



# The Readiness of Special Education Teachers in Teaching Basic Vocational Skills for Agriculture

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**Abstract:** Basic Vocational Skills is a new component introduced in Secondary School Standard-Based Curriculum for Special Education since 2017. Seven basic vocational skills have been introduced in this course, and one of it is Basic Vocational Skills for Agriculture. Therefore, this study investigated special education teachers' readiness in teaching Basic Vocational Skills for Agriculture. Does teachers' readiness influence by their experience in teaching Agricultural Integrated Living Skills and attendance in-service agriculture training or not. This research also examined the relationship between teachers' readiness with the constraint faced by them in teaching Agriculture. A total of 60 special education teachers from Special Education Integrated Program were involved in this study. The purposive sampling technique was used in sample selection to make sure all the respondent had experience in teaching Basic Vocational Skill for Agriculture. A questionnaire with five points Likert scale distributed to the respondent, and they were given two weeks to complete the questionnaire. The questionnaire consists of five sections, which is, demography information, teachers' skills, teachers' knowledge, teachers' attitude, and constrain faced by teachers in teaching Basic Vocational Skills for Agriculture. Respondent rated their level of agreement with various statements regarding skills, knowledge, and attitude and constrained in teaching Agricultural Integrated Living Skills. Results suggested that effective teaching process Agriculture, the teacher need knowledge, skills and attitude. It can help the student with learning disabilities to have knowledge and skills in agriculture.

**Keywords:** Special education, basic vocational skills, agriculture, readiness

## 1. Introduction

Ministry of Education introduced the Secondary School Standard-Based Curriculum for Special Education to replace the Secondary School Integrated-Based Curriculum in 2017. Secondary School Integrated-Based Curriculum focuses on academic component only and Secondary School Standard-Based Curriculum for Special Education focuses on educational component and Basic Vocational Skills component. Basic vocational skills component is a new course that began to be taught at the Special Education Integrated Program Secondary School for the special needs students starting from form 1. The amount of time and syllabus for Basic Vocational Skills learning depends on the level of the student's functionality, whether low or moderate. Low-functional skill students will learn seven basic skills, which are basic food, basic sewing, basic aquaculture, basic reflexology and basic furniture manufacturing. Meanwhile, the moderate-

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functional skill students will learn basic vocational skills more specifically such as the preparation and cooking of food, bread making, pastry making, food and beverage services, women's clothing manufacturing, agriculture, aquaculture, multimedia visuals, foot, hands and ears reflexology and furniture manufacturing.

Teaching special needs students with basic vocational skills is in line with the Special Education Philosophy and Technical and Vocational Education and Training (TVET) vision. Special Education Philosophy states that every student needs to be independent, self-sufficient and skilled, to be able to manage themselves, to plan and to adapt well with society. Meanwhile, TVET is concerned with the acquisition of knowledge and skills for the work (UNESCO, 2017). Technical and Vocational Education and Training strive for prepares skilled worker for working in a range of sectors including agriculture by helping youth develop the skills they need for employment (UNESCO, 2015; UNESCO, 2014). Take both education aspirations into account, and it could conclude the aims of Secondary School Standard-Based Curriculum for Special Education is to prepare special needs students for work. This new curriculum focusing on developing work-related skills and mastery underlying knowledge to ensure special needs students to be employed or to be able to build a career after they were finishing school. In order to prepare special needs students for work, it is crucial to ensure our special education teachers are ready to teach Basic Vocational Skills subject. Do the teachers demonstrate a good attitude, skill and content knowledge as this course was just introduced in 2017? Teachers' readiness plays an important role to determine the success of courses learning objectives and helping teachers to design the suitable lesson plan accordingly with student's interest and capabilities (Janimah, 2011). Scholar also suggested teachers' readiness level given a significant impact on student achievement in vocational learning (Derapa & Mohamed, 2018).

Literature also suggested the teachers who teach Basic Vocational Skills for Agriculture subject was not adequately exposed to the skills related to agriculture (Abdul Rahman, 2016). The teachers faced a constraint to participate in the courses organised by the Ministry of Education Malaysia and also from the external agencies. This problem affected these teachers in teaching special needs students with learning disabilities in Special Education Integrated Program. Most of the Special Education Integrated Program Secondary School teachers have lack of skills and knowledge from the aspect of technical in the subject of Agricultural Integrated Living Skills, which replaced by the new subject, Agriculture (Mohd Rizal & Muallimah, 2010).

Therefore, this research aims to identify the relationship between teachers' readiness level and constraints in teaching basic vocational skills for agriculture subject. Basic Vocational Skills subject has been selected because this course was just introduced and implemented in 2017 by the Ministry of Education. Also, Agriculture subject has been selected because the agricultural sector is one of the profitable and commercialised business industries to help in boosting the country's economic growth (Mohd Johari, 2010). The government also encourages agricultural activity as one of the activities to generate daily income among *bumiputeras*. The purpose of this research was:

- i) To identify the differences in teacher readiness in terms of knowledge, skills and attitude in teaching the Agriculture subject based on the experience in teaching Agricultural Integrated Living Skills.
- ii) To identify the differences in teacher readiness in terms of knowledge, skills and attitudes in teaching Agriculture subject based on the attendance to Agriculture course.
- iii) To identify the relationship between teacher readiness in terms of knowledge, skills and attitudes in teaching Agriculture subject and constraints faced by them.

## 2. Methodology

This study using survey research design and quantitative research approach. To identify the readiness of teachers in teaching Basic Vocational Skills for Agriculture, a set of questionnaires was adapted from previous research by Habibi (2016). The questionnaire consists of five sections, which is Section A: Demography, Section B: Knowledge, Section C: Skill, Section D: Attitude and, Section E: Constraint. Items in Section B, C, D and E are using five points Likert scale which is 1 = Strongly disagree, 2 = Disagree, 3 = Unsure, 4 = Agree and 5 = Strongly agree. Teacher's readiness measured based on three constructs, namely knowledge, skill and attitude.

Validity and reliability of the questionnaire were determined using expert's judgment and Cronbach Alpha value. Five experts in special education and agriculture field were appointed to evaluate the content of the questionnaire. The questionnaire was modified based on the experts' recommendation. Meanwhile, a pilot study conducted to determine the reliability of the questionnaire and Cronbach Alpha value is 0.904. Overall, the questionnaire contains 67 items from the five sections stated. Information about the questionnaire item shown in Table 1.

**Table 1- Questionnaire Items**

Section	Description	Number of items
A	Demography	8
B	Teacher's skills	16
C	Teacher's knowledge	17
D	Teacher's attitude	13
E	Teaching constraint	13

An application for conducting research in school submitted to the Educational Planning and Research Division, Ministry of Education and Penang State Education Department. The questionnaires distributed after getting approval from both authorities. Respondent given one week to fill up the questionnaire and data was key-in in Statistical Packages for Social Science (SPSS). Data were analyses using frequency, mean, percentage, Mann-Whitney test, Kruskal Wallis test and Spearman correlation to achieve the research objectives. Interpretation for mean score determined by reference to Educational Planning and Research Vision, Ministry of Education (2006). Table 2 provided information on mean score interpretation.

**Table 2 - Mean Score Interpretation**

Mean score	Interpretation
4.30 – 5.00	Very high
3.50 – 4.29	High
2.70 – 3.49	Moderate
1.90 – 2.59	Low
1.00 – 1.89	Very low

Source: Educational Planning and Research Vision, Ministry of Education (2006)

### 3. Result and Discussion

A total of 60 respondents throughout Penang were involved in this study. A total of 11 respondents (18.2%) were male and 49 respondents (81.7%) were female. For the aspect of experience in teaching the Agricultural Integrated Living Skills, 34 respondents (56.7%) had 1 to 5 years' experience, 20 respondents (33.3%) had 6 to 10 years' experience, 3 respondents (5.0%) up to 15 years and three respondents (5.0%) have 16 years of experience. For the items of experience as special education teachers found that 22 respondents (36.7%) had 1 to 5 years' experience, 23 respondents (38.3%) had 6 to 10 years' experience, eight respondents (13.3%) had 11 to 15 years of experience and there were seven respondents (11.7%) with over 16 years of experience. A total of 16 respondents (26.7%) had participated in agriculture courses while 44 respondents (73.3%) had never attended any agriculture courses. For the professional qualification item, 57 respondents (95.0%) had a Bachelor degree certificate, while three respondents (5.0%) had a Master degree. A total of 50 respondents were major in special education, while 10 were others. Respondent's demographic information shown in Table 3.

**Table 3 - Respondent's Demographic Information**

Demography Aspects	Frequency	Percentage (%)
<i>Gender</i>		
Male	11	18.3
Female	49	81.7
<i>Teaching experience in Agricultural Integrated Living Skills (KHP)</i>		
1 – 5 years	34	56.7
6 – 10 years	20	33.3
11 -15 years	3	5.0
16 years and more	3	5.0
<i>Teaching experiences as special education teacher</i>		
1 -5 years	22	36.7
6 – 10 years	23	38.3
11 -15 years	8	13.3
16 years and more	7	11.7
<i>Has attended the agriculture course</i>		
Yes	16	26.7
No	44	73.3
<i>Course duration</i>		
A week	17	28.3
Two weeks	1	1.7
A month	0	0
Others	42	70.0
<i>Professional qualification</i>		
Bachelor degree	57	95.0
Master degree	3	5.0

**Table 3 - (Cont.)**

	<b>Demography Aspects</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<i>Major</i>			
	Special Education	50	83.3
	Others	10	16.7

Descriptive analysis performed to identify teacher’s knowledge, skills, attitude and challenges in teaching agriculture. Special education teacher demonstrates a very high level of knowledge and high level of skills and attitude in teaching agriculture. Further analysis showed special education teacher demonstrates a high level of readiness with  $M = 4.11$  (high) and  $SD = 0.52$ . Also, special education teacher reported a high level of constraint in teaching agriculture with  $M = 3.72$  and  $SD = 0.76$ . Further information on a descriptive analysis provided in Table 4. This finding contradictory with findings from the previous study that show special education teachers have lack of skills and knowledge from the aspect of technical in the subject of Agricultural Integrated Living Skills (Mohd Rizal & Muallimah, 2010). However, its consistency with research findings by Ismail, Mohd and Mohd (2018). According to the researcher, the teacher has knowledge, skills and good attitude in teaching a vocational subject. But they did face challenges that make them feel did not competent in teaching a vocational subject.

**Table 4 -Teachers’ Knowledge, Skills, Attitude and Challenges in Teaching Basic Vocational Skills for Agriculture**

<b>Items</b>	<b>Mean</b>	<b>SD</b>	<b>Interpretation</b>
Knowledge	4.28	0.66	Very high
Skill	3.82	0.54	High
Attitude	4.23	0.38	High
Constraint	3.72	0.76	High

### **3.1 The Readiness of the Teacher Based on Teaching Experiences**

Kruskal Wallis Test is used to identify the differences in teacher readiness in terms of knowledge, skills and attitude in teaching the Agriculture subject based on the experience in teaching Agricultural Integrated Living Skills. Overall, finding shows that the readiness of the teacher from the aspect of knowledge, there was a significant difference in teachers' knowledge in teaching the Agriculture subject based on the experience in teaching Agricultural Integrated Living Skills. While the readiness of teachers in terms of skills and attitudes shows that there is no significant difference in teaching the Agriculture subject, this was supported by Norazilawati, Noraini, Mahizer and Nik Azmah (2014) said there is a significant correlation between the knowledge and interest with the teaching experience. Teaching experience is essential in giving knowledge to the teachers about a lesson. Teachers with more extensive teaching experience compared to the younger teachers have a high level of knowledge. The mean rank = 43.83 of the teachers that teach 16 years and above is higher than those who are still new in the teaching field of Agricultural Integrated Living Skills. Table 5 presented detail information on the analysis result.

**Table 5 - Readiness of the Teacher in Teaching the Agriculture Subject Based on the Experience in Teaching KHP**

Readiness of the Teacher	Experience in Teaching KHP	N	Mean Rank	X2	df	Sig.
Knowledge	1-5 years	34	24.43	14.686	3	.002
	6-10 years	20	40.80			
	11-15 years	3	17.33			
	16 years or more	3	43.83			
Skills	1-5 years	34	27.38	7.225	3	.065
	6-10 years	20	35.05			
	11-15 years	3	17.67			
	16 years or more	3	48.33			
Attitude	1-5 years	34	25.87	7.056	3	.070
	6-10 years	20	37.23			
	11-15 years	3	26.17			
	16 years or more	3	42.50			

### 3.2 The Readiness of the Teacher Based on the Professional Courses Attended

Mann Whitney's test used to identify the differences in teacher readiness in terms of knowledge, skills and attitudes in teaching agriculture subject based on the attendance to professional courses. The finding shows that there was a significant difference in the readiness of teacher's knowledge based on the attendance of the professional courses ( $U = 150.50$ ,  $N_1 = 16$ ,  $N_2 = 44$ ,  $p < 0.05$ ). This finding shows that attendance plays a significant role because there was a difference in terms of teacher's readiness towards the teaching of the agriculture subject. The finding shows that there was a significant difference in the readiness of teacher's skill based on the attendance to the professional courses ( $U = 150.50$ ,  $N_1 = 16$ ,  $N_2 = 44$ ,  $p < 0.05$ ). This finding shows that attendance plays a significant role because there is a difference in terms of teachers' readiness in the aspect of knowledge towards the teaching of the agriculture subject.

The finding shows that there was a significant difference in the teacher's attitude based on attendance to the professional courses ( $U = 158.00$ ,  $N_1 = 16$ ,  $N_2 = 44$ ,  $p < 0.05$ ). This finding shows that attendance plays a significant role because there is a difference in the attitude of the teacher towards the teaching of the agriculture subject. Overall, there was a significant difference in the readiness of teachers in the aspect of knowledge, skills and attitudes in teaching agriculture based on the attendance to the professional courses. The professional agriculture courses is crucial so that teachers know the contents and objective of the lesson in producing student with learning disabilities a knowledge and skills in agriculture. Through professional courses, teachers can learn and master the skills in agriculture.

Organising or sending teacher to participate in professional courses is very important in empower teacher with new knowledge and skills. Scholars emphasised on the effect of attending professional courses on teacher's attitude towards teaching and learning goals (Ismail, Mohd & Mohd, 2018; Mukherjee, 2012). Also, teachers expressed positive and constructive feedback on the importance of attending professional courses towards their job satisfaction (Okiror, Hayward & Winterbottom, 2017) and showed an improvement in their teaching skill (Smalley & Smith, 2017)

Professional courses in the organisation is a learning program that designed to enhance the knowledge, skills and performance of staff (Mamat, 2016). Besides, scholar reported that improvement in teacher's knowledge occur when teachers exposed to issues related through professional courses, workshops, seminars, conferences and forums related to education (Hussin, 2004). These factors will develop teacher's confidence in teaching and will lead to teacher's satisfaction in teaching (Ismail & Miller, 2019). Besides, professional courses also give teachers a chance to meet other educators, learn from their experiences and take new knowledge back to their classroom (Smith & Smalley, 2018; Smalley & Smith, 2017). Table 6 provided further information on the analysis result.

**Table 6 - Teachers' Knowledge Differences**

Readiness of the Teacher	Course Attendance	N	Mean Rank	Total Ranking	Mann Whitney	z	Sig.
Knowledge	Yes	16	43.09	689.50	150.50	-3.387	0.001
	No	44	25.92	1140.50			
Skills	Yes	16	44.03	704.50	135.50	-3.628	0.000
	No	44	25.58	1125.50			
Attitude	Yes	16	42.63	682.00	158.00	-3.266	0.001
	No	44	26.09	1148.00			

Significant <0.05

### 3.3 Relationship between Readiness and Constraint

The findings show that there was a significant negative correlation between knowledge and attitude with the teacher's constraint in teaching the Agriculture subject, which means that a higher level of knowledge and attitude contribute to a lower level of constraint. These showed, a knowledgeable and good attitude teacher can manage the constraint and challenges effectively. Scholar reported a teacher who undergo a quality teachers preparation program can manage the stressor and challenges efficiently (Smith & Smalley, 2018; Chenevey, Ewing & Whittington, 2008). These findings showed that Malaysian teachers received a good teacher's preparation program and in-service training throughout their career.

Correlation analysis between the teacher's skill and constraint found there was no significant correlation between the skills and the teacher's constraints in teaching Agriculture. This analysis shows that there was no correlation between the skills and the teacher's constraints in teaching Agriculture. The high skills owned by the teacher do not affect the constraints in teaching. Although there were constraints in teaching the Agriculture subject, that does not affect the skills of a teacher. It turned out that high skills can help teachers to overcome the shortage of existing constraints to ensure that the ongoing teaching could affect the special needs students with learning disabilities.

Teachers were facing various type of challenges in teaching agriculture and other vocational subjects. A researcher from others country identified five most prominent challenges facing by teachers in teaching agriculture which is time management challenges, work-life balance concerns, content knowledge, curriculum and classroom resources and developing lesson plans (Smith & Smalley, 2018; Smalley & Smith, 2017), but researcher in Malaysia found different. A researcher reported challenges faced by the teacher in Malaysia in teaching vocational subject were disinterest, lack of motivation, lack of skills, heavy workload and difficulty using English as a medium of instruction (Ismail, Mohd & Mohd, 2018). Constraint and challenges are essential factors to be addressed because it could affect teaching readiness and lead to dissatisfaction in teaching (Ismail & Miller, 2019; Ismail, Mohd & Mohd, 2018). But this research findings proved by empowering teacher with knowledge, skill, and nurturing a right attitude the constraint and challenges could be overcome.

**Table 4 - Correlation between Knowledge, Skill and Attitude of the Teacher toward Constraint in Teaching Agriculture**

Item	Constraints	Sig.	Correlation interpretation
Knowledge	-.315	0.014	Moderate negative correlation
Skill	-.193	0.141	No correlation
Attitude	-.303	0.019	Moderate negative correlation

### 4. Conclusion

This study aimed to examine the relationship between special education teacher's readiness and constraints in teaching basic vocational skills for agriculture subject. Findings from the study showed there was a significant relationship between teacher's readiness with experiences in teaching Agricultural Integrated Living Skills and professional course attended. Further analysis of constraints factors demonstrates there was a significant correlation between teacher's readiness and constraints faced by the teacher in teaching agriculture. These results show that knowledge, skills and attitudes were vital for the teachers in ensuring an effective teaching and learning process. The willingness of teachers in teaching the Agriculture subject was crucial to be in line with the Secondary School Standard-Based Curriculum for Special Education that been introduced in early 2017. These findings give the first implication to the students and teachers from the aspect of teaching and learning. In addition, this helps the Ministry of Education to organise any courses or workshops to improve the knowledge and skills of the teachers to teach the Agriculture subject. Courses or

workshops should be provided periodically to improve the teaching process. Teachers also need to be creative in creating a fun teaching atmosphere to attract the attention of students with learning disabilities. Teacher's delivery techniques should be considered to facilitate students to understand the contents of the teaching better. At the same time, this will help the students to have better knowledge and skills in agriculture.

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