Improving the Teacher Hiring Process Through the Combination of Teacher Quality and Employee Selection Research

Laurie A. Kimbrel, EdD
Assistant Professor
Department of Leadership, Research, and School Improvement
University of West Georgia
Carrollton, GA

Abstract

School administrators must ensure that every child has access to high quality instruction, making it imperative that only the teacher candidates with the greatest probability of success are hired. Most teacher selection practices are neither valid nor reliable and do not accurately predict job performance. Teacher hiring processes and therefore, teacher quality, can be greatly improved if administrators consider the application of recent research regarding the beliefs and behaviors of teachers with high impact on student learning in conjunction with employee selection research from the fields of management and the social sciences. This article provides direction for practitioners to utilize research-based practices to improve teacher hiring processes as well as implications for future research.

Key Words

teacher hiring, teacher quality, structured interview, resume screening, teacher mind frames.

_____

In this era of accountability for student achievement, school leaders are under increasingly intense pressure to ensure that every student receives quality instruction and learns at high levels (Troutman, 2012). In many systems, the realization of this goal requires the implementation of reform initiatives and a change to the status quo.

Given the daunting nature of this responsibility and the complexity of the roles of school leaders, it is imperative that only the teachers who have the greatest probability of success are hired rather than those who will maintain the status quo or perform poorly. Even when principals are given flexibility to fire teachers, they typically opt for years of remediation rather than the hurdles presented by the release process and so the poor performance of a teacher becomes an endless burden to the school and students (Jacob, 2011).

Hiring effective teachers can be a challenging task that is made even more difficult by the fact that most administrators do not have human resources training, and they create very different hiring processes even in very similar schools. In addition, principals tend to hire teachers based on their own interpretation and perceptions of the candidate's competency, character, and chemistry (Bourke, 2012) rather than those candidates who are a close match for the vision of the school (Mertz, 2010).

Although there is a small amount of research regarding the efficacy of specific tools and products to assist with teacher hiring, there is very little literature to guide leaders through the creation and implementation an effective system that includes multiple steps designed to identify the candidates most likely to achieve success. It is possible that the impact of teachers on student learning may be greatly increased if educational leaders consider the application of teacher quality research in conjunction with employee selection research from the fields of management and the social sciences in order to create a more effective teacher hiring process.

The Importance of Re-thinking Teacher Hiring
Impact of teacher quality
Research over the last thirty years has provided evidence of an undeniable relationship between the beliefs and behaviors of a teacher and the level of student achievement (Darling-Hammond, 2000; Hattie, 2009; Marzano, 2003). Of the many factors related to student achievement, receiving instruction from a high-quality teacher is among the most impactful. Teachers have from two to three times the impact of any other school factor including programming, school leader and access to technology (Marzano, 2003; Teachers Matter, 2012).

Kati Haycock (2003), Director of the Education Trust, summed up the importance of high-quality teachers in her testimony before the US House of Representatives Committee on Education and Workforce Subcommittee on 21st Century Competitiveness, "Students whose initial achievement levels are comparable have vastly different academic outcomes as a result of the sequence of teachers to which they are assigned. Differences of this magnitude, 50 percentile points, are stunning. They can represent the difference between a remedial label and placement in the accelerated or even gifted track. And the difference between entry into a selective college and a lifetime working at McDonalds."

In response to the decades of research regarding the impact of teachers on student achievement, significant efforts have been made to improve the quality of teachers who

enter the profession through changes to pre-service teaching programs and credentialing systems (Jacob, 2016). In addition, changes in curriculum alignment, evaluation and professional development have also increased the quality of existing teachers (WestEd, 2000).

Despite these important efforts, there has been significantly less attention on the development of effective systems for teacher selection in order to ensure that only the most effective individuals are offered employment as teachers in the first place. Recent research has provided insight into the beliefs and behaviors of effective teachers, but this work is not typically considered as the basis of teacher hiring, especially in districts that use a de-centralized hiring process where the creation and implementation of the teacher selection system is delegated to individual school principals. Although it may seem to be common sense to shift the responsibility of hiring to school principals, this de-centralization often results in rushed, information poor hiring decisions where candidates feel that they have very little meaningful interaction with school staff (Liu & Johnson, 2006).

Research has also revealed that one of the most important teacher characteristics for principals during the hiring process is fit within the current school culture (Mertz, 2010). By hiring teachers who will easily integrate into the existing culture, principals reduce the likelihood that school reform efforts and changes necessary to improve student outcomes will take hold. Hiring quality is further compromised when decisions are made out of convenience because teachers need to be hired quickly or at the last minute (Liu & Johnson, 2006; Whitworth, Jones, Deering, & Hardy, 2016).

School administrators who suspect that a typical selection system may be flawed and who would like to implement a more effective process often find themselves without a model to build upon from their colleagues in educational settings. Hiring practices in schools have not evolved at the same rate as hiring practices in other industries and a nation-wide survey conducted by the Center for American Progress revealed that teacher selection processes often singularly focus on review of application materials such as resume and transcripts rather than performance-based measures (Konoske-Graf, Partelow, & Benner, 2016).

Consequences of Hiring Ineffective Teachers

Hiring a teacher who proves to be ineffective and must be dismissed or counseled out within a few years creates a monetary and emotional drain on a school and its community. Although the costs to replace a teacher vary from school to school, they are typically very high. Milanowski and Odden (2007) identified the financial costs of turnover into the categories of separation costs, replacement costs, and training costs.

The exact dollar amounts can be difficult to calculate because many of associated expenses are imbedded within department budgets; however, in 2006, the National Commission on Teaching and America's Future conducted a study of the cost of teacher turnover in a variety of school districts and found that the costs of turnover ranged anywhere from $10,000 per teacher to $26,500 per teacher (Barnes, Crowe, & Schaefer 2007). This financial burden creates a devastating impact on any school budget, but is especially difficult for a school in a high poverty area with significant teacher turnover.

Teacher turnover also causes emotional stress within a school for staff and academic setbacks for student. Ronfeldt, Loeb, and

Wykoff (2013) found that teacher departure causes overall declines in school morale for both teachers and students of the teachers that leave as well as the students of the teachers that stay. In addition, they reported that student achievement declined when during periods of teacher turnover. Kraft, Marinell, and Shen-Wei Yee (2016) similarly found that improvements in school leadership, academic expectations, teacher relationships, and school safety are all associated with corresponding reductions in teacher turnover.

Creating a New Impact Through Application of Research

There is ample research from the fields of education, management, psychology and sociology that when considered together, serve as a guide to the creation of a teacher selection system that increases the likelihood of hiring effective teachers. The purpose of a hiring process is to recruit, identify and hire the candidates who will have the highest probability for success and so prior to building the selection process itself, the current body of literature on teacher effectiveness should be considered.

Qualities of effective teachers

Teacher background. The literature does not provide clear direction to educators regarding the characteristics of an effective teacher in terms of background and elements that can be gleaned from a typical resume.

Studies contradict one another and cite factors such as content knowledge, pedagogical knowledge, and certification as qualities that correlate with teacher effectiveness (Rice, 2003); however, the only truly predictive element of teacher success consistently supported by research is previous teaching experience (Rockoff, Jacob, Kane, & Staiger, 2011). Chingos and Peterson (2011) found that teacher effectiveness at the elementary and middle school levels are not improved if a candidate has earned a bachelor's or masters' degree in education, regardless of the university where the degree was earned but that teachers do become more effective after a few years of teaching experience.

Teacher certification has also been studied in relation to teacher effectiveness. In response to the call for Highly Qualified Teachers within No Child Left Behind, Hanna, and Gimbert (2011) examined the effectiveness of teachers who achieved certification through traditional and alternative programs. They found that alternative pathways to teacher certification do not create teachers of lesser quality, but in fact, often successfully bring more individuals from top tier colleges than traditional certification programs.

Based on their findings, they recommended that candidates who earned their certificate through non-traditional programs not be discriminated against when hiring. It is also important to consider that a teaching certificate is not an instrument to measure quality but rather a flat credential to be earned one time and then renewed (Hanna & Gimbert, 2011). Given the lack of consensus about the background characteristics that impact teacher quality, educators need to move beyond these factors when designing teacher selection processes.

Beliefs and behaviors. In 2009, John Hattie published *Visible Learning* based on 15 years of research that synthesized over 50,000 studies related to K-12 student achievement. Hattie ranked 138 influences of learning according to their effect size and found that all but a few caused student growth. Hattie reported the average effect size to be .4 and thus labeled it as the "hinge point" (p.17) with practices above this threshold labeled as highly effective. Although Hattie also considered factors related

to the student, home, school and the curricula, the factors related to the teacher and teaching and learning approaches may be useful within the hiring process to identify teachers who are likely to experience success.

A large number of factors were found to increase student learning. Hattie summarized his findings by stating that the key to impact on student achievement was to make teaching and learning visible. Hattie further developed the concept of visible learning and translated the theory for practitioners in 2011 with the publication, *Visible Learning for Teachers: Maximizing Impact on Learning,* in which he described a set mind frames, or patterns of belief, that educators should either possess or develop in order to maximize their impact on student learning. The most critical factor was reported to be teachers who see learning from the perspective of the student and understand how their own beliefs and behaviors impact students (Hattie, 2011).

Alignment of a hiring process to the ten mind frames identified by Hattie & Zierer (2018) may be one possible avenue to provide administrators with a research-based framework that can be used to identify teachers with the greatest likelihood of success:

- Teachers are evaluators of student work and understand their impact.
- Teachers are change agents who feel self-efficacy regarding their work.
- Teachers see assessment as useful feedback to their work.
- Teachers engage in dialogue with students and colleagues rather than monologue.
- Teachers enjoy challenge.
- Teachers engage in positive relationships.
- Teachers focus on learning rather than teaching.

- Teachers see learning as hard work.
- Teachers collaborate to develop collective efficacy (Hattie & Zierer, 2018).

Given the lack of consensus from the research community regarding qualities of effective teachers with the exception of teaching experience, turning the focus to selecting teachers who exhibit the mind frames identified by Hattie and Zierer provides one possible next step for implementation and study.

Despite its popular appeal, the research of John Hattie is not without critics. Specifically, questions have been raised about his methodology and the validity of conclusions reached through the use of meta-analysis. In response to the wide acceptance of Hattie's work, Myburgh (2016) urged educators to look beyond both the scope of the studies and the conclusions drawn to examine the underlying assumptions and methods used to determine effect sizes. Myburgh questions the use of meta-analysis in general and concludes that it is a useful tool only for the development of hypotheses rather than rules for action.

Similarly, Bergeron & Rivard (2017), statisticians from the University of Ottawa, support the use of meta-analysis as a valid methodology, but specifically claim that Hattie's research lacks sophistication and is overly reliant on the calculation of averages and standard deviations, which resulted in average effect sizes that do not make sense. Hattie himself acknowledges the limitations of meta-analysis and has publicly recognized the problematic factors with his methods including the comparison of disparate studies that are of varying quality and were conducted under very different conditions, as well as the inclusion of studies that were designed to describe historical

conditions rather than predict the future (Snook, O'Neill, Clark, O'Neill, & Openshaw, 2009).

Although Hattie's work provides potential for direction in terms of the beliefs and behaviors of successful teachers, it should not be utilized without an understanding of the criticism in current literature and a willingness to consider its empirical validity.

Creating a Selection Process Aligned to Desired Teacher Beliefs and Behaviors

Literature from management and the social sciences can provide direction for educators regarding the elements and structure of an employee selection system that will reliably identify the applicants who have the greatest likelihood of success while employed.

This research can be adapted and applied to the teacher hiring process in order to improve outcomes. Because no one tool is perfect, and the traditional interview alone is unreliable (Buckley, Norris & Wiese, 2000; Deli & Vera, 2003; Hamdani, Valcea, & Buckley, 2014; Macan, 2009) a selection system with multiple steps should be developed and utilized. Management literature provides specific direction to improve selection processes.

Moore (2017) identified three essential elements for an effective process: (1) identification of key qualifications and prior experience necessary for success, (2) a structured interview process aligned to identified skills and abilities essential for success on the job and creation of interview questions and acceptable answers in order to assess whether the candidates possess the identified attributes, and (3) addition of other predictive elements so that decisions are not based solely on paper screening and interviews.

Screening

The identification of key qualifications and prior experience suggested by Moore (2017) can be accomplished through the screening process. Resume or application screening is widely used in to determine applicants to be invited to the next step in the selection process but it is often highly susceptible to bias (Derous, Pepermans, & Ryan, 2017; Derous, Ryan, & Serlie, 2015).

When a limited amount of information is present, judgment is sometimes based on the stereotypes (Derous, Ryan, & Serlie, 2015) or presumptions about the candidate's personality (Burns, Christiansen, Morris, Periard, & Coaster, 2014). Screening is ineffective when the administrators' or teachers' biases about education, type of experience, and other personal qualities influence the decision about who to interview (Smith, 2014).

As previously stated, the only consistent determinant of teacher quality found on a typical resume or application is teaching experience (Rockoff, et al. 2011) and so other factors that are not predictive of teacher success such as test scores, type of degree, grades, selectivity of the institution granting the degree, and participation in a traditional certification program should not be used as screening criteria. Additionally, it is difficult to determine the beliefs and day to day behaviors of a teacher from a paper application; therefore, teacher quality research is difficult to apply to a screening process that relies on resume review.

It would be useful for educators if a predictive screening assessment were developed and proven to be consistently valid and reliable through empirical studies, but until this type of tool exists, it is necessary to default to screening candidates for minimum job qualifications such as certification required by law, teaching experience, submission of all

required application components, and materials free from grammar, punctuation and spelling mistakes (see Table 1). Establishing and utilizing this type of criteria may reduce bias and allows for multiple reviewers to make similar decisions about which candidates will move on to the next steps in the process.

Table 1

Screening Considerations

Screening Consideration	Criteria
Certification required by district or state	Candidate holds or is eligible for certification required.
Experience	Minimum years of teaching experience. Evidence of stable employment over time. Experience with special populations such as special education or English language learners
Relevant professional training	Presence of pre-service or in-service training related to instructional practices utilized in the school.
Attention to detail	Application is complete with all required components present. Application submitted in required manner.
Writing skill	Materials free from grammar, punctuation, and usage errors.

Structured interview

Lavashina, Hartwell, Morgeson, & Campion (2014) defined an interview as "a personally interactive process of one or more people asking questions orally to another person and evaluating the answers for the purpose of determining the qualifications of that person in order to make employment decisions" (p. 244). According to the Bureau of Labor Statistics, the employment interview is the most commonly used tool for the selection of employees in industries and organizations across the United States (Crosby, 2000). The field of education is no exception and most principals rely on interviews as their primary source of information regarding a candidate (Cannata, Rubin, Goldring, Grissom, Neumerski, Drake, & Schuermann, 2017). Despite its popularity, the traditional interview is among the most unreliable elements of the selection process in any industry (Moore, 2017) and is particularly problematic in education because it offers very limited opportunity to accurately assess a teacher's pedagogical skills (Engel, 2013).

Studies from as early as 1915 reveal that traditional interviews do not allow for accurate assessments regarding the future success of candidates (Eder, Kacmar, & Ferrris, 1989) and even the very early researchers found that interviews were predictive of little more than an applicant's appearance, manners and likability (Buckley, Norris, & Wiese, 2000). Meta-analysis of 80 years of research has identified the correlation between interview performance and job performance at only .38 (Schmidt & Hunter, 1998).

This lack of validity and reliability is a result of a combination of factors including interviewer bias and the impact of first impressions, which are often are the primary determinants of the successful applicant (Segrest Purkiss, Perrewe, Gillespie, Mayes & Ferris, 2006). According to Joyce (2008), some interviewer decisions are made within the first 30 seconds of meeting the candidate and these decisions are often based on appearance, confidence, eye contact, enthusiasm, knowledge of the hiring organization, ability to sell one's self, and clear communication rather than responses to questions or ability to perform well in the job.

Traditional interviews are problematic because they provide a very small sample of information from which to make generalizations (Moore, 2017) and many interviewers control the outcome by talking for the majority of the interview, asking questions that are not meaningful, and by conveying their opinions of the candidate's responses through their own verbal and non-verbal responses (Delli & Vera, 2003). When different questions are asked of different candidates, the ability to compare candidates accurately is lost and some candidates gain an unfair advantage (Moore, 2017).

The validity and reliability of the interview process can be greatly improved by

reducing bias and inconsistency through the addition of elements of structure (Moore, 2017). Although there is not consensus in the literature about a common definition of a structured interview, the main themes typically include a set of rules about the creation and delivery of a common set of questions as well as the assessment of candidates' responses (Lavashina et al., 2014).

Adding structure to an interview significantly increases the correlation of interview performance to job performance and the correlation determined through meta-analysis has been found to increase to .52 when elements of structure are added (Schmidt & Hunter, 1998). Interviews that include components such the identical questions for each candidate and an objective rating scale also provide protection in the event to a legal challenge to a hiring decision (Structured Interviews, 2008).

Through early meta-analysis, Campion, Palmer and Campion (1997) established 18 components of structure with rational or empirical links to increased reliability or validity of interviews. Analysis of more recent literature by Lavashina et al., (2014) has reduced this list to six essential elements:

1. job analysis used to create questions;
2. identical questions asked of each candidate;
3. variety of question formats including situational questions based on past behavior;
4. individual answers rated with a predetermined scale and
5. presence of anchor answers; and
6. trained interviewers.

Combining the research on structured interviews and teacher effectiveness gives educators direction that, if utilized, may significantly improve outcomes by creating

interview questions aligned with the beliefs and the behaviors of high impact teachers.

The US Department of Personnel Management (2008) recommends the use of structured interviews to improve the hiring process and suggests the following steps be followed:

1. determine the competencies to be assessed;
2. create interview questions;
3. create a common rating scale to be utilized for all questions;
4. pilot test the questions; and
5. train and create an interview guide.

Determine competencies

One option to simplify this step of the interview development process may be through the application of Hattie's teacher mind frames, which, despite criticism, are evidence based and have empirical rationale that connect them to teachers with high impact on student learning. The mind frames can be utilized as the basis for the development of interview questions that assess the belief system of a candidate.

In addition, questions can be formulated regarding the skill of candidates to operationalize the beliefs through their behavior and actions. The mind frames may be prioritized depending on what is significant to the school or utilized in their entirety with items considered of equal importance.

Creation of interview questions

Once the competencies have been determined, they are utilized to formulate a set of structured interview questions. Step by step directions for question development can be found

publications including *The Structured Interview: Enhancing Staff Selection* by Pettersen & Durivage (2008) and *Structured Interviews: A Practical Guide* from the United States Office of Personnel Management.

In general, interview questions should be open ended, clear, non-threatening, concise, and directly related to previously identified job competencies (Pettersen & Durivage, 2008). Interview questions should be written as both behavioral questions that are designed to assess the actual past behavior of a candidate as well as situational questions that are designed to assess how a candidate may respond to a hypothetical situation in the future (Structured Interviews, 2008). Recent meta-analysis has shown that interviews that have both situational and behavioral questions have higher validity than those that utilize only one type of question (Lavashina et al., 2014).

As previously suggested, the ten teacher mind frames as identified by Hattie and Zierer (2018) are evidence based and are one option to consider as teacher competencies. These competencies can then be translated into the underlying beliefs that a teacher must hold to possess the competency and the behaviors and skills necessary to operationalize the belief. Once teacher beliefs and behaviors have been identified, interview questions can be drafted. See Table 2 for an example of the conversion of a mind frame into a competency, belief, behavior and interview questions. A set number of questions should be developed for each competency being measured and these questions are then utilized in the same order for every interview with very limited probing and follow up questions from the interviewer (Structured Interviews 101, 2016).

Table 2

Example: Conversion of a Mind Frame to Structured Interview Questions

Utilizing mind frames as the basis for structured interview questions
Mind frame: Teachers collaborate to develop collective efficacy
Competency: The teacher collaborates with colleagues by sharing student data and teaching practices
Belief: Collaboration is an essential element of the learning process and includes sharing individual student data
Behavior: The teacher shares student data aligned with a learning target and pedagogical practices
Question related to belief: What is the best use of your time when you collaborate with your colleagues?
Question related to behavior: Describe a process that you have used when you collaborate with your colleagues.

Rating Scales

Another element of the structured interview is a common rating scale that is used to evaluate the candidates' responses to the questions. The rating scale should have at least three proficiency levels with labels such as unsatisfactory, proficient and exemplary and the number of levels and labels should be the same for all questions (Structured Interviews, 2008).

After the levels are established, anchor answers are created for each question at each level. Rating scales that incorporate anchor answers simplify and standardize the judgments made about candidates' responses to interview questions by providing behavioral, descriptive or evaluative examples to define points on the scale, thus reducing bias and subjectivity (Lavashina et al., 2014).

See Table 3 for an example of anchor answers for a question developed from a mind frame. The process for scoring the interviews must also be determined. Pettersen and Durivage (2008) suggest that points be assigned to each anchor answer and then total points be added up to create a score for each competency area or the interview as a whole.

Table 3

Example: Anchor answers corresponding to proficiency levels

Development of anchor answers

Question: What is the best use of your time when you collaborate with your colleagues?

Superior: I facilitate a discussion where teachers share data, share practices, and I lead the
development of plans for students who did not perform well

Proficient: sharing individual student data, sharing pedagogical practices, collaboratively
developing plan for students who did not perform well

Unsatisfactory: share work sheets, materials, ideas.

Piloting and training

Questions should be piloted prior to use in interviews to ensure clear wording and that the questions elicit a variety of responses similar to the anchor answers developed for each level of proficiency (Structured Interviews, 2008). Interview questions can be piloted with existing teachers or administrators, simulating the conditions of a structured interview to the extent possible. Prior to conducting interviews, the interviewers should be trained and an interview guide should be developed.

The interview guide gives direction to those conducting the structured interview so that the process is implemented with as much consistency as possible. According to the US Department of Personnel Management (2008), the guide should include the competencies being assessed, interview questions with anchor answers at each level of proficiency, the rating scale including anchor answers and scoring instructions.

Other predictive selection elements

The correlation of a candidate's performance during a selection process to their job performance can be increased by adding other predictive elements in addition to paper screening and structured interviews. The best predictor of job performance is performance on that same job (Moore, 2017), which points to the possible importance of reference checking.

Unfortunately, very little research has been done on the efficacy of reference checking and the few studies that do exist examine the impact of letters of reference for higher education candidates. These studies show that reference checking by letter can be biased towards those in protected classes and that the length of the letter is sometimes a determinant of hiring (Hedricks, 2016).

Despite the lack of research on the efficacy of reference checks, established process guidelines can create consistency. According to Knight (2016), specific questions should be formulated based on concerns that arose during the interview process, the questions should be open ended and assumptions should not be made about tone or pace of responses.

Another predictive element of success on a job is performance during a probationary period. Despite the obvious benefits of a probationary period, the correlation between performance during that time period and long term job performance is still only .54, which indicates that even a trail period is not a perfect measure of long term job success because people learn, grow and change over time and jobs change over time as well (Moore, 2017).

Limited research exists to support the predictive nature of other components of teacher selection such as sample lessons, written tests, and panel interviews. Similarly, there are a number of teacher screening tools commercially available to educators but there is little research or consensus regarding their effectiveness. A meta-analysis by McDaniel, Schmidt, and Hunter (1988), found that the screening tools available at that time had correlations between .11 and .45 to job performance, but these studies were based on information from only those who were hired and no follow up was done on performance of teachers not hired.

Other commercially developed screening tools have been developed in the intervening years, but little work has been done to document their validity and reliability. Development of a screening tool that accurately predicts teacher performance or is aligned to Hattie's mind frames remains an area for future development and research.

Conclusion

One of the most important lessons from selection research is that employee performance is very difficult to predict (Highhouse, 2008). No matter the hiring system in place, administrators will continue to occasionally hire an ineffective teacher and there will be highly impactful teachers who are not hired. Despite this fact, the probability of

hiring teachers likely to impact student achievement may be greatly increased when effective screening and interview methods that are supported by research are utilized. In addition, the use of recent research from Hattie's meta-analyses regarding the mind frames of teachers with high impact on student learning are be worthy of action research and empirical study to determine their usefulness as an evidence-based foundation for structured interview question development.

Research on the efficacy of structured interviews is not new and yet, most educators responsible for hiring teachers are either unaware or unwilling to change their hiring processes to add elements of structure. If educators seek valid interviews and legal defensibility, and increased teacher quality, structured interviews are the obvious choice and yet, they are seldom used. In their meta-analysis of literature since 1994 on structured interviews, Lavashina et al. (2014) list the possible barriers to use of structured interviews as, "concerns about applicant preferences for unstructured interviews, interviewer desire for discretion, recruiting impact of structured interviews, decreased job offer acceptance intentions, decreased interviewer compliance with structured interview protocols, and compatibility of structured interview with organizational or national culture" (p 278), although they recommend further research on the validity each of these concerns.

Many schools have a great deal of difficulty filling their open teaching positions (Ingersoll & Smith, 2003) and administrators may hesitate to make changes to a hiring process that they perceive will limit already scarce candidates. In some areas and fields, the supply of quality teachers is actually lower than the number of open positions (Rothstein, 2015).

In addition, principals who hire candidates to fill last minute vacancies may

express concern regarding the time required for a research-based selection process.

There are many implications for future research to determine the impact of combining research from the field of education on teacher quality with research from management and the social sciences on effective employee selection. The following questions should be considered for future research:

- Although the teacher mind frames as defined by Hattie and Zierer (2018) are grounded in research, can empirical data be collected to connect candidate performance in an interview with structured interview questions aligned with teacher mind-frames to job performance and student achievement?

- How can data gathered from structured interviews aligned with teacher mind-frames be utilized in other aspects of teacher development such as coaching and professional development?

- Teaching is a complex endeavor and requires different skills and competencies than other professions. Given this level of complexity and the unique nature of teaching, which of the six elements of structure have most impact on the validity and reliability of teacher interviews?

- Given current and predicted teacher shortages in critical areas, does the use of structured interviews impact a teacher's perception of a school? How to teachers respond to structured

interview processes? Does the use of structured interviews impact the desirability of a school or the acceptance rate of job offers?

- What screening tools can be developed and utilized to accurately determine the beliefs and behaviors of teacher candidates in order to make the screening process more effective than simply weeding out candidates without minimum qualifications?

- What barriers and concerns exist for principals that prevent the use of research-based hiring practices?

Despite the many questions that remain for researchers, there are immediate and practical implications for practitioners. Ensuring that every student learns at high levels is a complex task that requires skillful teachers and a change to the status quo in most schools; therefore, hiring the best possible teachers is an essential component of school reform.

One promising approach to reducing hiring bias and increasing the probability of hiring teachers with the ability to significantly increase student learning is to screen candidates for only the qualities that research has shown to be predictive of success as well as adding elements of structure to interviews. Practitioners can also engage in action-based research in their schools and districts to determine if changing the hiring process by adding research based elements increases their ability to select teachers with high impact on student growth and to meet the demand for high quality teachers in every classroom.

Author Biography

Laurie Kimbrel has been a public school educator for 28 years and has been a teacher, principal, and associate superintendent in Illinois, and a superintendent for seven years in California. She is currently an assistant professor at the University of West Georgia, Carrollton, GA. E-mail: lkimbrel@westga.edu

References

Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts: A pilot study.* Arlington, VA: National Commission on Teaching and America's Future.

Bergeron, P. P., & Rivard, L.I. (2017). How to engage in pseudoscience with real data: A criticism of John Hattie's arguments in visible learning from the perspective of a statistician. *McGill Journal of Education, 52*(1), 237-246.

Bourke, K. B. (2012). *Public secondary school principals' perspectives on teacher hiring: What matters most?* (Doctoral dissertation). Retrieved from ProQuest, LLC. (Accession No. ED551731)

Buckley, R. M., Norris, A.C., & Wiese, D. S. (2000). A brief history of the selection interview: May the next 100 years be more fruitful. *Journal of Management History, 6*(3), 113-126.

Burns, G., Christiansen, N., Morris, M., Periard, D., & Coaster, J. (2014). Effects of applicant personality on resume evaluation. *Journal of Business & Psychology*, *29*(4), 573-591.

Campion, M.A., Palmer, D.K., & Campion, J.E. (1997). A review of structure in the selection interview. *Personnel Psychology, 50*(3), 655-702.

Cannata, M., Rubin, M., Goldring, E., Grissom, J. A., Neumerski, C.M., Drake, T.A., & Schuermann, P. (2017). Using teacher effectiveness data for information-rich hiring. *Educational Administration Quarterly, 53*(2), 180-222.

Chingos, M. M., & Peterson, P. E. (2011). It's easier to pick a good teacher than to train one: Familiar and new results on the correlates of teacher effectiveness. *Economics of Education Review*, *30*(3), 449-465.

Crosby, O. (2000). Employment interviewing: Seizing the opportunity and the job. *Occupational Outlook Quarterly, 44*(2), 14-21.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 8*(1).

Deli, D.A., & Vera, E.M. (2003). Psychological and contextual influences on the teacher selection interview: A model for future research. *Journal of Personnel Evaluation in Education, 17*(2), 137-218.

Derous, E., Pepermans, R., Ryan, A.M. (2017). Ethnic discrimination during resume screening: interactive effects of applicants' salience with job context. *Human Relations, 70*(7), 860-882.

Derous, E., Ryan, A.M., & Serlie, A. W. (2015). Double jeopardy upon resume screening: When Achmed is less employable than Aisha. *Personnel Psychology, 68*(3), 659-696.

Eder, R. W., Kacmar, K. M., & Ferris, G.R. (1989). Employment interview research: History and synthesis. In Eder, R.W. and Ferris, G.R. (Eds.) *The Employment Interview: Theory, Research, and Practice*, (pp. 17-31). London: Sage.

Engel, M. (2013). Problematic preferences? A mixed method examination of what principals' preference for teacher characteristics in Chicago. *Educational Administration Quarterly,* 49, 52-91.

Hamdani, M.R., Valcea, S., & Buckly, R.M. (2014). The relentless pursuit of construct validity in the design of employment interviews. Human Resource Management Review, 24(2)*, 160-176.*

Hanna, P., & Gimbert, B. (2011). Falling flat: Certification as an insufficient indicator of teacher quality. *Journal of the National Association for Alternative Certification, 6*(2), 31-52.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses related to achievement.* New York, NY: Routledge.

Hattie, J. (2011). *Visible Learning for Teachers: Maximizing Impact on Learning.* New York, NY: Routledge.

Hattie, J., & Zierer, K. (2018). *10 Mind frames for visible learning: Teaching for success.* New York, NY: Routledge.

Haycock, K. (2003, May 20). Testimony of Kati Haycock, President, The Education Trust, before the US House of Representatives Committee on Education and the Workforce Subcommittee on 21st century competitiveness. *The Education Trust.* Retrieved from: https://edtrust.org/press_release/testimony-of-kati-haycock-president-the-education-trust-before-the-u-s-house-of-representatives-committee-on-education-and-the-workforce-subcommittee-on-21st-century-competitiveness/

Hedriks, C. A. (2016). The 20 most common things that come up during reference checks. *Harvard Business Review Digital Articles,* 2-6. Retrieved from: https://hbr.org/2016/08/the-20-most-common-things-that-come-up-during-reference-checks

Highhouse, S. (2008). Stubborn reliance on intuition and subjectivity in employee selection, *Industrial and Organizational Psychology*, *1*(3), 333-342.

Ingersoll, R. M., & Smith, T. M. (2003). The wrong solution to the teacher shortage. *Educational Leadership, 60*(8), 30-33.

Jacob, B. (2011). Do principals fire the worst teachers? *Educational Evaluation and Policy Analysis,* 33(4), 404-434.

Jacob, B. (2016). *The power of teacher selection to improve education.* (Report No. 12) Evidence Speaks Reports Volume 1, Washington, DC: Economics Studies at Brookings.

Joyce, M.P. (2008). Interviewing techniques used in selected organizations today. *Business Communication Quarterly, 71*(3), 376-380.

Knight, R. (2016). The right way to check someone's references. *Harvard Business Review Digital Articles.* Retrieved from https://hbr.org/2016/07/the-right-way-to-check-someones-references.

Konoske-Graf, A., Partelow, L., Benner, M. (2016, December 22). To attract great teachers, school districts must improve their human capital systems. Retrieved from https://www.americanprogress.org/issues/education-k-12/reports/2016/12/22/295574/to-attract-great-teachers-school-districts-must-improve-their-human-capital-systems/

Kraft, M. A., Marinell, W.H., & Shen-Wei Yee, D. (2016). School organizational contexts, teacher turnover, and student achievement. *American Educational Research Journal*, *53*(5), 1411-1449.

Lavashina, J., Hartwell, C. J., Morgeson, F. P., & Campion, M.A. (2014). The structured employment interview: Narrative and quantitative review of the research literature. *Personnel Psychology*, *67*(1), 241-293.

Liu, E. & Johnson, S.M. (2006). New teachers' experiences of hiring: Late, rushed and information poor. *Educational Administration Quarterly, 42*(3), 324-360.

Macan, T. (2009). The employment interview: A review of current studies and directions for future research. *Human Resource Management Review, 19*(3), 203-218.

Marzano, R. (2003). *What works in schools: Translating research into action.* Alexandria, VA: ASCD.

McDaniel, M.A., Schmidt, F. L., & Hunter, J. E. (1988). A meta-analysis of the validity of methods for rating training and experience in personnel selection. *Personnel Psychology*, 41(2), 283-309.

Mertz, N. (2010). Teacher selection and school leader effects. *Journal of School Leadership, 20*(2), 184-207.

Milanowski, A. T., & Odden, A. R. (2007). A new approach to the cost of teacher turnover (Working paper no. 13). Retrieved from https://www.researchgate.net/publication/239767853_A_new_approach_to_the_cost_of_teacher_turnover/overview

Moore, D. A. (2017). How to improve the accuracy and reduce the cost of personnel selection. *California Management Review*, 60(1)*,* 8-17.

Myburgh, S. J. (2016). Critique of peer-reviewed articles on John Hattie's use of meta-analysis in education (Working paper no. 2016/3). Retrieved from http://www.bath.ac.uk/education/documents/working-papers/critique-of-peer-reviewed-articles.pdf

Petterson, N., & Durivage, A. (2008). *The structured interview: Enhancing staff selection.* Quebec: Presses de l'Universite du Quebec.

Rice, J. K. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes.* Washington, DC: Economic Policy Institute.

Rockoff, J. E., Jacob, B.A., Kane, T.J., & Staiger, D.O. (2011). Can you recognize an effective teacher when you recruit one? *Education Finance and Policy, 6*(1), 43-74.

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Education Research Journal, 50*(1), 4- 36.

Rothstein, J. (2015). Teacher quality policy when supply matters. *American Economic Review*,105(1): 100-130.

Seagrest Purkiss, S.L., Perrewe, P.L., Gillespie, T.L., Mayes, B.T., & Ferris, G.R. (2006). Implicit sources of bias in employment interview judgments and decisions. *Organizational Behavior and Human Decision Processes, 101*(2), 152-167.

Schmidt, F.L. & Hunter, J.E. (1998). The validity and unity of selection and methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, *124*(2), 262-274.

Snook, I., O'Neill, J., Clark, J, O'Neill, A.M., & Openshaw, R. (2009). Invisible learnings? A commentary on John Hattie's book: Visible learning: A synthesis of over 800 meta-analyses relating to achievement. *New Zealand Journal of Educational Studies, 44*(1), 93-120.

Smith, P.T. (2014). *A school principal's perceptions regarding personal qualities and pedagogical qualifications affecting teacher candidate selection.* (Doctoral dissertation). Retrieved from ProQuest, LLC. (Accession No. ED557874)

Structured Interviews: A practical guide. (2008). Washington, DC: US Office of Personnel Management. Retrieved from https://www.opm.gov/policy-data-oversight/assessment-and-selection/structured-interviews/guide.pdf

Structured interviews 101. (2016) Retrieved from https://get.workable.com/structured-interviews-101/

Teachers matter: Understanding teachers' impact on student achievement. (2012). Santa Monica, CA: RAND Corporation. Retrieved from https://www.rand.org/pubs/corporate_pubs/CP693z1-2012-09.html

Troutman, L.D. (2012). *The impact of principal leadership on school culture and student achievement.* (Doctoral dissertation). Retrieved from ProQuest, LLC (Accession No. ED551410)

WestED. (2000). *Ensuring teacher quality: A continuum of teacher preparation and development policy brief.* San Francisco, CA: WestED.

Whitworth, J., Jones, S., Deering, T., & Hardy, S. (2016). Hiring quality teachers: The devil is in the details. *Professional Educator, 40*(1), 20-32.