher coefficients of variation include: a limited population from a single school district with a lack of gender and ethnic diversity; ratings from two supervisors for each of the participants compared to ratings from only one supervisor; and Beutel was a current employee of the district involved in the study, knowledgeable in both the staff development received by participants as well as the ongoing initiatives which might have tainted responses to the interview questions.

The ICIS-Principal described in this paper demonstrates good reliability estimates; however, it is cautioned that the scale length must be increased if reliability is to improve. These findings are supported by the prior work of Bellis (2007), who also produced strong results as measured by Cronbach's Alpha. However, the instrument's ability to accurately correlate to the supervisor ratings of on-the-job performance was equally unsuccessful. This suggests that either district personnel do not accurately evaluate job performance or current standards do not reflect what it takes (or perceived to take) to be an effective building principal.

Gronn (in press) refers to standards and examination driven approaches to leadership as "designer-leadership," in which a logic of customization, more tightly-coupled systems and a reliance on entrepreneurship and market forces connect to what many call the "new managerialism" in education. Thus, local autonomy, site-based management and local market forces are promoted, while the system is "steered at a distance" through national standards, testing, and curricula. Gronn also views the standards as promoting a "hero paradigm" of educational leadership in which leadership is unidirectional; that is, "effective performance by individuals, groups, and organizations depends on leadership by an individual with the skills to find the right path and motivate others to take it" (p. 14).

According to Furman (in press) the ISSLLC standards appear to privilege the notion of community in schools. Specifically, ISLLC neglects the psychological or affective dimension of community--how students *feel* in school; ISLLC reflects a narrow version of "learning community" in which the focus is limited to student performance.

Creighton (in press) posits that the ISLLC Standards are putting the proverbial cart before the horse. His argument suggests that attributes of entering students will drive the standards and accountability movement, and until we give serious attention to improving the quality of selection criteria, the standards movement has little chance to positively affect education.

### *Conclusions*

Given the importance of the principal to school performance, school leaders must strive to ensure that the hiring process yields consistent, positive results. This study provides results indicating the minimum number of questions needed to substantiate a reliable and research-based interview instrument. An instrument such as the ICIS-Principal, administered by an interviewer trained in its use, should be included as a significant component of a well-balanced hiring process. At the same time, it is essential that district administration ensure that their evaluation of principal job performance is in alignment with current literature on principal effectiveness. School personnel represent the highest cost variable in any district budget; at the same time, they have the greatest effect on the quality of the educational program provided for students. An efficient, reliable and valid interview instrument that would support the research in providing a predictive tool for districts to use in their search for building administrators would strengthen the match between a building leadership position and the most suitable candidate. A predictive tool would minimize the cost factor of potential hiring errors of personnel with a more suitable candidate.

### *Suggestions for Future Research*

In order to address the primary limitations of this study and further contribute to the knowledge base in the area of utilizing a standardized, systematic interview instrument to pre-select candidates who will make effective school principals it is recommended that follow-up research be conducted. Inter-rater reliability may have been a cause of the low correlation between interview instrument scores and central office assessment of performance. In order to determine if this is the case, as well as to increase confidence in the instrument if it were to be used on a wider scale, it is important to assess inter-rater reliability through the use of two or more trained interviewers scoring the same interview responses. By eliminating the range restriction, which contributed to lower correlations, a broader range of successful and unsuccessful principals as well as novice principals would need to be included.

For future studies, it is important to consider other possible areas to define principal effectiveness. The ICIS-Principal pilot instrument was designed to predict the effectiveness of principal applicants as measured by the HR Director's ratings. It was not constructed to predict other possible definitions of principal effectiveness such as staff satisfaction, parent satisfaction, or student satisfaction. Acquiring these measures could expand the potential definition of an effective building principal, thus increasing the validity of the predictive value.

Because this pilot tool was field tested in an urban school district, another recommendation includes field testing of the interview tool in rural and urban school districts with varying sizes in order to broaden the scope and generalization of the results. A larger sample size (200-400 building principals) would provide data for a more discreet analysis at the interview question/item level.

It is not suggested that the process for selecting building principals be reduced to a single, 36-question structured interview. Quite the opposite; this study examined a small component of a composite picture. This instrument attempts to predict the effectiveness of principal applicants as building leaders, determined through a set of interview questions aligned with the primary themes found within the current literature on principal effectiveness.

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