MOJES MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL SCIENCES APRIL 2024, 12 (2)

COMPETENCY DEVELOPMENT AND BUSINESS GRADUATE EMPLOYABILITY SKILLS: MODERATION BY ACADEMIC ACHIEVEMENT ON THEORY OF COGNITIVE APPRENTICESHIP

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ABSTRACT

This research aims to examine the moderation effect of academic achievement in the relationship between competency development and business graduate employability skills at vocational colleges in Malaysia. Applying a purposive sampling method, data were gathered among students studying business programs at vocational colleges in Malaysia and were analyzed using Smart Partial Least Squares (PLS). The findings indicated significant positive associations between competency development and business graduate employability skills at vocational colleges in Malaysia. Meanwhile, academic achievement was the opposite as there was an insignificant effect towards the business graduate employability skills for vocational colleges. Academic achievement has not moderated the relationship between competency development and business graduate employability skills for vocational colleges. It is expected that this study could provide a better understanding of the need of industry for competency development for business graduate employability skills for vocational colleges and institutions improving students' academic achievement.

Keywords: *Competency Development, Academic Achievement, Moderation, Business Graduates Employability Skills, Theory of Cognitive Apprenticeship.*

INTRODUCTION

Developing human capital that is highly skilled and informed is essential to Malaysia's ascent to the status of a high-income country. Students' technical expertise from their business courses adds worth that employers, who primarily look for experienced workers, value (Jackson, 2011). In this sense, while recruiting new staff, the majority of businesses respect and give experiences a higher priority than academic credentials (Chronicle of Higher Education, 2012). The New Economic Model, the Economic Transformation Programme, and the 10th Malaysia Plan are just a few of the government policies that have been put into effect over the years to develop highly skilled labour and, ultimately, lowering Malaysia's reliance on foreign labour. As a result, employers, graduates, and educational institutions must increase the number of highly skilled workers (National Economic Advisory Council, 2010). Additionally, technical and vocational education and training (TVET) should be promoted by raising awareness among employers and students (Economic Planning Unit, 2016). This need is consistent with the goal of developing a skilled employee force, which is defined by the National Transformation's 2050

vision of "being the top 20 countries in economic development, social progress, and innovation". It also aligns with UNESCO's objective that by 2030, all students should have the values, knowledge, and skills that businesses are looking for (Jackson & Chapman, 2012). As a result, it is critical to integrate and encourage business skills in the curriculum. This will aid in the process of generating competent graduates who are skilled and capable of working in a real business setting (Alam et al., 2024; Sangwan & Garg, 2017; Yordudom et al., 2024).

However, as noted by Jackling and Ricardo (2015), research on worker skills connected to job experience in industrial training is very scant. More research on the benefits of industrial training for enhancing employability skills is explained by this research. Furthermore, Kagaari (2007) claimed that more research into the factors that influence graduates' participation in industrial training is needed. More research is also required, according to Gbadamosi et al. (2015), to determine how employers' assistance during industrial training affects the development of employable skills. Furthermore, as suggested by Tomlinson (2017), the problem of graduates from higher education institutions' employability skills can be viewed as an economic and policy agenda, with the main goal being to investigate how graduates apply the knowledge and skills they have acquired in the classroom to the realities of the workplace.

As a result, employability is a very significant subject of research, especially given the high rate of graduate unemployment caused by the global economic crisis. This research adds to previous relevant studies by concentrating on business skills, especially in the area of competence development. Many research have tried to incorporate the perspectives of stakeholders, particularly supervisors and employees (Quality Assurance Agency, 2009). However, limited research has been conducted to address this issue, which involves the perspectives of stakeholders such as employers, higher education institutions, and employees. Still, these entities support the enhancement of business graduates' competencies.

As such, the research objectives are as follows:

1. To analyze the relationship between competency development and business graduate employability skills at vocational colleges in Malaysia.
2. To analyze the relationship between academic achievement and business graduate employability skills at vocational colleges in Malaysia.
3. To measure the moderation effect of academic achievement in the relationship between competency development and business graduate employability skills at vocational colleges in Malaysia.

THEORY OF COGNITIVE APPRENTICESHIP, BUSINESS GRADUATE EMPLOYABILITY SKILLS, COMPETENCY DEVELOPMENT AND ACADEMIC ACHIEVEMENT AS MODERATING FACTOR

Theory of Cognitive Apprenticeship

This research focuses on the apprenticeship approach. This strategy makes use of basic constructivism and is grounded in the cognitive apprenticeship idea (Collins et al., 1989). In the beginning, this method was introduced by holding student demonstration sessions. Supervisors of industrial training led these sessions, giving students the necessary skills. Under the supervision of industry training supervisors, the students had the chance to test these skills individually or in groups. As the students finished the work, the industrial training supervisor's assistance started decreasing to encourage greater independence in them.

Business Graduate Employability Skills

Marketability, workability, and employability are specifically related to employability skills. Marketability is the skills, ability, and quality of graduates who advertise themselves for recruitment (Hansson, 2002; Jackson et al., 2022; Ma'dan et al., 2020). Workability is the capacity to do multiple tasks and get tasks done (Lees D, 2002), and employability is the ability to get employment with companies (Cleary et al., 2006; Hillage & Pollard, 1998; Yorke & Knight, 2006). In this context, the goals of marketability,

workability, and employability are to benefit people individually as well as the workplace and community. (Lees D, 2002; Quality Assurance Agency, 2009; Vocational Technical Education and Training Division, 2014; Yorke & Knight, 2006). According to this research, employability skills are the basic skills that each employee requires to attract adaptable, creative, and capable workers who can do a variety of activities. (Vocational Technical Education and Training Division, 2014). Furthermore, business skills are the knowledge, abilities, and skills that every business graduate needs to become adaptable, creative, and capable workers. Such workers can complete a variety of jobs and fulfil requirements from employers, especially those that involve the technical aspects of business (Chronicle of Higher Education, 2012).

Competency Development

Competency development is a task that businesses perform to retain and improve the effectiveness, expertise, and competency of their workers (Forrier & Sels, 2003). It includes an integrated strategy for initiatives to develop including an organization's workers as well (Sandberg, 2000; Van Der Heijde & Van Der Heijden, 2006). This research, therefore, emphasizes the competency development of business graduates from vocational institutions, specifically their employability skills.

Academic Achievement as Moderating Factor

Globally, the moderating variable is becoming more common in business and social science studies. It highlights how model maturity and complexity generate a greater understanding of the research's criterion variable (Meleddu & Pulina, 2016). According to Ngah and Thurasamy (2018), the moderator variable might be introduced because the research on the criterion variable and the predictor form a weak or inconsistent relationship. The research also identified inconsistent factors in the theory of cognitive apprenticeship with the business graduate employability skills in a few different studies.

For the industry, the top management will determine which graduates are the greatest fit for the firms. It is not only about who should be recruited but also the effect of the new workers with business graduate employability skills. Once employers in the industry believe academic achievement will increase the organization's costs and benefits, they surely will not hesitate to hire graduates who have business graduate employability skills. The research recommended that academic achievement might serve as a useful moderator for the research, based on the presented justification. This research will include academic achievement as a moderating variable, as suggested, despite the literature suggesting that it may be a predictor of business graduates' employability skills.

Thus, this hypothesis is suggested as follows in Figure 1:
H_1: Competency development has a positive relationship with business graduate employability skills for vocational colleges in Malaysia.
H_2: Academic achievement has a positive relationship with business graduate employability skills for vocational colleges in Malaysia.
H_3: The positive relationship between competency development and business graduate employability skills will be stronger when academic achievement is high.

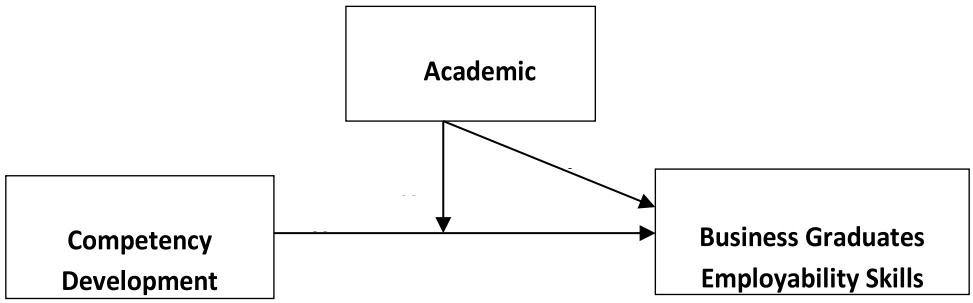

Figure 1. Theoretical Framework

METHODOLOGY

Research Design and Study Procedure

A self-administered survey was developed to achieve the theoretical framework of the research to assess the quantitative method used. The non-probability with random sampling approach was used. The use of a questionnaire administered via the Google Forms application further enhances the survey method chosen for this. The Google Forms questionnaire link was shared with the students via their counsellor as all students had finished their studies. An online questionnaire covering the population of students enrolled in business courses at a vocational college in Malaysia was used to gather data for this study from samples of chosen graduates. To strengthen the reliability of the assessment of the employability abilities of business graduates in vocational colleges in Malaysia, only study participants who have previously completed their industrial training were recruited for the survey. Voluntariness is deemed vital for the advancement of the field of study, as it can provide high-quality data. As a result, the respondents were inquired about their willingness to take part in the study. The survey was only disseminated to those who had given their consent to participate.

Population and Sampling

The population of interest consists of students enrolled in vocational colleges located in Malaysia. Sampling is the process of selecting a subset of individuals from a larger population to participate in the research (Chua Yan Piaw, 2014). For this research, a sample of 403 students, spanning all regions in Malaysia and all departments in Business Management courses, was selected from a vocational college using random sampling.

The questionnaires were administered to 424 respondents. However, after finding outliers, only 403 answered questionnaires were used for further analysis. In this research, the researcher will use 403 undergraduates' students as a sample out of the whole population of 10,013 students. The sample size determination is based on Krejcie and Morgan's table for determining sample size. The chart shows a greater degree of confidence (95%) is related to the smallest total sample size. As a consequence of using the calculation, the 403 students that make up the overall sample size are similar to the entire sample that Krejcie and Morgan establish in their table. The sample size set by Krejcie and Morgan for the population of 15,000 persons is 375. This research will be carried out at one of the Malaysian vocational colleges. Hence, with 403 respondents, the number is not an issue in the research.

Research Instrument

The selection of instruments for this research was based on the research objectives and a review of previous relevant literature. There were three separate sections to the questionnaire, encompassing a total of 63 items for respondents to provide their answers. Parts A to C required respondents to rate their level of agreement or disagreement with statements related to their business graduate's employability skills, competency development and academic achievement. A summary of the research instruments employed in this research can be found in Table 1.

Table 1. *Instruments Used Summary*

Part	Instrument	Developer	Number of Items
A	Business Graduates Employability Skills (BGES)	Denise Jackson, 2011	35
B	Competency Development (CD)	De Vos et al., 2011 / Faizal Amin, 2015	24
C	Academic Achievement (AA)	Salimabarkar, 2017	4
		TOTAL	**67**

The items used for the questionnaire were adapted from previously available literature and then validated by academicians and industry professionals. Item for business graduate employability skills is from Jackson (2011), competency development from De Vos et al. (2011) and Faizal Amin Nur Yunus (2015), while academic achievement is from Salimabarkar Ali & Ara (2017).

Data Analysis

For quantitative data, statistical software SPSS and Smart PLS 3.2.8 were employed, and inferential statistical techniques were employed to address three research questions of this research. The research analyze results through Smart PLS 3.2.8 as an instrument for analysis that looks at the importance of relationships between the constructs (Shi et al., 2008). Additionally, although PLS has little constraints on the distribution and normality of the data, it provides greater freedom for data analysis, improving the outcomes (Chin et al., 2003; Gefen et al., 2000)

Software that is based on variance and appropriate for research that focuses on variable prediction in the study model is called Partial Least Squares (PLS). Regression analysis is the foundation of Smart PLS even though it employs a structural equation modelling technique. Therefore, to confirm that the data is extremely unlikely to be normal, the normality test is still necessary. According to Hair et al. (2022), multivariate skewness and kurtosis may be evaluated online by utilising the link in the web power, where the study claimed that data is regarded as normal if skewness is ±1 and kurtosis is ±7. The findings of the research show that data is normal with multivariate skewness ($\beta = 8.852, p < 0.01$) and multivariate kurtosis ($\beta = 90.957, p < 0.01$). Therefore, it is suitable to use the Smart PLS programme in this research because the data was out of normal. Findings for skewness and kurtosis are at this link: https://webpower.psychstat.org/models/kurtosis/results.php?url=a8ae32d8f65d01f9bbd27b57aaa54dea.

Subsequently, an evaluation of the common method variance (CMV) was done, as it ought to present a challenge to the work if the data are gathered from one reference (Pettinger et al., 2004). To overcome the CMV, the research applied statistical methods. For the statistical method, the Harman single factor test (HSFT) was applied. The first element, which explains 21.773% of the total variation (70.346%), demonstrates that the CMV is a severe problem for the research and that it is less than 50% (Chen & Chengalur-Smith, 2015; Rashid et al., 2018). The researchers concluded that based on the Harman single-factor test the common method bias problem also did not exist.

The researchers applied Smart PLS version 3.2.8 to test the hypothesis. Next, all the structural relationships are tested (hypothesis testing) with the help of relevant statistical tools, especially regression and path coefficients (Hair, Babin, et al., 2017; Hayes et al., 2017; Mueller & Hancock, 2018; Ullman & Bentler, 2003). Finally, empirical data is fed into the model to test the validity of the underlying theories. The set of software known as Smart PLS is used for structural equation modelling (SEM), a variance-based study useful for forecasting (Hair Jr, 2020). The variance-based software is considered unfit for the research since the participants did not want to replicate the covariance matrix to obtain a model fit (Hair, M. Hult, et al., 2017).

FINDINGS

A two-step assessment was conducted, which comprised the measurement model and the structural model (Shmueli et al., 2016).

a) Measurement Model

The purpose of the measurement model is to confirm that the items and the research framework structures have an acceptable relationship. Convergent validity and discriminant validity are the requirements that must be fulfilled in the measurement model. The many items applied to measure the construct need to show convergent validity to be considered in evaluating the construct.

Convergent Validity

Hair et al. (2017) stated that loading, average variance explained (AVE), and composite reliability (CR) of ≥0.5, ≥0.7, and ≥0.5, respectively, are the criteria for achieving convergent validity (Nunnally & Bernstein, 1994). **Table 2** in Appendix A shows that every loading, AVE, and CR value exceeds the lower limit values established by Hair et al. (2017). Convergent validity has been proven for the research,

as evidenced by the loadings value within the range of 0.442–0.919, the AVE within the range of 0.534–0.844, and the CR within the range of 0.811–0.949. In this research, it was accepted factor loading < 0.5 for academic achievement accepted as a minimum factor loading of 0.3 to 0.4 (Hair et al., 2014) then it is accepted (loading ACH_4 = 0.442) if AVE > 0.5 (AVE_{ACH} = 0.534) and composite reliability is CR > 0.6 (CR_{ACH} = 0.811) because the convergent validity of the construct is still sufficient. Therefore, convergent validity requirements are relevant to the research.

Discriminant Validity

Discriminant validity is the extent to which a construct is truly distinct from other constructs by empirical standards (Hair et al.,2017). Previously, the discriminant validity was measured according to the Fornell and Larcker (1981) criterion. But, due to some criticism of this method, Henseler et al.(2015) proposed a heterotrait-monotrait (HTMT) of the correlation. Henseler et al.(2015) proposed that if HTMT is higher than 0.9, it is an indicator that the model lacks discriminant validity. **Table 3** in Appendix B shows that all values fulfil the criterion of HTMT<0.9 (Gold et al.,2001) and HTMT< 0.85 (Kline,2015), lower than the most conservative value set by Franke et al. (2019). Therefore, the research has demonstrated discriminant validity.

b) Structural Model

To ensure that lateral collinearity in the structural model is not a concern, this must be confirmed before moving on to hypothesis testing. The variance inflation factor (VIF) measures collinearity in which it should be below 3.3, as suggested by (Tommasetti et al., 2018). Hence, **Table 4, Table 5 and Table 6** indicate that all the VIF values for each construct are lower than the conservative value of 3.3. Hence, it also indicates that collinearity is not an issue for the research. Chin (2010) recommended the use of the bootstrapping method and the proposed resampling of 1000 for hypothesis testing, where the acceptance of the hypothesis relies on the *t*-value, *p*-value, and the confidence interval bias corrected.

Relationship Between Competency Development and Business Graduate Employability Skills at Vocational College in Malaysia

The study findings found a significant positive relationship between competency development and business graduate employability skills at a vocational college in Malaysia, with (ß = 0.225, t = 4.919: LL = 0.133, UL = 0.311, p < 0.001), hence H_1 was supported as indicated in **Table 4**. The value shows a strong positive association between the two variables, indicating that as competency development increases, business graduate employability skills at a vocational college in Malaysia also tend to increase.

Table 4. *Structural Model / Hypothesis Testing: Relationship Between Competency Development and Business Graduate Employability Skills at Vocational College in Malaysia*

Hypothesis	Relationship	Beta (β)	Se	T Value	P Values	LL	UL	Decision	VIF
H_1	CD → BGES	0.225	0.046	4.919	0.000	0.133	0.311	Supported	1.584

Notes: *BGES = Business Graduates Employability Skill, CD = Compentecy Development, ACH = Academic Achievement.*
**p < 0.05; **p < 0.01; ***p < 0.001*

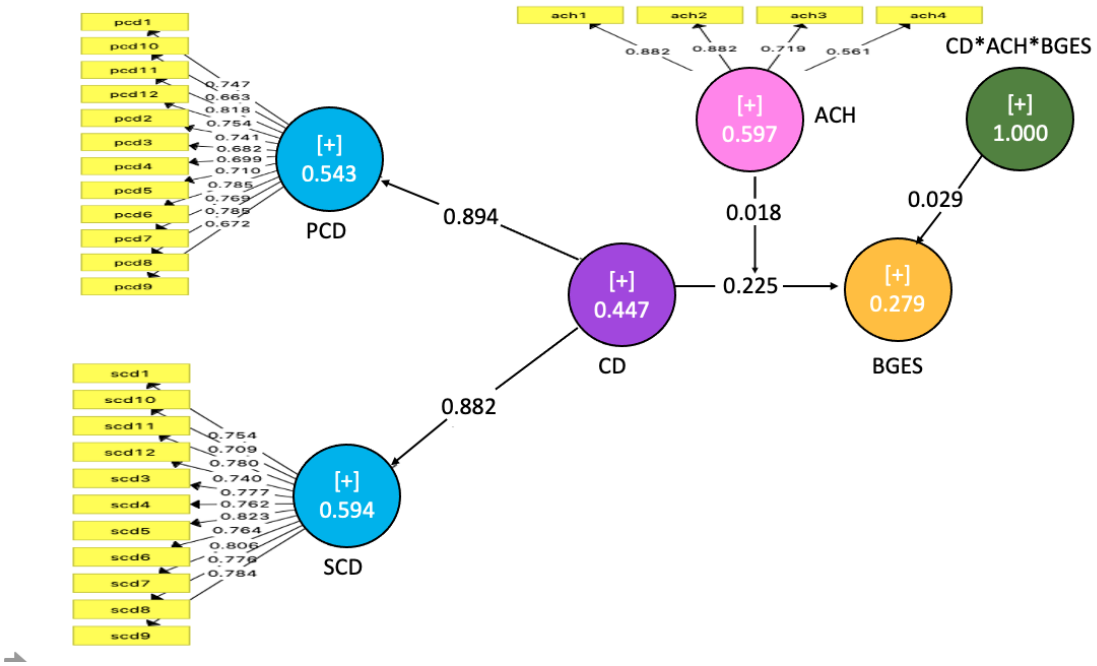

Figure 2. Structural Model BGES

Relationship Between Academic Achievement and Business Graduate Employability Skills at Vocational College in Malaysia

Meanwhile this study found a not significant positive relationship between academic achievement and business graduate employability skills at a vocational college in Malaysia, with (ß = 0.018, t = 0.435: LL = - 0.073, UL = 0.085, p > 0.05), hence H_2 was unsupported as indicated in Table 5.

Table 5. *Structural Model/Hypothesis Testing: Relationship Between Academic Achievement and Business Graduate Employability Skills at Vocational College in Malaysia.*

Hypothesis	Relationship	Beta (β)	Se	T Value	P Values	LL	UL	Decision	VIF
H_2	ACH → BGES	0.018	0.041	0.435	0.000	-0.073	0.085	Unsupported	1.018

Notes: *BGES = Business Graduates Employability Skill, CD = Compentecy Development, ACH = Academic Achievement.*
**p < 0.05; **p < 0.01; ***p < 0.001*

Academic Achievement Moderation the Relationship Between Competency Development and Business Graduate Employability Skills at Vocational College in Malaysia

On the other hand, academic achievement was found to not have any moderation effect between competency development and business graduate employability skills for Vocational College (ß =0.029, t = 0.552: LL = - 0.082, UL = 0.116, p > 0.05), hence H_3 was unsupported as indicated in **Table 6**.

Table 6. *Structural Model/Hypothesis Testing: Relationship Between Academic Achievement and Business Graduate Employability Skills at Vocational College in Malaysia*

Hypothesis	Relationship	Beta (β)	Se	T Value	P Values	LL	UL	Decision	VIF
H_3	CD X ACH → BGES	0.029	0.052	0.552	0.581	-0.082	0.116	Unsupported	1.771

Notes: *BGES = Business Graduates Employability Skill, CD = Compentecy Development, ACH = Academic Achievement.*

$p < 0.05$; $**p < 0.01$; $***p < 0.001$

Table 7 shows the assessment of the coefficient of determination (R^2), the effect size (f^2) as well as the predictive relevance (Q^2) of exogenous variables on endogenous variables of business graduate employability skills. Based on the table the R^2 of 0.554 indicated that competency development and academic achievement explain 55.4% of the overall variance of business graduate employability skills for Vocational College. For the predictive relevance, using the blindfolding procedure, according to (Geisser, 1974), the Q^2, which is higher than 0, indicates that the model has a predictive relevance. On the effect size, according to Cohen et al.(2011), for effect size; 0.35, 0.15, and 0.02 are considered as large, medium and small effect sizes respectively. Hence, competency development has a medium effect size and academic achievement has a small effect size on business graduate employability skills for Vocational (J. Cohen, 1988; Jacob Cohen, 1992; L. Cohen et al., 2011).

Table 7. *Coefficient of Determination (R^2), and Effect Size(f^2)*

Construct	R^2	Q^2	f^2	Decision
BGES	0.554	0.150		
CD			0.072	medium
ACH			0.001	small

DISCUSSION

The research revealed that, of the three hypotheses for the Theory of Cognitive Apprenticeship, only one was supported. H_1 which represents competency development was found to have a positive relationship with the business graduate employability skills for vocational college. The results supported earlier research (De Vos et al., 2011; Jackson, 2015; McNamara, 2013) for competency development. The results of this study are also in line with the findings of previous studies that there is an increase in employability skills when students are involved in competency development during industrial training (Akkermans et al., 2015; Aljumah, 2023; Bullock et al., 2012; Deeley, 2013; Jackling & Ricardo, 2015; Jackson, 2015; Mainga et al., 2022; McNamara, 2013). The findings of this study are also in line with the findings of the study which states that students who are active during industrial training are easily offered jobs (Carranza & McKenzie, 2023; De Vos et al., 2011; Van Der Heijde & Van Der Heijden, 2006; Vandenbroucke, 2007) and guaranteed position upon completion of industrial training (Lang & McNaught, 2013; Mat Yazid, 2010; Upadhya & RoyChowdhury, 2022).

Due to the current technological boom, the development of competence is very necessary (Bala & Singh, 2023; Deeley, 2013; El-Sakran, 2024; McMurray et al., 2016; Plaias et al., 2011; Sánchez Ramírez et al., 2024; Torres-Coronas & Vidal-Blasco, 2015) so that business graduate employability skills meets the needs of employers and is up to date (Mansour & Dean, 2016). In addition, the need for competence development through real experience during industrial training is very necessary to improve employability skills (Marjahan Begum & Richard Newman, 2009; Shoenfelt et al., 2013; Thakur et al., 2024; Twyford & Dean, 2024). However, the findings of the study are not consistent with Swarnendu,(2012). The studies found no significant relationship between competency development throughout industrial training and employability skills. Based on these findings, employers are advised to manipulate employment skills positively by supporting students who undergo industry training to improve competence development (De Vos et al., 2011; Geressu & Woldesemayat, 2024; Lang & McNaught, 2013; McNamara, 2013). Finally, employers prefer to hire students who have undergone industrial training because they have the employability skills required by the industry (Brooks Ruth, 2012).

Even literature claims that academic achievement has a positive relationship with business graduates employability skills (Arsenic & Flores, 2016; Blicblau et al., 2016; Byrne, 2022; Mansfield, 2011; Venus & Sharma, 2024; Wu et al., 2024) since it was for vocational colleges where the majority of students do not have excellent academic backgrounds. Furthermore, the finding aligns with Othman(2020) when it was mentioned that academic achievement has no relation to employability skills, especially for

vocational colleges. This research found that the relationship between academic achievement and employability skills is indirect (Macakova & Wood, 2022; Seth et al., 2024; Tentama & Abdillah, 2019).

This research also found that academic achievement does not have a moderate effect between competency development and business graduate employability skills at vocational colleges. It establishes that academic achievement does not have an impact on competency development or business graduate employability skills. Although vocational students are not excellent in academics, they still have high employability skills.

CONCLUSION

The research indicates that competency development has a positive relationship with business graduate employability skills at Vocational College. Hence, employers should be concerned about this factor if they want to increase the business graduate employability skills for Vocational College. The importance of competency development during industrial training for industrial needs was commonly understood. However, if this competency development during industrial training cannot be sustained, it will have a negative impact not only on the employer but also on the industrial needs of those who are looking for high employability skills for their company. To strengthen the good position on this issue, perhaps, these findings will be useful to the relevant parties when they begin planning the session. Conversely, however, employers must provide a good allowance to enhance business graduate employability skills for vocational colleges.

Recommendation for Future Studies

The study shows that the competency development for employability skills of business graduates at Malaysia's vocational colleges may be explained by the cognitive apprenticeship theory. Since academic achievement has no effect on business graduate employability skills exclusively for vocational colleges but the university graduates started to search for them, future research show looks at not vocational college graduates as the respondents of the survey. If a university conducts a survey, it will have a bigger impact which is specific diploma business graduates. This type of research would have a greater impact on business graduates' employability skills, as there is still a lack of emphasis on employability skills among business graduates.

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APPENDIX A

Table 2. *Convergent Validity*

Construct	Item	Loading	CR	AVE
$BGES_1$: Communication	COM_1	0.745		
	COM_2	0.875		
	COM_3	0.645	0.882	0.603
	COM_4	0.745		
	COM_5	0.851		
$BGES_3$: Think	$THINK_1$	0.919	0.915	0.844
	$THINK_2$	0.918		
$BGES_4$: Problem Solving	$PSOLVE_1$	0.875		
	$PSOLVE_2$	0.864	0.856	0.668
	$PSOLVE_3$	0.701		
$BGES_5$: Entrepreneurship	$ENTRE_1$	0.801		
	$ENTRE_2$	0.780	0.888	0.666
	$ENTRE_3$	0.900		
	$ENTRE_4$	0.777		
$BGES_6$: Self Management	$SELF_1$	0.838		
	$SELF_2$	0.837	0.855	0.663
	$SELF_4$	0.765		
$BGES_7$: Social Responsibility	$SOCIAL_1$	0.887		
	$SOCIAL_2$	0.710	0.844	0.645
	$SOCIAL_3$	0.802		
$BGES_8$: Developing Professionalism	$PROFES_1$	0.713		
	$PROFES_2$	0.837		
	$PROFES_3$	0.782	0.912	0.633
	$PROFES_4$	0.805		
	$PROFES_5$	0.792		
	$PROFES_6$	0.840		
$BGES_{10}$: Teamwork	$TEAM_1$	0.899		
	$TEAM_2$	0.876	0.892	0.676
	$TEAM_4$	0.789		
	$TEAM_6$	0.713		
$BGES_{11}$: Leadership	$LEAD_1$	0.713		
	$LEAD_2$	0.837		
	$LEAD_3$	0.782	0.912	0.633
	$LEAD_4$	0.805		
	$LEAD_5$	0.792		
CD_1 : Participate Competency Development	PCD_1	0.747		
	PCD_2	0.741	0.949	0.543
	PCD_3	0.682		
	PCD_4	0.699		

Construct	Item	Loading	CR	AVE
	PCD_5	0.710		
	PCD_6	0.785		
	PCD_7	0.769		
	PCD_8	0.785		
	PCD_9	0.672		
	PCD_{10}	0.663		
	PCD_{11}	0.818		
	PCD_{12}	0.754		
CD_3 : Supportive Competency Development	SCD_1	0.754		
	SCD_3	0.777		
	SCD_4	0.762		
	SCD_5	0.823		
	SCD_6	0.764		
	SCD_7	0.806	0.942	0.594
	SCD_8	0.776		
	SCD_9	0.784		
	SCD_{10}	0.709		
	SCD_{11}	0.780		
	SCD_{12}	0.740		
Academic Achievement (AA)	ACH_1	0.908		
	ACH_2	0.836	0.811	0.534
	ACH_3	0.646		
	ACH_4	**0.442**		

APPENDIX B

Table 3. *Discriminant Validity (HTMT)*

	Com	Team	Lead	Think	PSolve	Entre	Self	Social	Profes	Ach	Scd	Pcd
Com												
Team	0.257											
Lead	0.310	0.601										
Think	0.460	0.544	0.447									
PSolve	0.432	0.386	0.403	0.494								
Entre	0.394	0.591	0.579	0.494	0.466							
Self	0.266	0.263	0.218	0.266	0.157	0.178						
Social	0.291	0.529	0.538	0.408	0.291	0.611	0.329					
Profes	0.293	0.521	0.393	0.426	0.290	0.402	0.342	0.381				
Ach	0.076	0.059	0.056	0.043	0.068	0.099	0.065	0.086	0.037			
Pcd	0.237	0.511	0.539	0.371	0.382	0.431	0.274	0.451	0.443	0.069		
Scd	0.153	0.354	0.398	0.274	0.319	0.476	0.089	0.460	0.275	0.099	0.616	