

TEACHING METHODS OF INTEGRATED NAQLI AND AQLI KNOWLEDGE FOR GIFTED AND TALENTED MUSLIM STUDENTS

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Abstract

Malaysia Education Curriculum mostly adapted from the colonization country since pre-independence. It makes Muslim youngsters forget on magnificent of Islam Civilization especially Abbasid Dynasty. By this, the needs of integrating naqli and aqli knowledge in syllabus should be implemented especially among gifted and talented Muslim students. Therefore, this paper focusing on the implementation of integrated naqli and aqli knowledge for Biology's topic as enhancement programmes in gifted and talented curriculum. 56 students from PERMATA Insan who are recognized as gifted and talented students have been participated in this study. The integrated knowledge was conducted through two different approaches including conventional (Method A) and co-teaching (Method B) to identify the suitable teaching method. As result, 47 out of 56 students who were exposed with co-teaching method obtained moderate and high achievement. The students' mark was continuously analysed through t-test to identify the significance difference between two methods. Admittedly, the co-teaching method contributed higher mark during the post-test compared to without co-teaching method. Therefore, co-teaching method is the effective teaching method for integrated naqli and aqli knowledge especially in inheritance topic.

Keywords: Integrated knowledge, Biology, Co-teaching, Pedagogy, Muslim Gifted and Talented

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Introduction

Malaysia Education Curriculum mostly adapted from the colonization country since pre-independence. The progress was equipped during the days. However, it has been transformed tremendously throughout the years until Malaysia Education Blueprint 2013-2025 has been developed. The development of education was being secularism and made aside between religion and modern knowledge due to diversity of races and ethnic in Malaysia.

Believe that, knowledge is one of the reputable elements to strengthen the economic and social development for Malaysia to be established as a developed country. The rule of thumb as quality is better than quantity can be supported by highly number of philosophy doctorate (PhD) holders do not determine the country at the glory level if they cannot contribute any knowledge towards nation. Generally, the quality of education will be highly succeeded when two knowledge that are Al-Quran and Hadith (*naqli*); and modern (*aqli*) knowledge are not separated and complement together becomes an integrated knowledge as during Abbasid civilization (Adnan, 2015).

The needs of integrating *naqli* and *aqli* knowledge in education system, is to provide the next Muslim scholar such as Ibn Sina or others. This integrated *naqli* and *aqli* knowledge is suitable for gifted and talented Muslim students who hunger with enrichment programmes or curriculum. It comes to be an accurate learning system that provides the curriculum greater depth and breadth than it generally provided as suggested by Davis & Rimm (2004).

Pursuing this further, the curriculum especially for gifted and talented students are depends on the pedagogy or teaching method during learning session. It becomes a major factor reflecting students'

performance as identified by Zimmerman (2002); and Cabrillana and Mayan (2015). This issue was highlighted in a discussion between Academy of Science Malaysia (ASM) and academia regarding Malaysian examination which impromptu good fundamental for Higher Order Thinking Skills (HOTS) items is due to lack of teacher's knowledge and skill.

The same way to apply integrated *naqli* and *aqli* knowledge towards gifted and talented students is preparing correct learning system. Since both knowledge are totally requiring different approach, therefore, co-teaching can be used to encounter this problem. There are several models of co-teaching that are developed by Friend and Cook (2010) as examples one teaching, one observing; station teaching; parallel teaching; alternative teaching; teaming and one teaching, one assisting.

Due to fewer implementation of integrated knowledge organization, Universiti Sains Islam Malaysia (USIM) has determined to be an institution that is ahead to produce a holistic and balanced individual. This approach involves the entire faculty and academic center including Kolej PERMATA Insan, known as gifted and talented Muslim institution, which located in USIM. This paper focusing on the implementation of integrated *naqli* and *aqli* knowledge for Biology's topic as enhancement programmes in gifted and talented curriculum. Thus, two different approaches including conventional and co-teaching are used to identify the suitable teaching method which being as one of barriers to co-teaching by adding more content to an already full curriculum (Malian and McRae, 2010). The effectiveness of both teachings is measured through student's performance.

Methods

This study was focuses on the observation and computation by the quantitative approach. As the main aim of this study is to identify the effectiveness on the implementation of *naqli* and *aqli* knowledge in Biology's subject as enhancement programme.

56 students from Kolej PERMATA Insan were participated in this study sat for pre-test to investigate the knowledge on Biology, specifically, Inheritance topic due to lesson of the day. The pre-test consists of 5 structured questions including integrated *naqli* and *aqli* knowledge. The questions are:

- 1) Name two (2) Mandel's Law.
- 2) Give one (1) related Al Quran verse or hadith on Inheritance.
- 3) What do you understand with the verse or hadith as answered in Question 2?
- 4) Explain the integration of related *naqli* knowledge with the Inheritance.
- 5) Define the term of genetic with integrated *naqli* and *aqli* knowledge.

Next, the students were divided into two groups regardless student gender to determine the effectiveness between two different methods which are conventional (Group A) and co-teaching (Group B) method. Both of the teaching methods are taught by the same lecturer whom majoring in Biology and Islamic Studies as minor study. Meanwhile, the co-teaching method was conducted with the additional lecturer who is expert in Islamic Studies through team teaching (Figure 1).

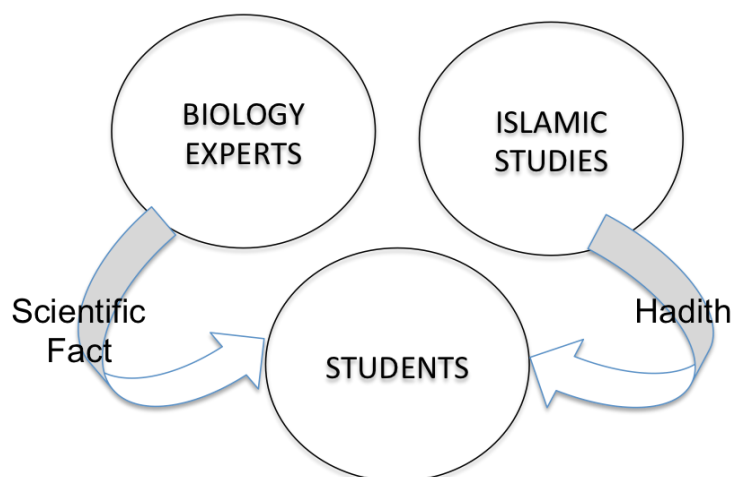


Figure 1. Teaming Model for Integrated *Naqli* and *Aqli* Knowledge in Inheritance Topic

Both methods use same Hadith as the content of integrated *naqli* and *aqli* for inheritance topic, as stated:

There came a person to the Prophet from Banu Fazara and said: My wife has given birth to a child who is black, whereupon Allah's Apostle said: Have you any camels? He said: Yes. He again said: What is this colour? He said: They are red. He said: Is there a dusky one among them? He said: Yes, there are dusky ones among them. He said: How has it come about? He said: It is perhaps the strain) to which it has reverted, whereupon he (the Prophet) said: It is perhaps the strain) to which he (the child) has reverted.

The understanding of integrated *naqli* and *aqli* knowledge in inheritance topic was identified through post-test that was conducted at the end of the lesson. Same questions with the pre-test were used for the post-test. The students' performance for both tests were used to determine the best teaching method by comparing the marks using t-test approach of SPSS.

The comparisons between conventional and co-teaching methods were calculated and tabulated using descriptive methods and T-test approach of statistical software, SPSS. Graphs were designed in a way that would best explain the result.

Result and Discussion

The students' performance was identified through pre-test and post-test marks. In the beginning, none of the student answered correctly for pre-test question. It shows that the students have no any idea on the integration *naqli* and *aqli* knowledge of inheritance. Thus, the mark from post-test is reliable to identify the effectiveness for the implementation of *naqli* and *aqli* knowledge among gifted and talented Muslim students.

Based on post-test, results are divided into three categories; low, moderate and high. The range marks are; low (1-2 marks), moderate (3-4 marks) and high (full marks). The marks obtained were analyzed using descriptive statistics.

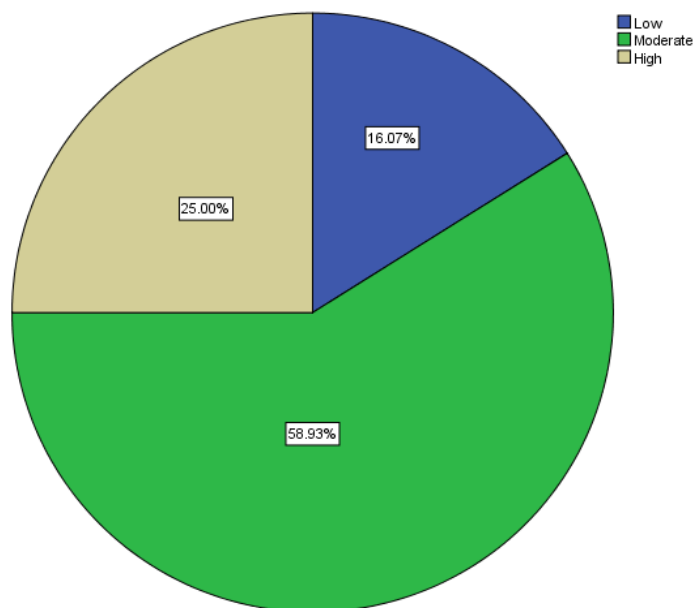


Figure 2. Student's Pre-Test Performance

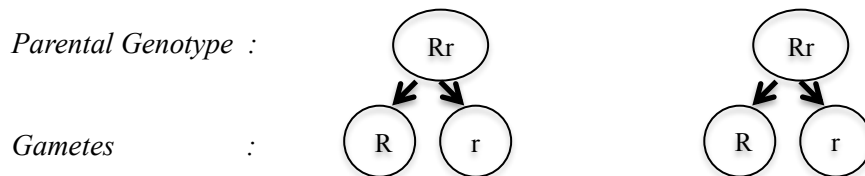
Among 56 students, 16.07 % (n = 9), 58.93 % (n = 33) and 25.00% (n = 14) obtained low, moderate and high marks. Based on the answer, all students obtained correct answer for question 1 which is a basic knowledge of inheritance irrespective with *naqli* and *aqli* knowledge. Nevertheless, it can be declared that the students grasp the fundamental of Mendel's First and Second Law.

In addition, 50 students were able to draw out *naqli* knowledge related with inheritance by answering correctly for Question 2. 45 students used the same Hadith as introduced during the class while 5 of them answered different Hadith but related with the inheritance. This may due to advance knowledge on *naqli* since Kolej PERMATA Insan students who are studying Al-Quran and Hadith in early age.

Figure 2 clearly shows around 83.93% of the students were identified to have good understanding in integrated *naqli* and *aqli* knowledge of inheritance who answered at least 3 questions correctly. 43 students were able to integrate the *naqli* knowledge with inheritance by answering correctly for question 4 as an example below:

“This hadith refers to monohybrid fertilization where both of the parent’s genotype consist s heterozygous dominant. Heterozygous is a different pair of allele. Therefore, the first generation may produce different phenotype.”

Parental Phenotype : Parent with red color x Parent with red color



Punnet Square :

	R	r
R	RR (red)	Rr (red)
r	Rr (red)	rr (dusky)

Genotypic Ratio : 1RR: 2 Rr :1 rr

Phenotypic Ratio : 3 Red: 1 Dusky

Next, 25% of the students were classified as high achiever for this topic whom able develops the definition of genetic based on integrated *naqli* and *aqli* knowledge as an example below:

“Genetic is the study of wisdom for Allah creations which discuss on gene, variation and inheritance due to human as the best creation”

Thus, it is proven that integrated *naqli* and *aqli* knowledge is suitable as enhancement program for gifted and talented Muslim students.

Table 1. Significance of Methods of Teaching

		Students in the Performance Category				
			Low	Moderate	High	Total
Method of teaching	Without co-teaching	Count	9	14	5	28
		% within method of teaching	32.1%	50.0%	17.9%	100.0%
		% within students in the Performance Category	100.0%	42.4%	35.7%	50.0%
		% of Total	16.1 %	25.0%	8.9%	50.0%
	With co-teaching	Count	0	19	9	28
		% within method of teaching	0.0%	67.9%	32.1%	100.0%
		% within students in the Performance Category	0.0%	57.6%	64.3%	50.0%
		% of Total	0.0%	33.9%	16.1%	50.0%

On the other hand, the suitable teaching method for integrated *naqli* and *aqli* knowledge was identified, when all students (100%) who were taught through co-teaching method obtained moderate and high result (Table 1). While, nine students who were taught through conventional teaching method (Method A) obtained lower mark for the post-test and 67.9% of them scored moderate and high marks.

This result demonstrated that the students' understanding increase with two experts taught in a classroom. It is proven by the mean of academic performance of co-teaching method (8.5357) which is higher than without co-teaching (6.0536) as shown in Table 2. This method enhances understanding of the knowledge due to presence of both experts in the class thus solving the limited content knowledge of the teachers as agreed by Johnson and Brumback (2013).

Table 2. Group Statistic

	Method of Teaching	N	Mean	Std Deviation	Std Error Mean
Student Academic Performance Assessment Test Score	Without co-teaching	28	6.0536	2.83607	.53597
	With co-teaching	28	8.5375	2.56012	.48382

Then, an independent sample t-test (Table 3) revealed that students' academic performance between co-teaching and without co-teaching method has significant difference, $t(54) = -3.438$, $k < 0.05$.

Table 3. Independent Sample Test

		Levene's Test		t-test for Equality Means						
		f	Sig	t	df	Sig (2-tailed)	Mean Difference	Std Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
Student Academic Performance Assessment Test Score	Equal variances assumed	.355	.554	-3.438	54	.001	-2.48214	.72204	-3.92975	1.03454
	Equal variances not assumed			-3.438	53.444	.001	-2.48214	.72204	-3.93009	-1.3420

Therefore co-teaching method can be implemented as teaching method for integrated *naqli* and *aqli* knowledge among gifted students. Embury and Dinnesen (2013) also agreed that the quality of co-teaching increased students performance. However, it will be achieved if both experts are well-prepared for the lesson of the day. Furthermore, it is also a method to ensure gifted and talented students whom require special needs have access deep learning as stated by Friend (2008). Thus, co-teaching method is the effective teaching method for integrated *naqli* and *aqli* knowledge among gifted and talented Muslim students.

Conclusion

In this paper, the integration of *naqli* and *aqli* knowledge has been used as enhancement program by applying in Biology's classroom for gifted and talented Muslim students. It shows through the academic performance (post-test) when 47 out of 56 students obtained moderate and high achievement. This achievement was narrow down to identify the effectiveness of between two teaching method which are co-teaching and without co-teaching. By analyzing through t-test, it is found that the co-teaching method contributed higher mark during the post-test compared to without co-teaching method. Therefore, co-teaching method is the effective teaching method for integrated *naqli* and *aqli* knowledge especially in Inheritance topic.

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