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IMPLEMENTING CONTINUOUS SCHOOL IMPROVEMENT: HOW DO SIX DIMENSIONS OF SCHOOL CULTURE PLAY A ROLE?

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ABSTRACT

School culture plays a pivotal role in the school's improvement in ensuring its effectiveness, continuity, and impact. Understanding school culture is an essential factor in any reform initiative that can facilitate the continuous cycle of school improvement. This study generally focuses on the relationship between school culture (SC) and continuous school improvement (CSI). It examines the various subscales of SC to determine the subscales that best predict CSI. Quantitative data for the study was collected using a survey through a structured adapted questionnaire. The cross-sectional survey method was applied in the quantitative data collection process involving 394 respondents selected from secondary schools in Kedah, Malaysia, using a systematic random sampling method. The instrument consisted of three sections: respondent demographic information, School Culture Survey, and AEL Continuous School Improvement Questionnaire. The data were then analyzed using descriptive and inferential statistics to test the research hypotheses. Findings indicate that the practice level of all six dimensions (collaborative leadership, teacher collaboration, professional development, collegial support, unity of purpose and learning partnership) in school culture is high. Results showed a significant difference in SC based on demographic factors (gender and teaching experience). Results also indicated significant positive correlations between SC and CSI and SC explained as high as 73% of the variance in CSI. The study revealed that collaborative leadership, teacher collaboration, professional development, unity of purpose and learning partnership were statistically significant factors determining continuous school improvement practices through multiple regression analysis. The research adds to the growing body of CSI research by affirming continuous school improvement roles in changes to create a good and positive school culture. The findings also can serve as guidelines for school leaders on how to implement continuous school improvement that can maintain a good school culture.

Keywords: **School culture, continuous school improvement, teacher leaders, gender, teaching experience.**

INTRODUCTION

Rapid developments have led to increased social demands and a need for educational institutions to become more dynamic (Kalkan et al., 2020). In this regard, the Ministry of Education Malaysia (MOE) strengthens Malaysia's education transformation agenda by establishing targets for access, quality, equity, unity, and efficiency, as stipulated in the Malaysian Education Development Plan 2013-2025 (MOE, 2022). Hence, the transformation of the nation's education continues to be driven by a focus on two major aspects: the implementation of school culture (SC) and continuous school improvement (CSI) (MOE, 2022).

Today, SC is viewed as having an interest in advancing educational advancement. In general, the phrase "school culture" does not have a single widely accepted definition, and it covers terms such as comprehending the school's ethos, school climate, school code, or operational culture (Saloranta, 2017). Meanwhile, SC is one of the indications of an organization's performance, and the quality of the school and its culture influence the entire quality of life in the school (Yli-Panula et al., 2022). Furthermore, SC influences everything that happens in the school, including how the school staff dress, how they converse, their willingness to change, and the teaching approaches that focus on how students learn (Fuzainah Taahyadin & Yaakob Daud, 2018). The school culture also provides the best environment for the teaching and learning programs and connects the staff with the school (Dogan, 2017). Commonly, schools will have the same curriculum, equal teacher degrees, and teaching prerequisites. However, Hofstede (2011) contends that the school culture practiced by one school and another varies due to the diversity of its participants. Furthermore, a SC has a big influence, and without strong cultural support among teachers, any progress would be futile, perhaps leading to failure in children's academic accomplishment as well as a drop in teacher work performance (Barton 2020; Sullivan 2010).

Focusing on school improvement is always at the center of any educational institution. The focus must be made for the school to achieve its goals and for students to be successful. SI is defined as the process of conscious efforts by which schools become more effective both in terms of academic outcomes as well as social and cultural development of the pupils and adults within the group (Norazana Mohd Nor et al., 2022). Similarly, the endeavor to improve is contingent upon the school's capacity to effect environmental modifications, foster learning, and introduce classroom reforms to increase student performance (Sleegers & Leithwood, 2010). Additionally, to achieve continuous improvement, school employees must constantly plan, coordinate, and implement change. Walker (2018) highlights that to improve teaching methods, school culture, and student learning results, school staff members should collaborate to create an environment of change.

In linking SC to CSI, while there is a growing consensus that school culture is an integral part of school improvement (Gruenert & Whitaker, 2015; Louis & Lee, 2016; Narayan, 2016; Nehez & Blossing, 2020), an emerging body of literature on school culture has paid special attention to the facilitating role of school leaders (mostly principals) in bridging school culture and school improvement (Copland, 2003; Hollingworth et al., 2018; Leithwood & Jantzi, 1990).

BACKGROUND OF THE STUDY

Malaysia's education business is today viewed as a means of contributing to the country's progress by cultivating an informed, skilled Malaysian society with a noble personality and character. The ministry frequently emphasizes reforms aimed at improving the quality standards of the education system (Maszlee Malik, 2018. The modifications undertaken aim to grow human capital in a highly competitive world while continuing empowering a superior education system.

Glušac et al. (2015) highlight the importance of SC in discussions about effectiveness and improvement. Experts began to examine many subjects in the middle of the twentieth century when organizational culture (OC) became a

prominent issue. However, the phrase "school culture" has become prominent in studies since the beginning of the twenty-first century. Meanwhile, Van Houtte provides a full explanation of the terms “school culture” and “school environment” and their different roles in school improvement (Van Houtte, 2005; Lee & Louis, 2019). Strengthening the SC requires developing an excellent, cultured school and establishing a favorable school climate and culture (Talip, 2016).

Therefore, Amtu et al. (2020) added that the culture that permeates the school organization can enhance the quality of education because it fosters a work ethic, a desire to be always the best, the development of a sense of ownership and responsibility, a priority for the academic progress of students, and the development of positive relationships both within and outside the school. This is because a SC, a comprehensive instrument for enhancing the institution's efficacy, is just as important to its success as its infrastructure, qualified teachers, and well-behaved pupils (Zubaidah, 2016). However, in response to increased rivalry and demands for educational excellence, some schools continue to regard the cultural parts of the school as abandoned while still failing to achieve the objectives outlined above (Amtu et al., 2020; Kalkan et al., 2020).

Education in this period is more focused on school improvement (SI). However, as highlighted by Muhammad Faizal A. Ghani et al. (2018), these aspects often fall short of stakeholders' expectations and are not implemented as intended. Furthermore, Muhammad Faizal A. Ghani et al. (2018) stated that schools are now focusing more on the 'result' that schools will attain rather than going through each phase of the school improvement process regularly. The school is also claimed to be more concerned with measuring the outcome system to create positive results for the school organization. Meanwhile, research on the specific paths by which leaders help to sustain school improvement over time is less dense, but a few recent studies (Hollingworth et al., 2018; Palmer & Louis, 2017) report how principals forge and foster a positive school culture to support school improvement that endures, while Leithwood (2018) documents the challenges of sustaining improvements in school leaders’ capacities to facilitate change. Understanding this, it is necessary to implement school culture practices and ongoing school improvement to increase institutional efficacy (Elgart, 2017). By concentrating on both, stakeholders will eventually understand that a strong SC, upheld by all members of the school staff, serves as the foundation for CSI.

PROBLEM STATEMENT

Due to the diversity of its membership, the SC that develops is unique. In fact, according to Sullivan (2010), a lack of strong cultural support among school citizens would guarantee failure and prevent the desire to implement change. Thus, via the leadership of school leaders and the degree of acceptance of teachers to implement it, the SC has been recommended as an element to carry out the school improvement process as well as to affect the overall results in the improvement process phase (Rutledge, 2009). According to research by Fuzainah Taahyadin and Yaakob Daud (2018), SC plays a moderate role in school improvement. Teachers continue to be perplexed by the school culture's failure to determine the improvement process, particularly when evaluating the school culture's potential to affect continuous school improvement.

Consequently, it is determined that the SC element is the most crucial part of the school improvement process, and it will influence overall decisions made during the improvement process phase by school leadership (Fuzainah Taahyadin & Yaakob Daud, 2018). This assertion is backed by Nehez and Blossing (2020), who argue that SC is the determining factor in implementing the CSI process. Furthermore, the school culture has a substantial impact as a result of the school principal's attempts to develop (Deal & Peterson, 2016). In this context, the school principal is viewed as a change manager, facilitator, and curriculum leader (Briggs & Wohlstetter, 2003). Their job description begins with consistently promoting teacher-student interaction, holding professional conversations while in the classroom, making sure that educators are always willing to share their opinions and observe their practices, holding themselves to higher performance standards, innovating and continuously seeking out new ideas, and actively participating in school-related issues (Ikhfan Haris, 2016). Parents are children's best advocates in the interim. This begins at home, where suitable learning opportunities, a safe and healthy atmosphere, support, and an optimistic

outlook on education are provided. According to Đurišić and Bunijevac (2017), effective collaboration between schools and parents can increase student academic performance and contribute to educational reform. In short, complete participation by school personnel and parents and a structure that includes all stakeholders in decision-making can help improve school culture and student learning outcomes.

Continuous improvement (CI) is a strategy for enhancing the educational system and achieving better results. Meanwhile, schools that use a CI approach can achieve very positive outcomes (Flumerfelt & Green, 2013; Park et al., 2013; Wilka & Cohen, 2013). An education strategy challenging schools to be accountable also believes that schools can have the capability to conduct continuous improvement initiatives. Furthermore, in most countries, education policymakers and practitioners require that school staff continuously improve schools and the education system to produce higher student results (Thoonen et al., 2012).

Successively, there has been a recent surge in recorded studies on school improvement from many countries. However, in Malaysia, there is still a lack of inquiry and understanding of school improvement, as well as a dearth of documented resources on school improvement priority areas (Norazana Mohd Nor et al., 2022). In the meantime, several implemented changes failed to materialize because they only produced temporary benefits and paid insufficient attention to developing the capacity to carry out ongoing improvements (Hawley, 2007). Since it wastes properly allocated resources and can no longer function as an effective school, maintaining sustainability in CSI implementation is a significant challenge (Askell-Williams, 2017). In general, CSI is a very complicated process because it involves collaborative efforts that rely on school climate and culture to support growth and learning for teachers and organizations (Zepeda, 2013). It also involves changes starting at the school level by taking the initiative to positively influence students' learning (Feldhoff et al., 2016).

Although various research has discovered a substantial link between SC and CSI (Fuzainah Taahyadin, 2020; Kalman, 2020; Koh & Askell-Williams, 2020; Lee & Louis, 2019), research on the relationship between the two variables is extremely limited, particularly in the context of education in Asia, particularly secondary schools in Malaysia. This paper reports a study conducted to examine the relationship between SC and CSI while also contributing to current knowledge on the practice of CSI in Asian nations, particularly Malaysia.

Purpose of Research

A literature review reveals that the concepts of SC and CSI are the subject of several studies. Nevertheless, as far as the researcher knows, no research has been found specifically observing the connection between the two factors. As a result, the current study's findings can contribute to the existing literature and fill gaps in the relevant domains. This led to the goal of this study being to ascertain how SC and CSI relate to each other in secondary schools in the state of Kedah. It also sought to determine how each SC dimension contributes to and influences overall school culture.

Hence, the following study questions were addressed:

1. What is the level of SC practices among secondary school teacher leaders?
2. Is there any significant difference in SC based on demographic factors (gender and teaching experience)?
3. Is there a correlation between SC and CSI in secondary schools in the state of Kedah?
4. Does the overall SC and the contributions of each SC dimension have an impact on the CSI?

LITERATURE REVIEW

School Culture

If the concept of culture is not understood first, it is impossible to comprehend school culture fully. Since different people and organizations have different perspectives on what constitutes culture, it is often interpreted differently, making it a challenging subject to grasp. According to Sabanci et al. (2017), cultural interpretation is an idea closely

associated with a specific culture that is interpreted through our attitudes, convictions, and deeds, all of which have the power to shape our perceptions and actions. Furthermore, Ismail et al. (2022) disclosed that culture holds significance in an individual's personality and character, as it mirrors the cultural experiences they encounter.

In the meantime, Schein (1985) divides SC into three categories. The first stage consists of artifacts representing school attributes that have grown to define a school's culture. Examples include the dress code, behavior, and the organization's mission and vision for teachers. The standards and ideals that instructors adhere to make up the second level. Here, values are a barometer for what is deemed admirable and eventually advantageous to the entire organization. Respect and cooperation, on the other hand, are frequently regarded as standards or appropriate conduct. According to Maslowski (2001), norms are not explicitly stated in an organization's rules and regulations. Furthermore, the third level is the assumption of the principle through the values held by teachers, which cannot be quantified but affect the school culture.

According to Abdul Ghani Kanesan Abdullah et al. (2019), SC is defined as a set of beliefs, concepts, and customs shared and created by the same group of people, including principals, teachers, staff, and students. Conversely, Kaplan and Owings (2013) define SC as the shared beliefs, norms, and practices that serve as the foundation for a shared educational unit. Furthermore, Karadag and Oztekin-Bayir (2018) defined SC as a shared value, belief, symbol, and understanding among school members. Not only that, but the SC can influence everything that happens in the school, including how school staff dress, communication, readiness to change, instructional approaches, and the unique attention that students require (Deal & Peterson, 2016).

SC tremendously impacts teacher trust, awareness, and behavior at the school level. Furthermore, the school's top leadership, particularly the principal, must take positive steps to influence the school culture, as the SC serves as the foundation for implementing continuous change and improvement (Gruenert, 2008; Mitchell & Sackney, 2000). SC is linked to the environment, principals, instructors, and students. Thus, they must plan for a positive culture in their schools. According to Peterson (2002), SC has a favorable impact on student achievement, whereas the opposite SC has a negative impact. On top of that, SC characteristics, including shared vision, tradition, collaboration, shared decision-making, creativity, and communication, need to be applied in the classroom to promote a positive school culture (Myers, 2009).

Continuous School Improvement

The movement of ideas for implementing school improvement (SI) or ongoing educational reform has grown during the last half-century. Hallinger and Heck (2010) defined capacity for school improvement as a set of factors that promote student learning, teacher professional development, and the implementation of strategic plans to constantly improve school performance. In addition, the modifications to be made depending on a school's needs are directly tied to the school improvement movement, a “road map” developed to increase student accomplishment (Susan, 2017). The draft road map specifies "how" and "when" a change will be implemented (Cohen-Vogel et al., 2018). Furthermore, modifications that are properly implemented and interwoven with a comprehensive school improvement plan can empower the school community to supervise and influence students while also creating a conducive school environment (Ruth, 2017).

Undoubtedly, school improvement analysts have long recognized that gains in school quality would not be achieved only by introducing new policies, programs, organizational structures, or teaching techniques (Anderson & Kumari, 2009). In reality, it should transform the school into a learning organization in which teachers participate in a continuous cycle of action, analyzing the progress and effects of decisions and modifications aimed at achieving a common vision or objective (Fullan, 2005; Hawley & Sykes, 2007; Copeland, 2003). Looking at the preceding remarks and setting aside the negative view of continuous development, a question arises: "What exactly does it mean for schools to improve continuously?" Additionally, "What are the practices and results of continuous school improvement in schools that involve continuous improvement efforts from time to time?”.

CI is based on an organization's effectiveness in implementing certain procedures, such as overall quality management techniques. The approach has been successful in enhancing continual self-improvement, which improves both the organization and individual performance (Elgart, 2018). Meanwhile, Elgart (2017) defines CI as a school-wide activity that interacts with situations, processes, and practices that can enhance teaching and learning. Furthermore, CI entails a cyclical approach to problem-solving, which includes reviewing problems and potential solutions, as well as examining and evaluating actions based on the data gathered (Flumert & Green, 2013). In education, every method and technology implemented, particularly in daily teaching and learning, must adhere to existing changes through continual development (Pourajab et al., 2018). As a result, it also reveals that school improvement practices continue to evolve through learning culture change, goal sharing, learning, partnership leadership, effective teaching, and multilevel interventions. Furthermore, the teaching and learning process, organizational structure, culture, and climate are all important in supporting continuous school improvement (Lim Lee Ching, 2019).

Furthermore, prior research on school improvement has demonstrated that most researchers employ several assessment scales to determine the degree of SI. The AEL Continuous School Improvement Questionnaire (AEL CSIQ) (Meehan et al., 2002) is a tool used in the interim to assist teachers in improving, particularly from the standpoint of learning and improvement. School personnel can use this tool to measure their performance based on six dimensions that relate to CSI. The aspects of CSI will be identified into six dimensions: learning culture, school/family/community connections, shared leadership, shared goals for learning, purposeful student assessment and effective teaching.

School Culture and Continuous School Improvement

Studies on SI have shown that SC is critical for facilitating a continuous improvement process and improving student academic achievement (Kalman, 2020; Hopkins & Reynolds, 2001). This is because school culture is a vital factor that gives information on feelings, assumptions, ideas, and values that build a school's identity, and these elements are extremely important to school improvement (Zhu et al., 2011). Meanwhile, cultural aspects found in schools, such as student support, trust, respect, minimal negativity, and forming a professional learning community (PLC), may boost school improvement that can be applied constantly. Overall, previous research indicated a large and robust link between SC and CSI in secondary schools. Thus, the study demonstrates that high school culture practices contribute to a high level of continuous school improvement, but poor school culture practices result in a low level of continuous improvement.

Parallel to Schein's Model of Organizational Culture, there are empirical pieces of evidence linking school culture and improvement. Although school culture research is widely explored, the availability of research which demonstrates its relationship with continuous school improvement is fairly minimal. It is reasonable to assume that in schools with a strong positive culture where teachers collaboratively work with collegiality, trust, and shared responsibility, school improvement would be more likely to continue as the outgrowth of a strong school culture (Lee & Louis, 2019). Most of the abovementioned elements are similar to the dimensions of school culture in this study that are believed to provide insight into the shared values/viewpoints, the patterns of activities, and the interactions in the school as playing a decisive role in the degree of stability and process of school improvement attempts (Butucha, 2013; Deal & Peterson, 2016; Seashore Louis & Lee, 2016).

Furthermore, previous research has focused on the role of leaders, particularly principals, in implementing school cultural relevance and continuous school improvement (Lee & Louis, 2019). The present school culture can encourage or hinder change and innovation (Haris & Jones, 2010). As a result, Fullan (2020) emphasizes the necessity of fostering such a culture, stating that leaders must highlight the culture as a source of continuity to achieve continuous improvement. Fostering a culture that encourages change, remains positive and strong, and is improvement-oriented can be viewed as a vital component of continuous school improvement.

Several previous studies that focused on the direct relevance of school culture and continuous school improvement

showed favorable results (Fuzainah Taahyadin, 2020; Nehez & Blossing, 2020). However, most of this research examined school culture in a specific construct rather than its dimensions. As a result, there is a need for research that can provide a thorough knowledge and explanation of each dimension of SC and its impact on CSI.

CONCEPTUAL FRAMEWORK

The framework for this study is developed to determine the relationship between school culture and continuous school improvement. It is developed based on combining these two models: Edgar Schein's Organizational Culture (1985) and KEYS for Excellence in Your School- Continuous School Improvement Model (2008). However, this research focused on the school culture model built by Gruenert and Valentine (1998) by delving into the original ideal of Schein (1985). Based on the ideas expressed by Schein (1985), Gruenert and Valentine (1998) have formed six dimensions of school culture: collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support and learning partnership.

The school cultural model of Gruenert and Valentine (1998) is defined as:

Collaborative Leadership (CL)
This dimension describes the level to which school leaders preserve and establish collaborative relationships among school staff. All new ideas contributed, inputs, involvement in decision-making and belief in their professional judgment in school can be achieved through collaborative leadership. School leaders also need to support and reward the risks taken, innovate and share ideas and practices.

Teacher Collaboration (TC)
Teacher collaboration refers to the level to which teachers participate in constructive discourse that furthers the school's shared educational dream. Do all teachers in the school cooperate in planning, observing, and discussing teaching practices, and evaluating programs, to develop an understanding of the practices and programs of each other?

Professional Development (PD)
Professional development refers to practice of enhancing one's professional skill and competence through workshops, professional growth seminars, trainings, resource persons, professional publications and other resources.

Unity Of Purpose (UOP)
This component describes how educators focus on the school's shared goals and visions. Teachers should recognize, support, and carry out their responsibilities per the school's vision, which should reflect the hopes, benefits, needs, values, and dreams of all stakeholders (Sergiovanni, 2000).

Collegial Support (CS)
Collegial support refers to the work-linked support that group members provide to each other by sharing common concerns, information experiences, and knowledge at the workplace.

Learning Partnership (LP)
Learning partnerships are the relationships between school leaders, teachers, parents, and students. School leaders, teachers, and parents work cooperatively, trust each other and help students focus on improving their performance and succeeding at school work.

For continuous school improvement, the Continuous School Improvement model is used as a conceptual framework that focuses on school improvement (National Education Association (NEA), 2008) as a direction in implementing the school improvement process, especially for teachers in primary and secondary schools. The model used is based

on six categories as "key' or the main indicator of school quality obtained from school effectiveness studies and interrelated studies (Hawley & Rollie, 2007; NEA, 2008). These categories include (a) shared understanding and commitment to high goals for student learning among all members of a school community; (b) open communication and collaborative problem solving among school staff and between home and school; (c) continuous assessment for teaching and learning and use of assessment in decision making; (d) personal and professional learning of teachers; (e) resources to support teaching and learning, including a safe environment and sufficient space, instructional materials, and student support services; (f) quality curriculum and instruction. Meanwhile, to evaluate continuous school improvement, the questionnaire was adapted from a study conducted by Meehan et al. (2002) covering six dimensions: learning culture, school/family/community connections, shared leadership, shared goals for learning, purposeful student assessment, and effective teaching. The continuous school improvement model of Meehan et al. (2002) is defined as:

Learning Culture

This scale reflects how well the school culture encourages learning by all students, staff, and administrators. It also indicates the extent to which teachers have opportunities and encouragement to reflect on practice, work with others, and try new ways of teaching.

School/Family/Community Connections

This scale reflects the degree to which staff perceives that parents and community members are involved in and feel part of the school. This includes such activities as informing parents and community forming meaningful partnerships, maintaining open communication, and honoring and respecting diverse points of view.

Shared Leadership

This scale reflects the extent to which staff view leadership as being shared, whether school administrators dominate decision-making or there are mechanisms for involving teachers, students, and parents. It measures opportunities for leadership development and the extent of open, two-way communication.

Shared Goals for Learning

This scale assesses the extent to which the school has clear, focused goals that are understood by all members of the school community.

Purposeful Student Assessment

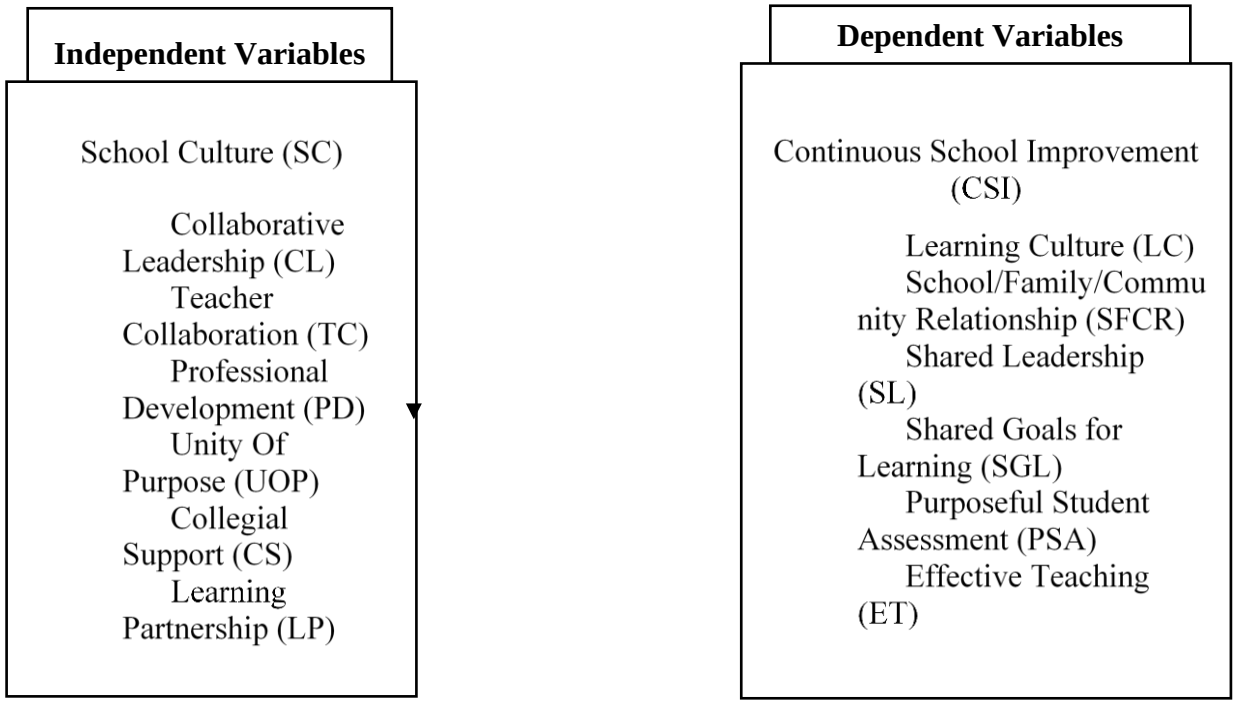
This scale reflects the extent to which respondents view student assessment data as meaningful: use data to guide instructional decisions: and believe data are communicated to the greater school community, including teachers, parents, students, and the general community.

Effective Teaching

This scale measures the extent to which teacher practice aligns with research on effective teaching.

Based on the discussions presented in this paper, the concepts and models described above have significant relationships and relevancy with each other and the topics being researched. Thus, they are used as the conceptual framework of this study. The conceptual framework has six independent variables from the school culture dimensions: (i) collaborative leadership, (ii) teacher collaboration, (iii) professional development, (iv) unity of purpose, (v) collegial support and (vi) learning partnership. The six dependent variables from the dimensions of continuous school improvement are (i) learning culture, (ii) school/family/community connections, (iii) shared leadership, (iv) shared goals for learning, (v) purposeful student assessment, and (vi) effective teaching. The conceptual framework of this study is portrayed in Figure 1 below:

Figure 1. *A Conceptual Framework That Connects the Dimensions of School Culture and Continuous School Improvement*



RESEARCH METHODOLOGY

Research Design

Generally, this study was a cross-sectional approach survey using quantitative data collection through a questionnaire distributed to a study sample of teachers in selected schools. The quantitative findings provide a sufficient explanatory view of the research questions (Creswell, 2014).

Population and Sampling

The population of this study is focused on the respondent group of secondary school teachers under the Ministry of Education in the state of Kedah, which has a total of 13,247 people. Researchers have referred to the Kedah State Education Department (JPN) to obtain the latest population list for each district with the breakdown as follows which is (a) 955 people in Baling, (b) 2706 people in Kota Setar, (c) 2460 people in Kuala Muda, (d) 1008 people in Yan, (e) 1577 people in Kubang Pasu, (f) 2050 people in Kulim/Bandar Baharu, (g) 674 people in Langkawi, (h) 520 people in Padang Terap, (i) 812 people in Pendang and (j) 485 people in Sik (JPN, 2024).

Meanwhile, in school selection, stratified random sampling techniques (proportionate stratified random sampling) are used, where secondary schools are grouped according to districts in the state of Kedah. The purpose of this technique is to ensure that each selected district has a representative to be studied. This technique is more effective in obtaining information from each stratum (Sekaran & Bougie, 2009). In the meantime, systematic random sampling techniques (systematic random sampling) are used to select schools for each district. Sekaran and Bougie (2009) insist that this technique was chosen because large-scale samples obtained in a specific place, such as JPN or KPM, have an advantage. This is because it facilitates the process of selecting samples quickly.

The determination of size of the study sample was determined by using the sample size formula by Krejcie and Morgan (1970). This formula has been used because the researcher has a list of schools and the number of secondary school teachers in Kedah, which is 13247 people obtained from the website of the Ministry of Education Malaysia

(2024). Based on the sample size formula, the researcher needs a sample size of 373 study samples. Nevertheless, the researcher has added to 530 study samples as a whole. The justification for the increase in samples aims to prevent the occurrence of questionnaires that are not returned, lost and incomplete (Salkind, 2012). In addition, the researcher also considered the opinion of Lohr (2019), who stated the response rate for survey studies usually does not get a full return.

Research Instrument

The instrument used in this study was a combination of two tested questionnaires: the School Culture Survey (SCS) questionnaire (Gruenert & Valentine, 1998) and the AEL Continuous School Improvement Questionnaire (AEL CSIQ) (Meehan et al., 2002). Both questionnaires were translated from English to Malay (Bahasa Melayu) using standard back translation procedures as suggested by Creswell (2012, 2014). The translated version of the questionnaires was validated through the validation and pilot review process before the actual study was conducted. All items are arranged on a 7-point Likert Scale ranging from "strongly disagree" to "strongly agree". Respondents' demographic information was also collected without personal identification information to ensure the confidentiality of each respondent. Teachers chose the most suitable response to each statement in the questionnaire based on the direction given.

Three lecturers with doctorate degrees from Universiti Utara Malaysia and Universiti Sultan Zainal Abidin were consulted to achieve the objective of translation, subsequently determining the appropriateness of the content and format of the questions that had been submitted based on the scope and objectives of the study set by the researcher. In addition, the researcher has also sent research instruments to the language center to obtain the translation of questionnaires (School Culture Survey and Continuous School Improvement) from English to Malay. The translated instrument is then handed over to two translators to translate it back into the original language. Next, to ensure the validity of the research instrument, the translated instruments are compared to see the appropriateness from the point of view of a language style that is easy to understand and meets the requirements of the research objective.

Pilot Study

Since the research instrument was adapted and modified from previous research, expert language validation was conducted on the clarity of instructions and appropriate language adjustment. In addition, a pilot study was conducted before the actual study to test the reliability and validity of all constructs in the questionnaire as well as to identify any unfit items that should be dropped or revised. The pilot study involved teacher leaders from six secondary schools within the Kubang Pasu, Kedah district. A total of 60 questionnaires were distributed to the teachers and analyzed. The study also proved that all the items of the stated tool were interrelated, which fulfilled the rule of thumb for Cronbach alpha values.

Cronbach's alpha test was used to test the reliability and validity of the items. As shown in Tables 1 and 2, the value for Cronbach's alpha for this study indicated an acceptable internal consistency of the items in each scale. Hence, the instrument was reliable for the study.

Table 1. *Reliability Coefficient of the School Culture Instrument*

Dimensions	No of Items	Cronbach's Alpha (α)
Collaborative Leadership	11	0.925
Teacher Collaboration	6	0.814
Professional Development	5	0.803
Unity of Purpose	5	0.911

Collegial Support	4	0.853
Learning Partnership	4	0.788
School Culture	35	0.974

Table 2. *Reliability Coefficient of the Continuous School Improvement Instrument*

Dimensions	No of Items	Cronbach's Alpha (α)
Learning Culture	10	0.917
School/Family/Community Connections	10	0.929
Shared Leadership	10	0.834
Shared Goals for Learning	10	0.831
Purposeful Student Assessment	10	0.934
Effective Teaching	10	0.908
Continuous School Improvement	60	0.980

1. School Culture Survey (SCS)
The SCS is a 35-item measurement that measures the collaborative nature of school culture and was constructed based on six dimensions, namely collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support and learning partnerships. The reliability analysis of this questionnaire established a high alpha Cronbach value ranging from 0.788 to 0.925 for all six dimensions.

2. Continuous School Improvement (CSI)
The CSI is a 60-item measurement that helps the school staff gauge its performance on six vital dimensions related to continuous school improvement, namely learning culture, school/family/community connections, shared leadership, shared goals for learning, purposeful student assessment and effective teaching. The reliability analysis of this questionnaire established a high alpha Cronbach value ranging from 0.831 to 0.934 for all six dimensions.

As shown above, (Tables 1 & 2) Cronbach's Alpha for every construct in the school culture and continuous school improvement are greater than 0.7, thereby confirming that there is good internal consistency of items in each scale.

Data Collection Procedure
A total of 530 sets of questionnaires were distributed to respondents consisting of teacher leaders at 53 Secondary Schools in Kedah. From that total, 431 sets of questionnaires were returned resulting in a welcome rate of 81.3%. Of the 431 sets of questionnaires returned, 394 sets of questionnaires were successfully analyzed to produce a percentage of 74.3%.

The questionnaires were distributed after obtaining approval from the Educational Planning and Research Department (EPRD) at the Ministry of Education, the State Department of Education, and the respective school principals. The selected teachers willingly answered the questionnaires. Information on the date, time and respondents who would be involved was specified before the researchers started the data collection. Further, the confidentiality of the survey information was also stated to the respondents involved before starting the data collection process.

Data Analysis

Data analysis was performed with IBM Statistical Package for the Social Sciences (SPSS) version 27.0. The significance level was taken as $p < 0.05$. Descriptive statistics such as gender and teaching experience were described with mean and standard deviation (Creswell, 2014). Mean values were calculated for each construct, and t-test and MANOVA were conducted for the analyses of differences in SC based on gender and teaching experience, respectively. In addition, inference analysis was generated through Pearson's correlation test that examined the relationship between SC and CSI. Multiple Linear Regression is a statistical tool in which a mathematical model is developed to predict a dependent variable by two or more independent variables or at least one predictor is non-linear. It was used to determine the significance of the influence of the three independent variables on the dependent variable. Thus, multiple regression analysis was used to determine the predictive factors in the dimension of SC towards CSI. Table 3 below illustrates the mean score and standard deviation derived from Feldman and Sanger's (2007) work to interpret the school culture level.

Table 3. *Mean Score Interpretation*

Mean Score	School Culture Practice Level Interpretation
1.00-1.80	Extremely Low
1.81-2.60	Low
2.61-3.40	Average
3.41-4.20	High
4.21-5.00	Extremely High

Source: Feldman and Sanger (2007)

Subsequently, for inference statistics, the Pearson Correlation was employed to evaluate the study's hypothesis, which was the association between school culture and continuous school improvement of teacher leaders in secondary schools in Kedah state. Furthermore, multivariate analysis of variance (MANOVA) was performed to investigate differences in school culture among teacher leaders depending on gender and teaching experience. This study's Pearson Correlation coefficient interpretation table is based on Chua (2011), as shown in Table 4.

Table 4. *Correlation Coefficient Value Interpretation*

r Value	Correlation Strength
0.00	No Correlation
0.01-0.30	Extremely Weak
0.31-0.50	Weak
0.51-0.70	Average
0.71-0.90	Strong
0.91-1.00	Extremely Strong

Source: Chua (2011)

RESEARCH FINDINGS

Demographic Profile of Respondents

The demographic characteristics of the respondents are shown in Table 5.

Table 5. *Profile of Respondents Based on Demographic Characteristics Distribution (n = 394)*

	Demographic Characteristics	Frequency	Percentage (%)
Gender	Male	122	31.0
	Female	272	69.0
Teaching Experience	1-10 years	33	8.4
	11-20 years	138	35.0
	21-30 years	176	44.7
	More than 30 years	47	11.9

Table 5 shows the distribution of respondents' demographic characteristics in this study. Based on the table, 394 teacher leaders were involved in this study. In the meantime, the distribution for the gender factor found that the number of female respondents exceeded the number of male respondents. The total number of female respondents is 272 (69.0%) compared to the number of male respondents, which is 122 (31.0%). In addition, the distribution of respondents from the point of view of teaching experience shows that a total of 33 people (8.4%) have teaching experience as teachers, which is less than 10 years. Meanwhile, the total number of respondents with more than 10 years of teaching experience was 138 people (35.0%0 experienced between 11-20 years, 176 people (44.7%) experienced between 21-30 years, and 47 people (11.9%) experienced more than 30 years.

School Culture Level of Teacher Leaders

School culture level was measured through 35 questionnaire items. The focus of measurement was based on six main dimensions: namely (1) collaborative leadership, (2) teacher collaboration, (3) professional development, (4) unity of purpose, (5) collegial support, and (6) learning partnership. The results of the analysis, as shown in Table 6, showed that the level of SC was at a high level according to the respondent's assessment (M=5.81, SD= 0.65). Overall, the dimensions of unity of purpose (M=6.01, SD=0.71) and collegial support (M=5.94, SD=0.67) were found to be most often practiced compared to other dimensions. Meanwhile, the other four dimensions also recorded high mean scores, such as collaborative leadership (M=5.82, SD=0.70), professional development (M= 5.82, SD= 0.66), teacher collaboration (M=5.68, SD=0.70) and learning partnership M=5.57, SD=0.65).

Table 6. *School Culture Level*

School Culture Dimension	Overall		
	Mean	SD	Interpretation
Collaborative Leadership	5.82	0.70	High
Teacher Collaboration	5.68	0.70	High
Professional Development	5.82	0.66	High
Collegial Support	5.94	0.67	High
Unity of Purpose	6.01	0.71	High
Learning Partnership	5.57	0.65	High
School Culture	5.81	0.65	High

Differences in the Level of School Culture Based on Gender

There are two hypotheses for the differences in SC based on two demographic variables, i.e., gender and teaching experience.

Ho1: There is no difference in SC based on gender

Table 7. *Analysis of t-Test Independent Samples for School Culture Based on Gender*

Gender	N	Mean	SD	df	t	p
Male	122	5.96	0.62	392	3.087	0.002
Female	272	5.74	0.66			

Significant at level p<.05

According to the t-test, Table 7 shows that there were significant differences (t (392) = 3.087, p=0.05, Cohen's d =.644) in the scores with the mean score for the male teachers (M=5.96, SD = 0.62) was higher than the female teachers (M=5.74, SD=0.66). The magnitude of the differences in the means (mean difference =0.217 1.837, 95% Cl= 0.079 to 0.355) was significant.

Cohen's d, or standardized mean difference, was measured to quantify the effect size between these two groups by calculating the difference between two means and expressing it in standard deviation units. A common interpretation refers to the effect size using Cohen's d as small (d = 0.2), medium (d = 0.5) and large (d = 0.8) (Glen, 2021). Although the interpretation should not be taken rigidly, to avoid the results from being trivial, the means of the two groups should differ by at least 0.2 standard deviations (Glen, 2021). The findings indicated that the means of these two groups were d = .644, making the effect size small but significant. Hence, the results of running the independent samples t-test supported the alternative hypothesis that statistical evidence shows a significant difference in gender between male teachers and female teachers.

Differences in the Level of School Culture Based on Teaching Experience

Ho2: There is no difference in SC based on teaching experience

The difference test based on the teaching experience factor only involves one level, which is the overall school culture, and the dimension of school culture is used as a dependent variable. Four groups of teaching experience were used in the MANOVA analysis, which was a group of teacher leaders with experience in teaching between 1 to 10 years, 11 to 20 years, 21 to 30 years and more than 30 years. The Box's M test recorded the value F= 1.678, p= 0.001 (p<.05), meaning there was a difference in variants and covariance between independent variables and dependent variables. Therefore, the researcher has conducted Levene's Test of Equality of Error Variances for all six dimensions. The test results found that all six dimensions were not significant where (p>0.05).

The results of the multivariate test show that overall, there is a significant difference between the teaching experience groups on the school culture of teacher leaders in secondary schools. Wilks' Lambda statistics recorded a value of 0.906, F (18, 1089,430) = 2.148, p<.05, multivariate β^2 =.032, whereas Pillai's trace value was 0.095, F (18, 1161) = 2.117, p<.05, multivariate η^2 =.078.

In addition, Roy's Largest Root statistics record the result that there is a significant difference in value 0.084, F (6, 387) = 5.439 p<.001, multivariate η^2 =.078. Thus, this result allows the second null hypothesis (Ho2), which is that there is no significant difference in the perception of the school culture based on the teacher's teaching experience at school to be accepted.

The examination of the univariate test results in Table 8 below shows that there are no statistically significant differences in the perception of the school culture variables overall (F=1.31, p>.05), teacher collaboration (F=2.83, p>.05), professional development (F=1.16, p>.05), unity of purpose (F=1.56, p>.05), collegial support (F=1.34, p>.05) and learning partnership (F=0.82, p>.05). On the other hand, the result of the univariate test also showed that there was a statistically significant difference in collaborative leadership (F=2.83, p<.05).

Table 8. *MANOVA: Univariate Analysis of School Culture Based on Teaching Experience*

School Culture Dimension	1-10 Years (n=33)		11-20 Years (n=138)		21-30 Years (n= 176)		>30 Years (n=47)		F Value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
School Culture	5.62	0.75	5.82	0.64	5.81	0.66	5.91	0.55	1.31
Collaborative Leadership	5.53	0.84	5.80	0.66	5.84	0.72	5.97	0.60	2.83*
Teacher Collaboration	5.58	0.78	5.70	0.70	5.68	0.69	5.68	0.66	0.26
Professional Development	5.66	0.70	5.84	0.66	5.81	0.67	5.93	0.53	1.16
Unity of Purpose	5.79	0.90	6.02	0.69	6.02	0.71	6.14	0.60	1.56
Collegial Support	5.77	0.73	5.92	0.69	5.96	0.67	6.06	0.60	1.34
Learning Partnership	5.52	0.80	5.65	0.75	5.52	0.82	5.59	0.71	0.82

**p<.05*

Relationship between School Culture and Continuous School Improvement

The hypothesis formulated for the testing of correlation between SC and CSI is as such:

Ho3: There is no positive and significant relationship between SC and CSI. Table 9 shows the relationships between SC and CSI. Pearson's correlation coefficient (r) shows that SC was significantly and positively related to CSI (r=.854, p<0.01)

Table 9. *Correlation between School Culture and Continuous School Improvement*

	(1)	(2)
School Culture (1)	1	.854**
Continuous School Improvement (2)		1

***Correlation is significant at level 0.01(2-tailed)*

Table 9 shows the relationships between SC and CSI. Pearson's correlation coefficient (r) shows that SC was significantly and positively related to CSI (r=.854, p<.01). Based on this result, the Ho3 hypothesis is successfully rejected. Hence, this significantly positive relationship indicated that teachers with a high level of school culture exhibited a high level of continuous school improvement practices, while a low level of school culture exhibited a low level of continuous school improvement practices.

The Influence of School Culture Dimensions on Continuous School Improvement

In conducting multiple linear regression, several diagnostic tests were conducted to ensure the robustness and validity of the chosen multiple linear regression method. The tests were the test to assess linearity, independence of residuals, multicollinearity, homoscedasticity, normality of residuals of errors and the test of the presence of outliers. This method crucially depends on fulfilling the validity of these assumptions.

In assessing linearity, the linearity between the dependent and independent variables was assessed using the scatterplot, while the linear relationship between the dependent variable with each independent variable in the model was assessed using the P-P Plot. The dots were scattered in the scatterplot without any obvious pattern, indicating the data met the assumption that the errors were normally distributed. The dots generally follow the diagonal line on the normal P-P Plot, showing that the assumption of normally distributed error was met.

The Durbin-Watson test was carried out to ensure that the data did not indicate autocorrelation. Successive residuals should be independent and are not highly correlated for regression analysis to be valid. The data does not indicate autocorrelation if the Durbin-Watson value is between 1.5 and 2.5 (Marshall & Karadimitriou, 2018). The result of this test indicates no independence of residuals as assessed by the Durbin-Watson statistic of 1.969, which is between 1.5 and 2.5. Thus, the assumption of independence of residuals was met. Other than that, heteroscedasticity should be avoided as it creates biased errors, resulting in incorrect conclusions about the significant regression coefficients (Statistics Solutions, 2021). The assumption of homoscedasticity was met as assessed by the visual inspection of a plot of studentized residuals versus unstandardized predicted values. In identifying outliers, the researcher checked for influential points in SPSS Statistics using a measure of influence known as Cook's Distance proved that no highly influential point was listed in the dataset. Thus, the assumption of outliers was met.

To assess multicollinearity, the Variance Inflation Factor (VIF) in collinearity statistics was utilized. VIF is the reciprocal of tolerance, and it reveals the extent to which standard errors are inflated due to collinearity levels. (Statistics Solutions, 2021). The values of 10 or greater are often indicating problematic collinearity (Franke, 2010). There is no evidence of multicollinearity as assessed by tolerance values greater than 0.1 and VIF values lower than 10. Thus, the assumption of multicollinearity was met.

After fulfilling all assumptions, the regression model was run using the data from 54 schools with 394 respondents of teacher leaders.

The regression model was as follows:

$y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon$
where y = the predicted value of the dependent variable
β_0 = the y-intercept (value of y when all other parameters are set to 0)
$\beta_1 \ldots \beta_6$ = the regression coefficient of each independent variable
$X_1 \ldots X^6$ = first independent variable until the last independent variable
ε = error term

Ho4: The dimensions of SC do not significantly contribute to CSI

This null hypothesis is tested based on a regression equation formed as follows:

Readiness of school cultural practices: α + b1 (collaborative leadership) + b2 (teacher collaboration) + b3 (professional development) + b4 (unity of purpose) + b5 (collegial support) + b6 (learning partnership) + e.

Table 10 and Table 11 show that a significant regression equation was found and can be accounted for by those six predictors, collectively (F (6,387) = 180.593, p<.001) with an R^2 of .737, demonstrating that the predictors of the variables explain seven and thirty-seven (R Square.737*100 = 73.7%). The total model's R^2 was 73.7%, with an adjusted R^2 of 73.3%, indicating a minor side effect, according to the model of changes in school culture. It was explained by a linear combination of the predicted factors of collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support and learning partnerships.

Table 10. *Results of School Culture Regression Analysis on Continuous School Improvement*

Variable	B	Beta	R	R^2	Adj R^2	t	Sig.
School Culture	.80	.85	.85a	.737	.733	32.48	.001

a. School culture provides up to 73% of the variance in continuous school improvement.

b. Predictors: (Constant), Collaborative Leadership, Teacher Collaboration, Professional Development, Unity of Purpose, Collegial Support, Learning Partnership

c. Dependent Variable: Continuous School Improvement

Table 11 shows the predicted school culture is equal to 1.122 + (.326) collaborative leadership + (.113) teacher collaboration + (.142) professional development + (-.078) collegial support + (.153) unity of purpose + (.135) learning partnerships, per one unit increase in each factor. Describing the mathematical relationship between each independent variable and the dependent variable highlights the nature of relationships between those variables. A positive coefficient of the beta weights indicates that as the independent variable value increases, the dependent variable mean also tends to increase, and the negative coefficient suggests that as the independent variable increases, the dependent variable tends to decrease. The coefficient value represents how much the mean of the dependent variable changes when the independent variable is changed by one unit while the other variables in the model remain constant.

Meanwhile, the p values in this regression table determine the predicted independent variables' correlation with the dependent variable. Measuring the unique individual contributions of the predictive variables, the results of the beta weights showed five out of the six predictive variables showed significance. In this model, predictive variables collaborative leadership (β=.37, p<.05), teacher collaboration (β=.13, p<.05), professional development (β=.15, p<.05), unity of purpose (β=.18, p<.05), and learning partnership (β=.17, p<.05) are statistically significant predictors of continuous school improvement. This analysis revealed that predictor variables of collegial support are not statistically significant predictors of continuous school improvement. The results suggest that collaborative leadership, teacher collaboration, professional development, unity of purpose and learning partnership help determine teacher leaders' school culture. The study finds that a good school culture tends to increase as collaborative leadership, teacher collaboration, professional development, unity of purpose and learning partnership increase. All other factors studied (collegial support) showed a non-significant effect on the continuous school improvement of teacher leaders.

Table 10. *Results of School Culture Dimension Regression Analysis on Continuous School Improvement*

Dimension	B	Beta	R	R^2	Adj R^2	t	Sig.
Constant	1.122		.86a	.737	.733	7.66	.001
Leadership Collaboration	.326	.374				5.32	.001
Teacher Collaboration	.113	.128				2.25	.025
Professional Development	.142	.153				2.38	.018

Collegial Support	-.078	-.087	-1.33	.183
Unity of Purpose	.153	.178	2.54	.012
Learning Partnership	.135	.172	3.90	.001

a. The school culture dimensions provide up to 73.7% of the variance in continuous school improvement.
b. Dependent Variable: Continuous School Improvement

The regression equations involved are as follows:

Y= 1.122 (constant) + 0.326Xa + 0.113Xb +0.142Xc + 0.153Xd +0.135Xe + e

Y= 1.122 +0.326CL+0.113TC + 0.142PD + 0.153UOP + 0.135LP +e

Thus, the study outcomes support the hypothesis that the SC dimensions are a significant predictor of CSI. This result successfully rejects the hypothesis that was constructed.

DISCUSSION

In the present study, based on the theory of organization culture (Schein, 1985) and continuous school improvement (CSI) (NEA, 2008) model, the researchers hypothesized a positive and significant relationship between SC and CSI. Specifically, the researchers analyzed the six dimensions of SC to identify the predictors of CSI. The theory of organizational culture by Schein (1985) states that through cultural change, continuous school improvement can be achieved. This theory explains the progress of continuous school improvement requires emphasizing this cultural change and putting it into practice in school as well as outside the school. Because schools also have their own specific organizational culture, one has to see, then, to achieve effective teaching, which values, norms, and cultural elements should be in the school (Hargreaves, 1995; Leithwood & Riehl, 2003). The findings support the theory and reveal the details of the dimensional influence of SC towards CSI.

The levels of SC of teacher leaders in the study were high. The unity of purpose and support from colleagues showed higher values than other school culture dimensions. This shows that teachers share a common goal to achieve encouraging results and improve students' academic performance and that they need the support of their colleagues to create a culture of collaboration and achieve the school's goals. Furthermore, the existing culture of collaboration can make teachers feel positive and happy in fulfilling their duties as educators (Mohammad Saipol Mohd Sukor & Nabila Azman, 2021). The results of the current study are consistent with those of research conducted by Faridah Darus and Mohd Khairuddin Abdullah (2021), Jeyasushma Veeriah (2017) and Kalkan et al. (2020). Meanwhile, Arokiasamy et al. (2016) stressed that high commitment and a sense of responsibility from school leaders and stakeholders are necessary to maintain a high level of school culture while contributing to job satisfaction and improving the school's performance.

Furthermore, the study's findings revealed considerable gender variations in teachers' assessments of school culture in secondary schools. This finding aligns with the study by Faridah Darus and Mohd Khairuddin Abdullah (2021) and Sabancı et al. (2017), which generally found significant differences in teacher leaders' perceptions of school cultural practices based on gender. This shows that teacher leaders always try to demonstrate a strong commitment to creating a positive school culture regardless of gender. Furthermore, this situation demonstrates that the school culture may foster genuine and honest connections among school workers and encourage them to work together to change the school into a sustainable structure and an exceptional learning organization (Kalkan et al., 2020; Norisyah Rahim, 2018).

Furthermore, based on the second question of the study, the result could prove that there was a significant

difference in the aspect of teaching experience. Although the score for teachers who served more than 30 years recorded a high mean value from the group of teachers with less than 30 years of experience, it did not affect the school culture. In line with past studies, for example, a study by Sabancı et al. (2017) also showed a high mean score for teachers with more than 15 years of experience compared to teachers who are less experienced in their services in practicing positive school culture. To summarize, the difference in service experience is not an important factor. Rather, the cooperation and commitment of experienced or inexperienced teachers are crucial for a healthy and positive school culture.

This study also found that SC is closely related to continuous school improvement. Even though CSI can be very subjective depending on the context, our results were consistent with several other studies (Carpenter, 2015; Fuzainah Taahyadin, 2020; Kalman, 2020; Narayan, 2016; Nehez & Blossing, 2020). In other words, the higher the level of SC, the higher the level of CSI would be. Therefore, it is important to emphasize the school cultural element of teachers in schools to ensure continuous school improvement can be implemented.

Previous studies were also found to be in line with the study by Lee and Louis (2019), who asserted that the high and positive level of school cultural practices formed as a result of the joint efforts of teachers has a significant relationship with school improvement. Not only that, there is a high consensus among scholars who also state that school culture factors have become an important part of planning the continuous school improvement process (Gruenert & Whitaker, 2015; Lee & Louis, 2016; Stoll & Fink, 2003). Besides, school cultures and their adherent practices are identified as playing a decisive role in the degree of stability and change in school improvement attempts, in teachers' professional learning and teaching patterns (Deal & Peterson, 2016; Seashore Louis & Lee, 2016). Despite concerns in collaborative cultures, teachers collaborate to improve as professionals and teaching (Grosemans et al., 2015; Leithwood, 2013) to lead to the movement of the continuous school improvement implementation process. Therefore, the results of this study can inspire school administrators to create good school culture practices in line with continuous school improvement, thereby improving educational quality and elevating school performance to an excellent level.

Consistent with previous studies, e.g., Ahmad et al., (2019), Clark (2019), Družinec (2019), Lee Mee Thien and Hoay Chyi Lee (2023), Nehez and Blossing (2020), and Norisyah Abd Rahim (2018), this study demonstrated that factor of school culture that includes the shared values/viewpoints, the patterns of activities, and the interactions in the school would greatly influence the process of continuous school improvement (Gruenert & Valentine, 1998). The novelty of the present study stands out because the dimensions of SC have been analyzed in separation, to predict CSI. Results showed that five of the six dimensions of SC collaborative leadership, teacher collaboration, professional development, unity of purpose and learning partnership are significant predictor towards CSI.

In other words, other dimensions of SC, such as collegial support, were not significant predictors of CSI, even though the mean levels of each dimension were high. Therefore, these findings revealed the importance for teacher leaders to consider how important it is to be constantly aware of each dominant dimension in school culture that might motivate efforts to implement the continuous school improvement process. It appears that these primary elements influence the implementation of continuous improvement in schools.

RECOMMENDATIONS

The study found that implementing continuous school improvement is significantly impacted by school culture. Thus, system leaders should stress the importance of school culture in continuous school improvement when implementing educational reforms. This study yields the following recommendations for school leaders, policymakers, school administrators and educational practitioners:

1. School culture can be integrated into strategic management through school administrators by enhancing leadership and instructional performance. The school administrators are highly expected to create a strong

school culture with basic leadership aspects. A strong school culture ensures that the vision and mission of the institution are reflected in daily operations. The administrators can also integrate cultural values into policies, teacher evaluations and student engagement strategies. A positive school culture fosters teachers' satisfaction, reducing burnout and turnover. Hence, this can be embedded in strategic human resource management, professional development, and recognition programs. Developing schools as professional learning communities (PLCs) is being strongly advocated by education reformers and researchers as a systematic and effective way that can improve teacher quality. Apart from that, encouraging PLCs and cross-school collaborations can strengthen a shared culture of excellence across multiple schools. Meanwhile, national policies must maintain consistency, allowing flexibility based on school culture to ensure better adaptation and effectiveness. Moreover, school culture can serve as a key performance indicator (KPI) for assessing school effectiveness by doing a monitoring and evaluation plan that helps Ministries track progress toward educational goals.

2. Collaboration among teachers fosters professional growth, improves instructional practices and enhances student learning outcomes. Indeed, staff collaboration in a school is a major determinant of whether the culture of that school is positive or negative. Thus, many principals have implemented PLCs to create a collaborative culture that improves teaching and learning. Furthermore, teacher collaboration can be achieved through mentorship programs by pairing experienced teachers with new educators to enhance teaching effectiveness and avoid retention. Administrators or policymakers should invest time and resources in structured teacher collaboration, provide incentives for teachers-led initiatives and use collaboration outcomes to inform professional development programs.
3. Empowering teachers as leaders fosters innovation and shared accountability by implementing distributed leadership models that enhance teacher engagement, leveraging data-driven decision-making to refine teaching strategies and involving teacher leaders in policy advocacy to ensure alignment with classroom realities. Administrators and policymakers should provide leadership training for teachers, create pathways for them to influence school policies, and recognize and reward their contributions to foster a culture of teacher leadership. A culture of continuous improvement helps schools evolve through data, research, and feedback, supported by data-driven decisions, innovation grants, and growth-focused accountability systems.
4. Ministry of Education stakeholders should strengthen leadership and governance by developing training programs for principals and administrators in data literacy, instructional leadership, and change management; establishing peer learning communities for school leaders to share best practices; and promoting distributed leadership models that empower teachers and staff to contribute to continuous improvement efforts.
5. School teachers should have access to professional development and capacity-building opportunities. This can be done by investing in ongoing, research-based, and job-embedded training aligned with improvement goals: fostering collaboration through professional learning communities, coaching, and mentorship programs: and supporting teacher-led initiatives that drive innovation in instruction and assessment practices.
6. A strong school culture supports continuous improvement by encouraging collaboration and accountability. In turn, continuous improvement strengthens the culture by ensuring it is measured, recognized and sustained. Together, they will contribute to effective educational management by fostering a high-performing school system that benefits students, teachers and the entire community.

School Leaders

According to the results, collaborative leadership, teacher collaboration, professional development, unity of purpose, and learning partnership significantly impact continuous school improvement. There are some key policy recommendations for school leaders to enhance school culture and drive continuous school improvement. School leaders should concentrate on developing cooperative, supportive, and trusting school cultures. Involving all stakeholders in creating and implementing school management plans has become essential for school leaders. School leaders should foster a culture of collaboration and accountability by promoting teamwork among teachers, administrators, students, and parents; setting clear performance expectations with accountability mechanisms that support growth rather than fear; and establishing periodic review processes such as annual school improvement reports, peer reviews, and external evaluations. Furthermore, school leaders should develop a system of continuous

evaluation and innovation by implementing a cyclical process of planning, action, monitoring, and reflection; fostering a culture of innovation that grants schools autonomy to experiment with new pedagogical approaches; and regularly revising policies based on lessons learned, emerging research, and evolving educational needs.

School leaders should establish clear and consistent communication by promoting transparent decision-making with students, staff, and parents, implementing regular feedback mechanisms such as surveys, town halls, and advisory committees; and using data-driven decision-making to make evidence-based improvements based on student achievement, attendance rates, and other key indicators. Other than that, they also should implement effective school improvement strategies by fostering collaborative goal-setting with input from all stakeholders, developing a shared vision with measurable objectives, and utilizing data-driven instruction to tailor teaching methods and interventions for student success. In addition, they should build leadership capacity by promoting a distributed leadership model that encourages teacher leadership and shared decision-making, developing mentorship and succession planning programs to prepare future school leaders, and establishing clear performance expectations with regular opportunities for self-assessment and peer feedback.

Policymakers

Policymakers should foster a positive school culture by developing clear vision and mission statements that align with inclusivity, equity, and excellence; promoting stakeholder engagement in decision-making; supporting social-emotional learning (SEL) programs that enhance emotional intelligence and student well-being; encouraging culturally responsive practices in curriculum and teaching methods; and ensuring a safe, supportive environment through strong anti-bullying, anti-discrimination, and anti-harassment policies. They also should enhance teacher and staff development by providing ongoing professional development on best practices, innovative pedagogies, and leadership skills: fostering collaborative learning communities through professional learning communities (PLCs) and peer mentoring. Policymakers, too, should expose the school leaders by strengthening instructional leadership through training in instructional improvement, staff motivation, and student engagement; promoting data-driven decision-making to guide instructional strategies and resource allocation; encouraging innovation through experimental teaching methods, blended learning, and technology integration; and implementing.

The findings of this study carry practical implications that can be implemented by school administrators, policymakers, or district education officers to form an effective continuous school improvement. The implications are: (1) they can establish a culture of collaboration by organizing regular town halls and focus groups with parents, teachers, and students; implementing teacher mentorship programs that pair experienced educators with new hires; and conducting annual surveys to assess school climate and address concerns proactively, (2) implement effective feedback mechanisms by establishing open-door policies for teachers and students to voice concerns, developing structured feedback systems to track progress on improvement initiatives, and using student and teacher feedback to modify and refine instructional strategies, (3) introduce digital platforms for real-time student performance tracking, implement virtual professional development workshops for educators, and utilize data analytics to predict trends and inform policy adjustments. By adopting these policy recommendations and practical applications, school administrators, policymakers, and district education officers can cultivate a culture of continuous improvement, fostering high-quality education that benefits all stakeholders.

FUTURE RESEARCH DIRECTION

Schools need to constantly improve themselves due to the urge to effectively implement continuous school improvement by looking at school leadership training programs. Effective school leadership is essential for continuous school improvement. However, many school leaders lack access to ongoing professional development and evidence-based training models. Based on the findings of data analysis and the conclusion of the research, in the future, this policy brief highlights key challenges in leadership training and provides actionable recommendations to enhance school leadership programs. By implementing targeted training, mentorship, and data-driven decision-making, policymakers and educational institutions can empower school leaders to drive meaningful improvements

in student outcomes. School leadership can be enhanced through comprehensive training programs in instructional leadership, equity, crisis management, and strategic planning; formal mentorship initiatives that connect new leaders with experienced educators; continuous professional development via workshops, online modules, and peer-learning networks; data-driven decision-making supported by tools and training for analyzing student performance; and active engagement with teachers, parents, and community organizations to foster a holistic approach to school improvement.

To successfully implement these strategies, schools should partner with universities and education organizations to develop evidence-based training curricula, secure funding through government grants and private partnerships, mandate leadership development programs as part of administrator certification requirements, and conduct regular evaluations to assess effectiveness and make necessary adjustments.

The improvement of the school depends on the ability to improve, creating an environment that makes the morale of teachers (and students) high and encourages teachers to participate in the process of change. In all these areas, school leaders may play a key role. They provide guidance and set a vision, inspire a positive school culture, and act as mediators and motivators in the research process. This study clarified how SC and CSI relate to one another. The study also examined school culture levels and compared the differences based on respondents' demographic characteristics, such as gender and teaching experience. However, as the study primarily looked only at Kedah's secondary schools, further studies are recommended to include secondary schools in several states in the North and focus on the categories of high-performing, low-performing and medium-performing secondary schools so that comparative studies can be conducted. In addition, the study conducted relied on self-administered survey questionnaires for quantitative data collection. Perhaps future researchers could use a mixed approach data collection methodology to investigate the relationship between these variables, such as interviews, school visits, and observations, to acquire a broader and deeper insight into the respondents' impression of the variables researched. Future research can also replicate the study by examining the contribution of the dimensions of school culture towards continuous school improvement through psychological and/or behavioral aspects, which can be proposed as mediating or moderating influences.

IMPLICATIONS OF THE STUDY

According to the results, collaborative leadership, teacher collaboration, professional development, unity of purpose, and learning partnership significantly impact continuous school improvement. The findings of the study can serve as a reference to the relevant parties, including the school, District Education Offices, and State Education Departments could then create specific initiatives in a collective effort to implement the process of continuous improvement in their schools. It is important to ensure full support and trust from the administrators and colleagues to generate a positive working environment. Here, school management plays a crucial role in improving standards. Quality in education needs to be initiated as early as primary school, and also monitoring the school culture and climate highlighted in The Malaysian Education Blueprint (PPPM 2013-2025). The second wave of the School Transformation Program 2025 (TS25) emphasizes that the 'Teaching and Learning Environment' is an important aspect of improving school effectiveness. At the same time, it could lead to fostering the process of continuous school improvement (Thiruchelvan Koundyannan et al., 2020).

Differently, the findings of this study provide new information to the Malaysian Ministry of Education to identify the best predictor of school culture that can contribute to the implementation of a continuous school improvement process so that it can be used by teacher leaders in the national educational system. A strong school culture will affect the behaviors of all school members to run the school's core values in achieving the vision and mission of the school so that an effective school is created.

The district or state educational department can play a role by emphasizing and enhancing the role of specialists or coaches to improve teaching and learning across the country to promote educational excellence through the School

Improvement Programme through the District Transformation Programme (DTP). This includes employing coaches to support teachers in underperforming schools which fall in the category of Band 5, Band 6, and Band 7 (MOE (2013) as one of the ways to ensure that all students have access to quality education.

Meanwhile, to articulate the different approaches to school improvement, teachers can start the process by identifying the organizational culture, identifying improvement needs, providing concrete guidelines and strategies for leading and implementing change at the school level, and finally developing the learning capacity of the organization (Hopkins et al., 2014)

CONCLUSION

The results of the analysis and the findings show that a good number of secondary schools in Kedah practice a high level of school culture. The positive effect of school culture in this study supports the suggestion that school management should liven up positive school culture practices because a positive culture will produce positive results. On the other hand, a negative culture is likely to produce negative results, especially for teachers and students (Clark, 2019). Moreover, the study's conclusions effectively demonstrated a positive relationship between SC and CSI. This shows that a strong relationship with the SC allows schools to continuously carry out improvements over time. In fact, Wong et al. (2019) also described the climate and culture in a school as being able to maintain the school improvement process at a more sustainable level. It can be concluded that the success of a school cannot only be achieved through the combined efforts of all stakeholders in the school but that the school leadership should be at the forefront to encourage the netizens of the school, especially the teachers, to create a positive SC that can lead to CSI process.

This study indicated that the dimensions of school culture which predicted continuous school improvement are collaborative leadership, teacher collaboration, professional development, unity of purpose and learning partnership. Such findings also provided important information for school management on the best way to generate an enjoyable working condition for school teachers, as school leadership encourages teachers to work together and share ideas.

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