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The Effect of Teacher's Business Knowledge Distributions on School's Academic Achievement

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Abstract

Purpose: Business education is in high demand whereas knowledge is critical for an individual's professional development in general, and for teachers in particular. In this research, the effect of the distributions of teachers' business knowledge on schools' achievement were investigated. **Research design, data and methodology:** This study employs a quantitative method to investigate the level of business knowledge distributions of teachers on schools' achievement. 155 business studies subject teachers were categorised into 66 respective schools to measure the correlation and regression between teachers' business knowledge distribution and schools' achievement. **Results:** The results of the study show that there is a significant relationship between school achievement from the aspect of teachers' business knowledge distributions, with the score of, $r = 0.345$, $p < 0.05$. The value of R^2 shows a moderate relationship between the teachers' knowledge distributions on school achievement but still plays a role in determining the measurement of the school's level of achievement. **Conclusions:** It is concluded that the relationship between teacher's business knowledge and school achievement in the subject of Business Studies is significant. This study proves that the teacher's knowledge about business is very important in guaranteeing the success of students who took this subject.

Keywords : Teacher's Business Knowledge, Schools' Academic Achievement, Business Studies, Knowledge Distributions

JEL Classification Code :I20, I29, M10, M19

1. Introduction

Malaysia is now experiencing fast growth in technical and vocational education (TVET). The primary drivers of the field's development in the country are industry needs and market demand. The country's future depends not only on an educated society, but also on skilled people who can adapt to rapid changes in the manufacturing and service industries (Kolandan, 2020). Malaysia has progressed to the point where productivity growth must be driven more by capital accumulation and labour gains. According to the National Institute of Public Administration the 11th Malaysia Plan, which began in 2016 and runs until 2020, has set a 3.7%

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annual productivity growth objective. This is significantly higher than the previous annual growth rate of 2% from 2011 to 2015. Changes are required to boost productivity and acquire the position of a high-income country. To drive innovation, the government must improve the quality of education and skill training, expand the use of information technology, foster a good competition policy framework, improve the functioning of the labour market and the regulatory framework of small and medium enterprises, foster regional integration, and increase public sector productivity (Asada et al., 2017).

A formal education system with entrepreneurial features can offer a student with the 'tools' to think creatively, be an effective problem solver, objectively analyse business concepts, communicate, lead, and make a Business Studies appropriate assessment. The Business Studies subject incorporates all aspects of entrepreneurship. This subject is also being taught at Vocational Colleges under TVET. Nonetheless, at the Malaysian Higher Secondary School Certificate (STPM) level, this subject is provided as the core subject.

According to the Malaysian Examination Board, school's achievement in the STPM for Business Studies subject is inconsistent from 2009 to 2022. Between these years, there was a major decrease in the achievement of the schools. This condition is influenced by a number of elements. According to the experts, various factors contribute to this circumstance, including student demographics, environment, and academic issues. One of the elements highlighted by the researchers for the inconsistent academic progress is the teacher's lack of knowledge. Kennedy (1975) in his study described how school accomplishment is closely tied to the quality and competence of teachers who teach in order for students to be more interested in learning. Teachers have a critical role in achieving a subject's objectives. Teachers that are prepared to teach will have a thorough understanding of the subject's content, as well as the best methods for conveying it to the students (Buang & Moi, 2002). Teaching a given subject provides several possibilities for teachers to build subject-specific knowledge and abilities, particularly for those in their early career. However, data to support the extent to which teachers can learn knowledge and skills through their teaching experience is limited (Copur-Gencturk & Li, 2023).

Indeed, student learning and school accomplishment are highly tied to the teacher's teaching strategies and topic understanding (Newmann Marks et al., 1996). Teaching and learning is a deep learning process that channels the teacher's information to the students in order for them to sustain strong academic performance (Skourdoumbis & Gale, 2013). Despite the fact that many studies have been conducted to assess teacher knowledge distributions, the study on the competence of Business Studies subject teachers is very low, or there is a gap. With Malaysia's rapid development of TVET education, Business Studies subjects at the STPM level must become more relevant and interesting in order to generate quality students. The teacher's influence on the school's exam performance may be traced back to three broad factors: teaching skill, topic knowledge, and teaching tactics. If these three characteristics are in place, pupils capable of producing exceptional results will be generated (Kolandan et al., 2020).

Similarly, Business Studies course teachers must be well-versed in the subject. They must be up to date on the newest information and business skills. Nonetheless, the volatility in STPM achievement in school, reflecting the competence of teachers in Business Studies subjects, must be measured so that the subject remains relevant and offered to STPM students in the future. Elements of high-level thinking skills (HOTS) are increasingly required among Business Studies teachers to satisfy the needs and demands of a more complex and dynamic labour market. According to a recent news story, former Deputy Minister of Education Datuk P. Kamalanathan earlier stated that 60% of schools are experiencing HOTS problems owing to teacher weakness (Hasnan, 2017). This difficulty is caused by a lack of acceptance and understanding of the teachers. First, while teaching can provide teachers with a wide range of information and abilities, relatively little attention has been paid to which knowledge and skills are developed through teaching and distributed (Kyndt et al., 2016).

2. Literature Review

2.1. Teacher's Business Knowledge

Knowledge refers to information or information known and owned by a person from experience, education and observation using the senses. From a professional point of view, teachers should have broad and deep knowledge to help students learn and facilitate student understanding (Eggen & Kauchak, 2012). Knowledge becomes the main domain in shaping a person's actions (Taufik, 2010). According to him, content knowledge covers the teacher's knowledge of the core or content that needs to be taught to meet the needs of students in terms of knowledge, skills and values. Knowledge is critical for an individual's professional development in general, and for teachers in particular. Many studies show that there is a beneficial association between professional development and a growth in teachers' knowledge and practise. Professional development that focuses on pedagogical practises in the classroom, for example, was discovered by Desimone et al. (2002) to aid in effective and efficient learning. Teachers' professional knowledge distributions is unquestionably important to their

professional success (Desimone, 2009). Shulman's (1986) model of teacher knowledge, which includes general pedagogical knowledge, subject matter knowledge, curricular knowledge, and pedagogical content knowledge (PCK), is frequently used to assess teachers' professional knowledge and skills. Several studies have looked into teachers' general pedagogical knowledge (Schiering, 2023; Tuithof et al., 2023) however, domain-specific aspects of teachers' professional knowledge have only been assessed in a few subjects, primarily mathematics (Depaepe et al., 2013) and science (Nijenhuis-Voogt et al., 2023; Wells et al., 2023). On the one hand, there is Business and economics is one of the most popular subjects of study in vocational education and training (Mtshali & Singh-Pillay, 2023). Economic and financial literacy is growing in popularity not least at all phases of schooling, as well as in professional and social life because of the need to better understand and deal with the implications of significant events Economic events like the recent financial crisis (Blinder 2015; Council for Economic Development) 2011 [CEE] Education).

Epistemology or theory of knowledge focuses on what we know and how we know it. It is a branch of philosophy that considers the nature and scope of knowledge distributions and the assumptions and basis of the general reliability of knowledge claims. Previous study proves the need for teachers to have knowledge to be effective teachers. Knowledge and understanding can be distributed to explain the teacher's understanding of what makes learning a specific topic easy or difficult, about students' conceptions, pre-conceptions and misconceptions. The findings of this study regarding teachers' understanding of knowledge also clearly show that the effectiveness of teaching and learning depends significantly on the ability of teachers to see and critically place real life in the classroom to solve problems and issues related to education, social morals and religion (Chee et al., 2018).

One of the primary pillars that lead to student achievement is the quality of teachers' knowledge distributions. Before entering the classroom, teachers must constantly increase their level of knowledge. With knowledge of the area and teacher pedagogy, teachers must provide a good atmosphere for students to learn efficiently and effectively (Keser et al., 2015). The string, or the teacher's ability, must be measured using appropriate instruments. The technology now accessible to researchers for measuring teacher knowledge is restricted. Professional development programmes have traditionally asked teachers to participate in surveys to measure teacher competencies (Bell et al., 2010). They also advised that the degree of teacher expertise be measured to ensure the quality of teaching in the classroom. The teacher's knowledge will ensure the teacher's skills during the teaching and learning process in the classroom. Students will gain from the teacher's knowledge of a subject. In their study, Masnan et al. (2019) summarise that teachers' knowledge of teaching includes the selection and use of teaching methods that can help students understand lesson content, meet their learning needs, stimulate and maintain their attention and improve their achievement and performance.

Due to their level of knowledge, experienced teachers master the substance of a subject more than novice teachers (Grant & Marsden, 1988; Hashweh, 1987). The teacher's knowledge level grows as a result of the learning process, implementation and reflection, collaboration with other instructors, and exchanging experiences through the training system (Juhary, 2019). Teacher knowledge has become more practical as a result of years of 'wisdom and practise' (Shulman, 1987). Teaching approaches vary and necessitate extensive understanding of pedagogy and topic matter. Teachers must understand how to increase school achievement, encourage students through instructional approaches, provide individualised instruction, and establish a good and conducive learning atmosphere. Teachers join the teaching profession with great hopes, but it is soon discovered that their assumptions are far from reality; teaching entails far more than they anticipated (Anderson & Hendrickson, 2007; Flores, 2006; Loughran, 2006). According to Shulman (1987), a teacher must have seven types of knowledge: knowledge about pedagogy, knowledge about the subject, knowledge about students, knowledge about the curriculum, knowledge about content pedagogy, knowledge about the educational context, and knowledge about educational needs. However, in this study, the researcher will only concentrate on the three primary knowledge derived from Shulman (1987): subject knowledge, pedagogical knowledge, and student knowledge. Because only three categories of knowledge are intimately tied to the discipline of Business Studies, this study focuses solely on these three types of knowledge. Teachers in the business world must have in-depth understanding of pedagogy, subjects, and students since business subjects demand teachers to be consistent in educating students based on the needs of the business area. According to Buang and Moi (2012), the teacher's expertise in terms of pedagogy, subjects, and students would allow them to adapt the form of sound pedagogy and follow the students' skills and wishes. Halim and Salamuddin (2000) agree, stating that the teacher's knowledge will ensure that student-centered teaching approaches can replace traditional teaching methods.

In this study, the researcher additionally included information technology (ICT) expertise as one of the sub-components of knowledge competency. The educational approach in this discipline must be relevant to industry needs. More employers and professional organisations are now complaining that recent graduates cannot operate in an

industry where they are not competent in dealing with customers, are weak in ICT, are immature and impatient, and fail to heed orders. As a result, school education must be relevant to industry demand and include all facets of business (Seethamraju, 2012). In order to generate qualified students, PP teachers must have a strong and up-to-date degree of understanding about industry requirements. Based on the reading of journals and previous studies addressed in the knowledge construct, the researcher divides the knowledge domain into the following subdomains:

i. Content knowledge
ii. Pedagogical knowledge
iii. Knowledge about Students
iv. Information technology knowledge

2.2. Business Studies

Malaysian business education has a promising future. All parties are emphasising business education, which is in high demand nowadays. According to Tan Sri Dr Zeti Akhtar Aziz, business education must prepare a generation of leaders who comprehend environmental issues and their repercussions for the economic and financial systems. With the rise of TVET education in Malaysia, the importance of business education must be recognised. Business education is regarded as one of the most important tools for improving entrepreneurial attitudes among potential entrepreneurs and those who become 'accidental entrepreneurs' due to fate, i.e., unplanned entrepreneurs (Zamberi, 2013). According to the Metra report (2013), former Deputy Prime Minister Tan Sri Muhyiddin Yassin stated that a formal education system that includes elements of business can provide a student with 'tools' to think creatively, become effective problem solvers, analyse business ideas objectively, and communicate, lead, and evaluate well. According to research, entrepreneurship education can assist develop an entrepreneurial and inventive culture by changing students' mindset and giving them with the essential skills.

Business education should incorporate the topic of developing skills rather than only theoretical information. The business teaching method should emphasise the subject of "how" rather than "what" (Gibb, 1993). According to Timmons (1997) and Brenneke (1990), components of company management and creation cannot be learnt using traditional education methods such as reading, lectures, and viewing films. The traditional approach efficiently offers students with information about business and some mechanical components of starting a business (Ishar & Jabor, 2017). However, knowledge about the type of awareness, motivation, and specific requirements can only be sown when students have experience and are involved in the creation of a new firm through the teaching methods of "negotiation" and "working with entrepreneurs." These two strategies are among the most effective at encouraging entrepreneurial traits in kids. Following that are simulated training methods, case studies, role-playing, articles or thesis, and business plan writing.

Datuk Seri Idris Jusoh, the Minister of Higher Education, stated that through the implementation of the Malaysian Education Development Plan (Higher Education), or PPPM (PT) 2015-2025, the first leap in the plan is to produce holistic graduates with entrepreneurial and balanced characteristics. PPPM (PT) believes that the business education system should be focused on generating a competent and competent generation.

3. Research Methods and Materials

3.1. Sample

This study employs a quantitative method to investigate the level of business knowledge distributions of teachers depending on their level of school achievement. As study participants, 155 business studies subject teachers were used. To assess their degree of expertise, all 155 teachers were divided into their respective schools. Because most schools have more than one teacher, the number of schools engaged is broken out in table 1 below.

Table 1: Total Schools in Northern Zone of Peninsular Malaysia

No	State	No of Schools
1	Perlis	6
2	Kedah	41
3	Penang	19
Total		66

There is a total of 66 schools in this study. Kedah has the most schools offering Business Studies when compared to other states, with 41 schools. Penang is represented by 19 schools, whereas Perlis is represented by six.

3.2. Questionnaire

The questionnaire is an acceptable instrument in this study since the research will be conducted in the form of a survey, making it easier for respondents to provide feedback on the study (Marican, 2005). The items in this questionnaire are constructed using a 5-point Likert scale, and the respondents in this study are free to choose and express their thoughts and evaluate using the scale that has been established.

3.3. Reliability

The purpose of the study is to formulate the question items. To assess the questionnaire's reliability, the researcher ran the Cronbach's Alpha coefficient. Fraenkel, Wallen and Hyun (1990) stated that the value should be at least 0.70. The reliability value obtained for this instrument's knowledge level is 0.812, which is excellent. According to Mohd Majid (1998), the value of the reliability coefficient must be at least 0.60. This statement is also supported by Chua (2011), who states that a reliability coefficient value that exceeds 0.60 is considered appropriate and acceptable in a study. So, the coefficient value for this construct is very acceptable. The result been showed below:

Table 2: Reliability Statistics

Cronbach's Alpha	No of Items
0.812	20

3.4. Outliers and Normality

Outlier data is misplaced or out of the combination of characteristics identified as a set of groups (Hair et al., 2014). In other words, outliers are values that should not exist in the group that will interfere with the analysis results later. Outliers occur for several reasons, such as respondents filling in data incorrectly, incomplete questionnaires, or missing data or information. The Mahalanobis distance is evaluated as a Chi-square with the same degrees of freedom as the dependent and other variables. Data exploratory analysis methods are performed to detect outlier data based on Mahalanobis values. After the disturbing outlier data is removed, the normality distribution is done to detect the data distribution so that it is regular. The normality distribution is obtained by looking at the Mahalanobis value. Skewness and kurtosis values determine whether the data is normal and acceptable. The normal measurement is between -1 and +1 (Hair et al., 2021). Table 3 shows the skewness and kurtosis values for the three variables tested in this study.

Table 3: Skewness and Kurtosis

Element	Skewness	Kurtosis
Business Knowledge	0.314	0.518

4. Results and Discussion

4.1. Mean Score

The mean score (Table 4) shows a high level of knowledge distributions (mean value = 3.74 and SD = 1.21). A total of 62.6%, which is a total of 97 study respondents, showed a high level of knowledge distributions. Only 13 respondents (8.4%) showed a low level of knowledge distributions, while 45 study respondents (29%) showed a moderate level of knowledge distributions.

Table 4: The mean score of Knowledge Competence of Business Studies Teachers in the North Zone of Peninsular Malaysia

Competency	Minimum	Maximum	Mean	SD
Knowledge	1.10	5.00	3.74	1.21

Notes: SD = standard deviation

As for the correlation, the researcher used the Pearson correlation testing method to find the relationship between the knowledge distributions of teachers on school achievement. Since the data is normally distributed, the researcher used the parametric test method to find the relationship. Data flow is by using Cohen's correlation coefficient (1998) as in table 5.

Table 5: Correlation Coefficient Flow

Correlation Coefficient (r)	Interpretation
r = 0.10	Weak relationship
r = 0.30	Moderate relationship
r = 0.50	High correlation

Source: Cohen, 1998.

The researcher conducted a correlation test to obtain the r value for each research variable in this study. The data was analysed using the correlation coefficient interpretation as suggested by Cohen (1998). Table 6 shows the relationship between teacher's business knowledge distributions and school achievement.

Table 6: Correlation Between Teacher's Knowledge Distributions and School Achievement

	School's Achievement	Teacher's Knowledge
School's Achievement	1 66	.345** .005 66
Teacher's Knowledge	.345** .005 66	1 66

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

Table 6 shows a moderate correlation between the teacher's knowledge distributions on school achievement. The results of the study show that there is a significant relationship between school achievement from the aspect of teacher knowledge, $r = 0.345$, $p < 0.05$. Based on the table of values of the coefficient of correlation, coefficient 'r', it can be stated here that the relationship of the variables describes the association or affinity is simple and positive. Because of the positive relationship, it brings meaning, the

higher the business knowledge of a teacher, the higher the achievement of the school in Business Studies.

This section uses matched pair sampling to identify the relationship between the study variables. This is because some schools have more than one teacher and their competence cannot be analyzed separately. For that, paired matching sampling shows a significant relationship between the study variables. Many past studies used this method, such as the study by Kreander et al. (2005) on the evaluation of the performance of ethical and non-ethical data in the United Kingdom as well as the study by Bone et al. (2019) on the formation loan policy for medium-scale businesses through the mystery shopper's method. Both of these studies used a matched pair sampling method in their study. In this study, there are 66 schools so the total matching set is 66 pairs.

Regression analysis involves a regression model as follows:

$$\dot{Y}_j = i_\gamma + b_1 X_1$$

X_j is the measure of the independent variable while b_i is the regression coefficient for each variable. In this study the teacher knowledge marked as (X_1). Based on the research outcome, the regression analysis can be summarised as per below:

$$\dot{Y} = 18.061 + 2.280\ X_1$$

The results of SPSS data analysis show that teacher's knowledge contribute to the school's achievement in the subject of Business Studies. Overall the p value is significant in this study whereas $p < 0.05$. The p value recorded in this study is $p = 0.045$.

So, the formula for this study is formed as follows:

$$\text{Model 1: } F(3,62) = 2.84,\ p < 0.05$$

which shows the teacher's knowledge affects the level of school achievement. The value of R-squared shows a moderate relationship with the level of school achievement where the level of teacher knowledge plays a role of 12.1% in the change in the level of school achievement. This value is considered moderate but still plays a role in determining the measurement of the school's level of achievement.

5. Discussions

The purpose of this study is to determine whether teachers' knowledge affect the level of school accomplishment in the subject of Business Studies at the STPM level in Peninsular Malaysia's North Zone. According to the study's findings in chapter four, the variable has a moderate effect on school's achievement. This suggests that the Business Studies subject teacher's knowledge influences the school's degree of accomplishment in this subject. In reality, this study shows that there is a link between teacher ability and student achievement. However, the impact is mild.

The results of this study are in line with the findings of a study conducted by Ebbie et al. (2019); Kaviza (2019); Jantan and Piaw (2017); Wahyuddin (2017); Ahmad and Jinggan (2015); Royo and Mahmood (2011); Rusmini (2006) who reported that there is an influence of the level of teacher competence on school achievement on a moderate scale. The findings of their study show a very positive relationship between the level of teacher competence and student academic achievement. In their study, it was also stated that among the factors that affect student achievement are the teacher's knowledge, attitude, interest and teaching style. The teacher's teaching style is one of the competencies that must be possessed by the teacher to ensure that students understand and are more interested in teaching and learning sessions with the use of teaching aids and carrying out activities that interest students while improving their academic achievement. A variety of teacher teaching methods that are adapted to the level of student intelligence will help improve the school's academic achievement.

This study is also in line with the findings of studies presented by foreign researchers such as Fauth et al. (2019); Miller et al. (2017); Rahmatullah (2016); Rahman (2014); Wamala and Seruwagi (2013); Wentzel (1991) who also stated that there is an influence between teacher knowledge and school achievement. They stated that teacher knowledge and school achievement are two inseparable and interrelated elements. The tendency for encouraging success by any school is based on the commitment and cooperation of the teachers in training the students to achieve success.

Therefore, the influence of teacher's knowledge on school achievement is significant even on a moderate scale. Teachers still play a role in determining the success of a student. They still need to do their daily routine in guiding and training students to become successful people. Although some studies state that teachers are not an essential factor, but it is proved that teacher's knowledge plays a major part in determining student excellence.

6. Conclusion

It is concluded that the relationship between teacher's business knowledge and school achievement in the subject of Business Studies is significant. This study proves that the teacher's knowledge about business is very important in

guaranteeing the success of students. Teachers are the heart in shaping the future of students. So, it is appropriate for a teacher to always improve his level of knowledge. This study will contribute to various parties both academic and non-academic in terms. The first contribution is to the subject of Business Studies itself. The findings of the study are expected to make a positive contribution to the progress and development of this subject. This study will be recorded as an official study on this subject. Next to the school, they can use the findings of this study as a guide in the planning and implementation of programs related to this subject at the school level. For the teachers, they can use the findings of this study as a guide in the process of improving themselves. They can analyse their abilities in the implementation of the responsibilities entrusted to them. Teachers will know that they are among an important part in designing a student's future. For that, teachers should take responsibility in upgrading their knowledge.

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