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Distributed Leadership: Behaviorally Anchored Development of the Instructional Teacher Leadership Rating Scale for Building School Capacity (ITLRSBSC)

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Abstract

In the United States, there is a continued interest in factors that contribute to school improvement. The problem is that teachers and administrators within our schools possess little information on 'distributed leadership systems' which engage teachers in leadership activities toward sustainable school reform. Instructional Leadership studies using successful rating scales (e.g. PIMRS, VAL-ED) have shed light on what behaviors lead to school improvement. Little is known about how and why leadership behaviors are engaged. Through a lens of distributed leadership, this study proposes the creation of an instrument for measuring instructional teacher leadership behaviors conducive to building school capacity for improvement (ITLRSBSC). Results of the proposed study have implications of assisting institutions measure leadership engagement distributed among all its educators.

1. Introduction

While principal *instructional leadership* investigations have contributed greatly to understanding how principal behaviors affect student outcomes, teachers have the greatest impact on student achievement. It is clear instructional leadership responsibilities cannot be placed on a single individual [13]. Recent instructional leadership studies draw conclusions toward three specific outcomes; student academic achievement, social development, and student empowerment [11]. Relative to the classroom setting, principal instructional leadership is second only to teacher effects on student outcomes [8][13]. Principal instructional leadership mediating variables can be used to illustrate how principal leadership behaviors influence teacher behaviors, which in turn, affect student learning [5][8]. For these reasons, leadership models, conceptual frameworks, and instrumentation need to be refined to reflect effective teacher leadership activities within a distributed leadership setting. By refining frameworks to include constructs of *teacher instructional leadership*, the greatest contributing factor on student outcomes can be further specified.

2. Statement of the problem

Instructional leadership in the school setting has recently been viewed as an administrative responsibility invested in the principal. This research perspective has created *blank spots* in the understanding of how leadership functions foster improvements in learning. [15]. It is imperative to investigate sustainable school improvement utilizing a perspective encapsulating both principal instructional leadership and teacher leadership. Although teacher leadership has been conceptualized for some time, some studies show leadership "titles" among teachers have yielded little or no benefit to sustainable school reform [10]. Current research on principal instructional leadership and teacher leadership centers on bringing about sustainable school reform.

The problem is that teachers and administrators in our schools have little information on working distributed leadership systems engaging teachers in standards based teacher leadership activities toward sustainable school reformation. We know principal,

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teacher, and coach instructional leadership all contribute in a distributed leadership system for the improvement of student learning [12]. Although we know much about *what* leadership practices bring about instructional change, we have an incomplete picture on *how* and *why* leaders engage in their leadership behaviors [12][15].

3. Purpose of the proposed study

The purpose of this proposed mixed methods study is to develop an instrument that captures the perceptions of instructional teacher leadership behaviors in schools in which there is no formal distributed leadership initiative driving school reform. This research will begin to fill *blank spots* of knowledge in leadership by reporting on leadership team perceptions of standardized teacher leadership activities consistent with a shared responsibility of instructional leadership. This information is important to improve understanding on how teacher leadership activity sustains school improvement. Sustained school improvement is depicted by Lambert [9] as a result of sustaining leadership capacity. Sustainable school improvement activities based upon teacher leadership roles are of interest to educators and policymakers [9]. This study will further understanding of specific standardized instructional teacher leadership perceptions in schools which have demonstrated sustainable leadership capacities characterized by the functions of shared vision, team learning, and systems thinking [14].

4. Research questions

In order to provide a closer look at instructional teacher leadership perceptions, the following questions specifically address teacher leadership standards within a school leadership capacity model.

1. What are teachers' perceptions regarding shared responsibility for fostering collective responsibility in the learning of all students and adults in the school?
2. What measureable behaviors do teachers exhibit that are characteristic of teachers' roles in instructional management?
3. What measureable variations exist in instructional teacher leadership for the pursuit of building school capacity for learning?

The goal is to identify dimensions, sub-constructs, and operational behaviors that accurately depict instructional teacher leadership in a distributed leadership environment.

5. Planning the study

Instructional teacher leadership behaviors will be identified from themes extracted from research literature and professional educator groups. The composition of domain and sub-construct items will be formed according to a conceptual model for shared leadership, King & Bouchard [8]. Methodology from Behaviorally Anchored Rating Scales (BARS) will help the researcher begin to document the emergence of an instrument that could measure instructional teacher leadership activity for the purpose of school improvement. Professional educator groups will be used to assist the researcher find consensus on the instrument design and determine operational terminology. A pilot implementation will be followed by using the instrument among a sample of teachers designed to be representative of a diverse population of teachers. Qualitative tools such as NVivo; and quantitative tools such as ANOVA, factor analysis, and Cronbach's Alpha, will be used on the data for validity analysis of the designed instrument. For additional validation, empirical grounding will be sought on the final instrument design. Furthermore the final instrument design will be investigated for properties correlating to the shared conceptual model guiding the investigation. Concluding discussions will be dedicated to implications to the research community about the designed instrument.

6. The need for instrumentation on specific teacher leadership behavior

An instrument does not exist to measure the self-report perception of teachers regarding the activity of *instructional teacher leadership* for the purpose of building capacity in schools. The main result of this study is to develop an instrument to measure teachers' behavior for leadership roles in instructional leadership. Quality instrument development to measure principal instructional management behaviors exist in the form of a perception questionnaire [5]. With a current emphasis on teacher leadership and the development of conceptual frameworks for shared leadership responsibilities, it is appropriate to develop this instrument [5][8]. The Teacher Leadership Inventory (TLI) instrument was developed to measure teacher leadership in a broad spectrum. Although a pioneering instrument, it was not designed specifically to measure instructional leadership behaviors of teachers fulfilling leadership roles for capacity building activity toward school improvement [1].

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7. Research design: Behaviorally Anchored Rating Scales (BARS)

Behaviorally Anchored Rating Scales are common in quantifying educator behaviors for quality assessment. BARS instruments continue to have support in analysis of educator performance from early instructional leadership periods through current educator effectiveness rating systems [2][5][7]. BARS instruments must be developed under rigorous methodology for anchor dimensions to accurately quantify the behavior the instrument is intended to measure [3][7].

The development of the Instructional Teacher Leadership Rating Scale for Building School Capacity (ITLRSBSC) by this investigation follows the five step iterative process of BARS development [2].

- First, select a representative sample group of raters for generation of the ITLRSBSC [7].
- Second, the group determines the strongest supported dimensions retaining the operational definitions [7].
- Third, the group identifies behavior incidents (retaining instructional teacher leadership terminology) and general statements representing degrees of performance to the behavioral incidents [3] [7]. ITLRSBSC dimensions and subscales may not be finalized chronologically in the process [2].
- Fourth, a different representative sample group, representative of the same population as the first group, eliminates behavioral examples based on a criterion level of subscale behaviors to dimension assignment [2][3].
- Finally, another group, which could be the first group, is asked to describe satisfactory and unsatisfactory teacher behavior across the dimensions. In this final step, the group assigns point values compared by the researcher to a discrimination index for each behavior [2][3]. Behavior items above a criterion level will be retained for their mean point values and used in the format of the ITLRSBSC.

The following is a description on how this study will execute the five general steps on creation of the ITLRSBSC.

7.1. Q-methodology: The selection of a Q-set for dimension construction and scale dimension construction sources

A discussion on the validity of dimension construction for the ITLRSBSC begins with the identification and synthesizing of multiple sources; collectively conceptualizing the behavioral activity to be measured. The ITLRSBSC is specifically targeted at the measurement of instructional leadership enhancing school capacity toward student learning. A leadership conceptual model is a factor guiding scale construction [8]. The investigation specifically utilizes this school organizational capacity model because it correlates with the distributed leadership environments where instructional teacher leadership behavior activities coexist with principal instructional leadership behaviors. Highly valid instruments for principal instructional leadership are the PIMRS and VAL-ED instruments. These instruments partially provide *cross-check theme* validity [5][13] of ITLRSBSC construct development and will be guided by "co-instructional leadership" behaviors among educator professionals within the desired shared leadership environment. Noteworthy here is that the participants utilized during instrument development will be teacher and principal co-educators (see sample participants). Providing additional "cross-check" validity on the ITLRSBSC dimension construction will be emerging themes from specific literature reviews and expert researcher identification on current empirical research (see items 1 and 4 below). The four empirical research sources guide scale construction of the ITLRSBSC under the five step iterative process of BARS development.

The dimensions of an instrument designed to measure *instructional teacher leadership* will be NVivo theme derived from four sources:

1) Literature review articles on teacher leadership, instructional leadership, and school capacity building.
2) King & Bouchard [8] dimensions of school capacity.
3) PIMRS instrument and VAL-ED instrument [5][13].
4) Expert opinions of four domains containing effective observable instructional leadership behaviors for school improvement.

7.2. Dimension theme emergence

Using the NVivo data analysis program, nodes will be determined from sources on instructional teacher leadership. The nodes will be coded under words and definitions according to rigorous criteria guiding construction design (pre-instrument). It is important to note that the school organizational capacity model depicting distributed leadership environments where instructional teacher leadership and principal instructional leadership behaviors coexist in proven empirical use prevents circular reasoning invalidity [4]. Post-instrument validity

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assessment is according to psychometric analysis and empirical literature evidence (research literature evaluation according to standards in *systematic reviews* of research). From the node and word pattern analysis, illustrations will be generated.

7.3. Dimension subscale identification

Theme emergence will suggest dimension subscales for instructional teacher leadership for building capacity in schools. It is important to note that the literature review on teacher leadership, proven instruments on principal instructional leadership, a school capacity conceptual model for shared leadership, and expert educator opinion on instructional leadership, produce the subscales. The author will use these subscales to develop the constructs of instructional teacher leadership for building capacity in schools. A psychometric property analysis of the data derived from instrument implementation will support the researcher's instrument constructs.

7.4. Teacher critical incident behaviors

Theme emergence will also suggest instructional teacher behaviors (BARS critical incident actions) [5][7] for instructional teacher leadership in building school capacity. A research based construct (domains, subscales, and teacher behaviors) will have been partially developed. A detailed group of education professionals will participate in refining the constructs for *instructional teacher leadership* conducive to *capacity building* in schools.

8. Scale development participants

The population for this study will be teachers with three or more years of professional teaching experience in the United States. Professional teachers perform predominantly instruction services to primary, middle, and secondary levels of education.

8.1. Sample participants

The Pennsylvania State System of Higher Education (PASSHE) consists of 14 member universities including East Stroudsburg University of Pennsylvania (ESU) and Indiana University of Pennsylvania (IUP). The ESU members of the partnership cohort program, ESU/IUP Administration and Leadership Studies, will be comprised of teachers and administrators from primary, middle, and secondary schools throughout PA and NJ. It is important to note here that the use of these "co-educator" participants is highly necessitated by instrument dimension construction validity (see above Q-methodology). The following independent groups will be systematically selected and reduced randomly from eligible ESU cohorts three through seven. All groups will be presented with a detailed explanation of BARS and Q-method processes before participating in any of the designated tasks. This will be done to decrease the potential for rater biases [7]. The following expert groups will be designed as disjoint groups for the purpose of increasing construct validity of the finalized instrument.

Group 1: ESU doctoral cohort subjects who maintain a teacher position (n = 12).

Group 2: ESU doctoral cohort subjects who maintain an administrator position (n = 9).

Group 3: ESU doctoral cohort program subjects who maintain an administrator or teaching position (n = 18).

Group 4: ESU/IUP doctoral cohort program subjects who maintain an administrator or teaching position (n = 30).

8.2. ITLRSBSC item construction

Phase 1 – Initial behavior to domain association for instructional teacher leadership

Group 1:

- Three groups will be formed of four participants (n = 12). Each group will be assigned the task of ranking (Q-sort) the piles of critical incident behaviors already divided into four dimension groups (Q-set) from the dimension construction phase of the methodology. Dimension change requests are permissible by notation on Q-set items.
- The groups will be additionally charged with recommending changes in the behavior terminology.
- At the conclusion of the work of the twelve participants, two volunteers from each group will convene with the author to integrate and edit the work of the initial groups [7].
- The resulting ranked behaviors will be presented to the group of twelve for approval.
- Each rater will be then be requested to provide three critical incident behaviors reflecting good, average, and poor behavior examples for each critical incident behavior.

Group 2:

- Three groups will be formed of three participants (n = 9). The group will be assigned the task of reviewing the work of Group 1 supplementing and revising as necessary dimensions and behavior examples [7].

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Phase 2 – Behavior to domain list association for instructional teacher leadership

Group 3:

- Three groups will be formed of six participants (n = 18). Each individual of the group, independent of the Phase 1 groups, will be provided a list of dimensions and a single randomly ordered (Q-set) of critical incident behaviors associated with instructional teacher leadership (combined four sets created from Phase 1). Each behavior will be assigned to dimensions according to the raters.
- At the conclusion of behavior assignment to dimensions by the group, critical incident behaviors that were not assigned by a 60% consensus of the group to a single dimension were eliminated from further analysis. Behaviors not clearly reflective of leadership constructs would counter the objective of constructing a valid instrument.

Phase 3 – Critical incident behavior assignment of values

- Three groups will be formed of ten participants (n = 30). The groups will be presented a list of four domains and associated behaviors from phase 1 and phase 2, synthesized by the researcher. Each individual of the group will be then tasked with assigning values on a 7 point performance scale (very poor 1 through very good 7) those examples created in phase 1 and surviving the phase 2 census processes.
- Example items with a standard deviation greater than 1.5 will be eliminated from further analysis. The consensus process of phase 2, and the behavioral item measure of central tendency criteria of phase 3, provide for agreement of the assessed value and dimension association of any particular behavioral example [7].

The author rewords behavior examples of instructional teacher leadership from actual anchor behavior language to expected behavior language. The researcher maintains the operational terminology produced by the expert groups. An instrument user (rater) can compare behaviors easily when examples are reworded in expected behavior language [5].

9. Pilot administration of ITLRSBSC survey

A small-scale trial of the ITLRSBSC self-report instrument will be conducted to assess delivery logistics and report on preliminary psychometrics. The subjects (n = 30) will be randomly reduced from systematically selected members of the combined groups of experts participating in the construction of the instrument. The delivery of the survey will be by survey monkey. The researcher is aware of the bias tendency of utilizing the same group for pilot studies and instrument design, but the author feels that the delivery experience is essential. A second implementation of the survey instrument will be administrated on a more representative sample of the population consisting of teachers from the ESU College of Education

10. Administration of ITLRSBSC survey

The subjects of a larger ITLRSBSC administration will be randomly reduced systematically invited participants from ESU College of Education graduate programs. Graduate programs will be selected to provide study participants representative of teachers with a variety of experiences. Participants will report institutional level (elementary, middle, secondary), years of total service, and years served in their current institution.

All participants will be informed with the purpose of the research activity as in the pilot group. In compliance with informed consent standards, participants will receive the conventional information.

11. Measurement properties of the ITLRSBSC instrument

Paralleling the development of the PIMRS instrument, the following criteria will be used to assess the teacher leadership self-report instrument:

- empirical grounding,
- content validity,
- reliability,
- validity, and
- construct validity using subscale inter-correlation and conceptual-empirical linkage [5].

11.1. Empirical grounding

Empirical grounding of instructional teacher leadership constructs depends on the quality of literature reviews. Recall as earlier mentioned, BARS instrument development also requires this rigor. Appropriate identification of quality research literature is essential in validating results of instrument psychometrics. Criteria in a conceptual framework have been developed for standards in *systematic reviews* of research [6]. These criteria have been applied to principal instructional leadership reviews and will be adapted to instructional teacher leadership reviews. The conceptual model criteria will be as follows:

1. guiding purpose,

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2. conceptual framework guides,
3. search criteria and procedures,
4. explicitly communicated and defensible source identification,
5. procedures justification,
6. composition of group of studies, and
7. communication of findings, limitations, and implications of the study [6]

11.2. Instrument validity

Factor analytic methods used on the data collected by the instrument will reveal internal consistency across education institution levels (elementary, middle, and secondary). Conceptually, instructional teacher leadership has behaviors identifiable throughout education institutions K-12. After data collection, a one-way ANOVA will compare within-level variance to between-level variance. In all subscales, a one-way ANOVA should fail to reject the null hypothesis that there is no significant difference in the perception of instructional teacher leadership behaviors across institution levels.

12. Assumptions, limitations, and delimitations

A delimitation of this study is the use of a sample constrained to a geographical region within the Commonwealth of Pennsylvania and New Jersey. The participating teachers and administrators will be selected from students attending a university of the Pennsylvania State System of Higher Education (PASSHE). It will be assumed these teachers are a diverse enough sample of educators pursuant of the authors goal of developing a widely portable instrument.

This study employed a probability sample selection to investigate constructs of instructional teacher leadership. As with any contextual study, caution should be taken when initially applying findings to any school situated in a unique setting. Notwithstanding these delimitations, conclusions of this study will provide insights into *how* and *why* teacher leaders engage in their instructional leadership behaviors. Further investigations will be needed to verify findings discovered during the construction of the ITLRSBSC instrument. As is conventional with instrumentation, version modifications will be made as experience with the instrument accumulates.

13. Conclusions

This proposed study develops a BARS instrument for measuring instructional teacher leadership conducive in building school capacity (ITLRSBSC). The development of the constructs will be carefully designed from themes based on research sources and input from professional educators. Included in the theme development will be a conceptual model for improved school capacity and highly valid principal instructional leadership instruments. A full internal validity and reliability analysis will follow instrument development (psychometric results). It is the author's hope that the instrument brings to its users data that is research supported toward understanding instructional teacher leadership within schools seeking to build capacity toward improved outcome based learning. It is not intended that this instrument be used for teacher evaluation. Findings on instructional teacher leadership, encountered in the instrument construction and validation processes, will be reported to the research community.

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