



EVALUATION PROGRAM SCIENCE-BASED AT MADRASAH ALIYAH

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Abstract: The whole world has a common view that education can improve lives, break the poverty chain and sustain the nation-building process. This research to evaluate the SAIN-based Madrasah Aliyah (MA) education program in Brebes, Central Java. The evaluation model used in this study is the CIPP model (context, input, process, and product) of the qualitative research approach model introduced by Stufflebeam. The results is that madrasah sains education program has been running well in accordance with the educational program that has been compiled. However, in there are still some shortcomings in the field of funding (low teacher incentives), facilities and infrastructure (there are no adequate laboratories) and about the development of low human resources competencies of teachers.

Keywords: evaluate, CIPP Model, educational program, Madrasah Sains

Abstrak: Seluruh dunia memiliki kesamaan pandangan bahwa pendidikan dapat meningkatkan taraf hidup, memutus rantai kemiskinan dan menopang proses pembangunan bangsa. Penelitian ini untuk mengevaluasi program pendidikan Madrasah Aliyah (MA) berbasis SAIN di Brebes, Jawa Tengah. Model evaluasi yang digunakan dalam penelitian ini adalah model CIPP (konteks, masukan, proses, dan produk) dari model pendekatan penelitian kualitatif yang dikenalkan Stufflebeam. Hasilnya adalah program pendidikan madrasah sains telah berjalan dengan baik sesuai dengan program pendidikan yang telah disusun. Namun, di dalamnya masih terdapat beberapa kekurangan di bidang pendanaan (insentif guru rendah), sarana dan prasarana (belum ada laboratorium yang memadai) dan tentang pengembangan kompetensi sumber daya manusia guru yang rendah.

Kata kunci: evaluasi, Model CIPP, program pendidikan, Madrasah Sains

Introduction

The whole world has a common view that education can improve lives, break the poverty chain and sustain the nation-building process. No wonder that in any country provides educational scholarship programs for its citizens (Cristovam, 2006; Tiedao Zhang, 2006). For example, in Brazil the quality of its human resources by *using bolsa escola*program, this program replaces the "need" for schools with "demand" for schools (Cristovam, *et all*,2006). Meanwhile, in China, to alleviate the problem of low human resources, the majority are spread in the countryside through the provision of education

in the form of courses, and a compulsory nine-year study program (Tiedao Zhang, 2006).

The above narrative is in line with the theme of the state speech at the 74th Anniversary of the Republic of Indonesia, SDM Unggul, Indonesia Maju. In this context it has clearly been summarized by persons in Indonesia. Being a developed country is the goal of every country, as is Indonesia. With the advance of Indonesia is expected to improve the welfare and prosperity of all its citizens. To achieve these noble goals the indicators that should be considered are SDA and superior human resources. Strategic steps towards the establishment of superior human resources can be done by improving the quality of education.

Furthermore, science as one of the objects in the world of education can be referred to as the context of critical thinking using logic. And the logic of thinking in every lifeline can be from school by making science the context.

Madarasah is one of the official institutions under the auspices of the Ministry of Religion engaged in public education characteristic of Islam. Based on the Decree of the Minister of Religion No. 184 of 2019 on Curriculum Implementation Guidelines in Madrasah. principle is intended to standardize curriculum implementation in madrassas. Until this decision, madrasah become one of the legal institutions to high schools to provide a decent education to support the foundations of the country summarized in the 1994 Constitution, especially article 31 on education, that every citizen deserves a decent education.

It should be understood that science comes from the word science which means science, including Natural Science and Social Science, both of which are based on logic. Logic is a resourceful way of thinking; a process of finding and finding information, by assessing and weighing to decide something in the form of rules and rules. These rules are what a person will consider in deciding whether the information obtained is acceptable, needs consideration, or even rejection. By utilizing logic, one will be able to think critically, and this is the key of a generation to survive and conquer global challenges.

Critical is not about being skeptical of new information, but critical means understanding how an information is evaluated for truth. As time goes on, science and technology evolve so quickly. A simple form of this development is new information. How would a person contribute if he or she was unable to evaluate such new information. So it is this critical thinking that will be the consideration of one being between two options; stay afloat and simply become an object of change or continue to work and be the subject of change. To be a subject of change and productive is necessary critical thinking habits that are one of the habits of learning in the world of education. These processes, which include a person receiving information, further evaluation and execution of a new information and acting as a perpetrator of change in an open and progressive society, are the advantages gained from an education. In short, education will make us a better person.

METHOD

This research uses the CIPP program evaluation model (Context, Input, Process and Product) introduced by Stufflebeam (Stufflebeam, 2013). The research was conducted at Madrasah SAIN in Brebes Central Java. Data collection techniques include interviews, observations and document studies (primary and secondary data). Meanwhile, data analysis is carried out from the beginning of the research and during the research process is carried out. Information collected for systematic processing. Starting from observation, editing, classifying, reducing, then presenting data activities as well as concluding data. The data analysis techniques in this study used interactive analysis techniques from (Miles and Huberma, 1992).

RESULTS AND DISCUSSIONS

History of The Establishment of MA Al Hikmah as Madrasah Sain in Brebes Central Java

Historically MA AI Hikmah 2 was established since 1990, with two majors A1 (Religious Sciences) and A3 (Social Sciences). Along with the community's demand for improved education quality, in 1993, MA AI Hikmah 2 entered the ranks of accredited schools with recognized status. Then in 1994/1995 there was a change in education policy nationally which one of the points read that MA is not a religious school, but a public high school (SMU) that is characteristically religious, and the majors opened are majors in Natural Sciences, Social Sciences, and Language majors. MA students must have life skills, in 1996, MA AI Hikmah 2 opened a D1 equivalent Computer skills program with the legal of law of LPK (Institute of Skills Education) under the supervision of the Department of Manpower and Transmigration.

Continuous efforts are made to become a "first grade school" instead of a second grade school in accordance with the image that is developing in the community, then in 1999/2000 MA Al Hikmah 2 accredited to be equal status. And until now MA Al Hikmah 2 accredited A.

The historical narrative above, seems to shift the view on religious-based education that only pursues the science of religion an-sich (Ahmad, 2012), but has also into the deepening of non-religious scientific knowledge namely SCIENCE. So religious-based educational institutions, especially Islamic religious-based educational institutions have changed the image of modern and quality education. For example, the emergence of flagship religious-based schools in Indonesia (borrowing the term Azra of elite Muslim schools) in the 90s as quality schools because it successfully repositioned the work of Islamic education from orientation to Islamic sciences into educational institutions that orient their education on mastery as well as the achievement of science and technology (Azra, 2012:83).

To realize quality education MA AI Hikmah Brebes has a vision, mission and educational objectives that are contextual with the development and social change, Here MA AI Hikmah Brebes has the following vision and mission: VISION: Excel in Achievement, Sturdy Religion and Skilled in Life. Meanwhile, MISSION: quality students, insightful and scientifically minded and ready to be independent improving the

quality of dedicated teaching staff, modifying curricula, optimizing facilities, professional service systems, and maximizing management of financial resources. The areas of priority for this school are: Improving the quality of students, Improving the quality of education personnel, Modifying the curriculum, Maximizing facilities, Optimization of extracurricular activities. The objectives of madrasah aliyah al hikmah 2 are as follows:

- 1. Preparing students to have a high religious understanding and experience measured by the ability to read and understand books and modern books.
- 2. Preparing students with high ability to general knowledge is measured by the high national final exam scores (UN) so as to inspire them to continue to public and private universities.
- 3. Prepare students with life skills (Computer, Fashion, Fisheries, Welding, English) so that they are able to be independent and entrepreneurial in the community (Life Skill Education).

The development of the program that has been done by MA Al Hikmah 2 is as follows:

- 1. Modify the curriculum according to market demands
- 2. Open majors (IPA, IPS, Religious) starting first grade with the consideration of lowering the burden of students
- 3. Accommodate students into three learning abilities:
 - a. Mastering curricular lessons (regular curriculum)
 - b. Understanding the yellow book by stressing on religious experiences
 - c. Develop one of the skills (Life Skill Education)
- 4. Open 5 skills programs that include:
 - a. D1 equivalent computer skills program
 - b. Fashion skills program
 - c. Fishery-based agricultural skills program
 - d. Welding skills program
 - e. English skills program
- 5. Change the learning period of Madrasah Aliyah Keagamaan program to 4 years of learning period by stressing mastery of English and Arabic.
- 6. In an effort to sharpen the skills of students, the school implements the PKL (Field Work Practice) program in accordance with the type of skills at level II
- 7. Develop cooperation with various agencies

Context of Science Learning

Science, in this case more specifically Natural Science is one of the learning subject students in Indonesia who began to be introduced at the elementary school level to high school (for those who choose the interest of Natural Sciences). Practically mandatory, students in Indonesia have an obligation to study IPA.

PISA measures three competencies, Mathematics, Reading, and Science with subjects. The evaluations in this PISA include knowledge and applications. It's not just what students know, but also what students can do. Pisa results last time (i.e. 2018)

showed Indonesia still at the bottom of the leaderboard, with a score of 396 which means a decrease of 7 points from the 2015 PISA result.

This decline is certainly triggered by several factors and will also have an impact on some things. The quality of educators, facilities, proportion of study time, and most importantly the awareness of science learning itself is a factor in the decline of this evaluation. In addition to recognition from other countries, the confidence of educational institutions, this decrease in PISA scores is also considered able to sort the learning ambitions of students in Indonesia.

Although science competitions are held by almost all universities both private and state, with participants said to be quite decent not be a benchmark for student science competencies. Due to the fact that in the advanced rounds (semi-finals and finals) in a competition, the participants usually complain of a lack of ability in practicum.

This is certainly heavily influenced by ecosystem of school during the madrassa, where most of the time studying science is spent alongside books and other stationery. Practicum can be considered a routine thing that will only be done during the practice exam. In addition to the demands of curriculum and assessment in the form of questions that make teachers and students ambitious to pursue results in the form of grades, facilities are another major factor. In MA AL Hikmah 2, the procurement of laboratories and their contents is considered inadequate. In terms of physical building, labor, procurement of materials tools, and also management. The ipa laboratory ideally consists of three rooms for Physics, Chemistry, and Biology with room specifications in accordance with Permendiknas No. 24 of 2007. Permendiknas No. 26/2008 on School/Madrasah Laboratory Energy Standards, MA Al Hikmah 2 including that still cannot meet the standards.

The basic and urgent thing in our glasses that needs to be fixed immediately is students' awareness of the importance of science learning, that science is not just memorizing formulas, that science is the context of thinking using logic that when understanding it will be very petrifying in life. As in the findings of this study there is no specific reference in science learning policymaking in MA Al Hikmah 2 in general (for students of Integrated/Regular Science program). Science learning is carried out in accordance with the Learning Implementation Plan (RPP) which has been developed by the teachers of each mipa subject. The prevailing curriculum and RPP are prepared to refer to the Decree of the Minister of Religion (KMA) No. 184 of 2019 and Permendikbud RI No. 36 and 37 of 2018. For The Flagship Program Science class, the curriculum structure is used in accordance with KMA 184 but many get modifications in both the number, type, and operation.

Then the Initiator of the science learning strengthening program at MA Al Hikmah 2 is the head of madrassa, while as its executor (actor/executor) they are teach at laboratory science with the support of other parts such as science laboratory managers. While in Motivation and Science Objectives, the program of strengthening science learning in MA Al Hikmah 2 is carried out in accordance with the mandate of the national curriculum and in order to carry out the vision and mission of MA Al Hikmah 2 in shaping the character of the learners. Furthermore, in terms of the support of madrasah/community heads and other institutions with science learning can be

concluded that the support of madrasah heads has been good in terms of coaching to science teachers, but is still judged to be lacking in terms of procurement of laboratory space. Schools are focused on improving skills programs. Support from other parties is from walimurid (self-help in financing).

Science Learning Input

The objectives of the curriculum include four competencies, namely (1) spiritual competence, (2) social attitudes, (3) knowledge, and (4) skills. The science learning process at MA Al Hikmah 2 is divided into 3 processes, namely intracurricular, cocurricular, and extracurricular.

Science learning at MA Al Hikmah 2 is expected to be a process of building knowledge (science) through student thinking activities. Students are given the opportunity to develop their knowledge independently through a communication process that connects the initial knowledge they acquire with the knowledge they must develop/discover. MA Al Hikmah 2 implementing intracurricular, namely face-to-face learning in the classroom between teachers and students, in accordance with the allocation of time has been determined in the structure of ma al hikmah 2 learning program. Curriculum structure on KMA 184. Here is the curriculum structure used in science learning MA Al Hikmah2:

Table 1.The Curriculum Structure of Madrasah Aliyah Interest mipa (Kma compliant 184)

Subjects		TIME ALLOCATION		
	up A (Required)	PER WEEK		
	ap A (Nodanoa)	(i	Cii	
1.	Islamic Education			
	A. Qur'an Hadith		2	
	B. Moral Beliefs		2	
	C. Fikih		2	
	D. History of Islamic Culture		2	
2.	Pancasila and Citizenship Education		2	
3.	English		4	
4.	Arabic		2	
5.	Math		4	
6.	History of Indonesia		2	
7.	English		3	
Gro	up B (General)			
1.	Cultural Arts	•	2	
2.	Physical Education, Sports and Health		2	
3.	Pre-work and Entrepreneurship 2		2	
Gro	up C (Interests)			

Academic Interests

Subjects Group A (Required)		TIME ALLOCATION PER WEEK		
		1.	Math	3
2.	Biology	3	4	4
3.	Physics	3	4	4
4.	Chemical	3	4	4
Pre	ferred Subjects:			
	Cross-Interest Selection and/or Deepening nterests and/or Informatics Subjects	6	4	4
Am	ount	51	51	51

From an operational and teacher's point of view, science learning starts from the discipline of checking student attendance at the beginning of the class begins, getting students used to praying before class begins, and making sure students collect the assignments given. The learning process refers to RPP. The curriculum structure for IPA Students of The Flagship Program undergoes considerable modifications of the type, quantity and operation. In terms of the number of hours of lessons, the Flagship Science Program uses a proportional mechanism by which certain subjects who are subject to a greater portion of the hours. The main lessons in question include mipa lessons (Mathematics, Physics, Chemistry, Biology), English, and Computers. In terms of operations, there are certain lessons that are not taught directly in the classroom, but are taught outside the hours such as Cultural Arts Penjasorkes, and PKWU. Here is the Curriculum Structure of Ma Al Hikmah 2 Flagship Program Science Class. Afternoon Class: Afternoon class is a class material deepening activity for IPA Students of The Featured Program.

Table 2. Afternoon Class Curriculum Structure Madrasah Aliyah Al-Hikmah 2

Subjects		TIME A	TIME ALLOCATION		
		PER W	PER WEEK		
			(i	(ii	
1.	Olympic Class				
2.	Chemical			2	
3.	Math			2	
4.	Physics			2	
5.	Biology			2	
Amount		11	11	11	

In the process of getting to science-based Madrasah, MA Al Hikmah 2 provides extra interest classes. Ma Al Hikmah Extra Interest Class is a material deepening class

for Students of Integrated/Regular Program IPA grades X and XI. Some of the objectives that want to be achieved through the extra interest program are: a). Students are able to understand the material of science learning comprehensively, b). Students become tutors of learning for peers, c). Students have knowledge of research in the field of science, d). Students win the competition in science. Then some concrete steps taken to achieve these goals are as follows: a). Provide an explanation of additional materials that have been taught in the classroom in detail and depth, b). Provide hots-based training questions related to learning materials, c). Provide a varied and up-to-date source of learning materials, d). Provide group study assignments with peers, e). Create experimental activities.

Furthermore, in order to go to a science-based madrassa, Madrasah Aliyah Al Hikmah 2 also provides olympic class facilities. Olympic class is a special class owned by MA ALHIKMAH 2 in order to provide services to students who have more ability in olympic fields. In one olympic class, consisting of 5 – 10 students who are a combination of 10th, 11th and 12th graders. Students who are allowed to participate in olympic classes are those who have passed the selection carried out by each tutor. After participating in regular learning activities held every 2 times a week, olympic class students must be ready to become school ambassadors in every event/competition either conducted by the Ministry of Education, KEMENAG or other competition organizers. The number of meetings can increase if approaching an event.

The Olympic class participated in the field presented by the Ministry of Education in the implementation of the National Science Olympics consisting of 9 fields, including; Mathematics, Physics, Chemistry, Biology, Computer (Informatics), Astronomy, Earth, Geography, Economics. Here the curriculum of the Olympic class follows the curriculum of the competition in the National Science Olympics. In addition to participating in osn kurikulm, the olympic class curriculum also follows the curriculum of the competition implemented by several universities (such as, UNSOED, UGM, UNY, UNS, UNDIP, ITS, UNAIR, UB, UIN Jogja, UIN Malang, UIN Jakarta, UI, etc.) as well as olympic organizing institutions (such as, OSN training, LOPI, Opsilon, ALC, etc.).

The above education programs are supported by adequate teacher quality. Here the education (Science) workforce, in terms of science teacher recruitment method, Ma AI Hikmah 2 science teacher selection method is divided into 3 stages namely administrative selection, interview selection, and the latter is micro teaching. Currently, the number of educators (teachers) for science subjects is approximately 16 people with qualifications that fit the plan and purpose of science learning. Here is a map of the number of science education personnel in MA AI Hikmah 2:

In addition to the support of qualified teachers, MA Al Hikmah also has adequate facilities and infrastructure. The facilities and infrastructure in laboratory science MA Al Hikmah 2 when compared to the completeness rules contained in Permendiknas Regulation No. 24 of 2007 as a reference for laboratory standardization in high school / MA then the laboratory IPA MA Al Hikmah 2 has not met the standard. Facilities such as buildings (rooms), clean water, tools and educational media already exist but not enough. Like space, chemistry and biology science laboratories are still incorporated in

one laboratory space, including storage and preparation space, while physics laboratories are already separate. Supporting educational equipment and media already exist but the number is still lacking and there are some tools that are damaged. Laboratory IPA MA Al Hikmah 2 is equipped with a TV in place of LCD Projector, used to facilitate teachers in explaining the material while clarifying.

Science Learning Process

Learning planning at MA Al Hikmah 2 is designed in the form of syllabus and learning implementation plan (RPP). The syllabus shows the subjects of the subject matter prepared by the government as a minimum standard of learning. Rpp describes learning procedures to achieve one basic competency set out in the content standard stipulated in the syllabus (sample rpp attached). Core Competency (KI) and Basic Competency (KD) are based on the Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 37 of 2018. The role of the Head of Madrasah on science learning is to support, facilitate, and issue policies. While teachers have a role to play in educating, supervising, and nurturing students in the science learning process.

In the implementation of science learning, the learning methods used in MA Al Hikmah 2 include lecture methods, discussions, q&A, practicum, and demonstrations. Practicum and demonstration are reinforcement activities outside madrasah classes held in the laboratory aimed at field research and research practices. The studies are conducted 1 yearly in MA Al Hikmah 2, which is a study of science in the Qur'an by students majoring in SCIENCE and MAK.

Evaluation or assessment is one of the important components in the learning system which is the process of collecting data to determine of educational objectives. Evaluation can be done in a variety of ways and using a variety of sedation tools. In the context of classroom learning, evaluations are conducted by teachers to measure the development of students' learning outcomes as formulated in the purpose of learning. The method of evaluation of science knowledge conducted by MA AL Hikmah 2 is with writing tests that are carried out regularly including daily assessments, midterm assessments and final semester assessments. While the evaluation of skills in certain subjects is done with presentation or practicum.

Output and Outcome

The effective and intelligent learning process carried out by MA Al Hikmah 2 makes educational outcomes also quality. This reality can be seen from the various achievements that have been achieved and obtained by the madrasah MA Al Hikmah which is so diverse. These achievements are the implications of qualified teachers and curriculum standards that care about aspects of the development of their students. The following academic and non-academic achievements obtained by MA Al Hikmah 2 Years of Acquisition 2017-2020:

Table 3. List Of Academic Achievements

Madrasah Aliyah (Ma) Al-Hikmah 2

No.	Champion	Competition Name	Level	Year of Acquisition
1	1	District science competition	Regency/ City	2020
2	3	National Science Competition – District	Regency/ City	2020
3	1	KSN REGENCY	Regency/ City	2020
4	3RD PLACE (KSN-P JATENG PASS)	KSN-K BREBES	Regency/ City	2020
5	3	National-District Science Competition	Regency/ City	2020
6	2/FIRST RUNNER UP	UPS ENGLISH CONTEST UPS	Karasidenan	2020
7	HOPE 1/THE THIRD RUNNER UP	UPS ENGLISH CONTEST UPS	Karasidenan	2020
8	2nd place	KSN-Regency	Regency/ City	2020
9	3rd Place Regional Selection (Semarang Region)	UNAIR INDONESIA PHARMACEUTICAL COMPETITION	Regency/ City	2020
10	1st place	National Science Competition at District Level in Physics	Regency/ City	2020
11	2nd place	Pancasakti Science Competition 2020	Karasidenan	2020

The table above is the achievement achieved by madrasah. This achievement is not achieved automatically, but fought through the quality of teachers and the process of adequate teaching. The achievements achieved by madrassas are a real picture of how to realize qualified students must also be balanced by madrasah institutions that are also qualified. The two things are interconnected in advancing the madrassa education system, especially science-based madrassas.

CONCLUSION

Based on the narrative of the above findings can be summed up 1) The science learning activities conducted at MA Al Hikmah 2 are good enough, but supporting facilities such as laboratories are not adequate, 2) Lack of training activities for teachers as one of the supporting competencies of teachers, 3) Teacher incentives are not yet standards that can support the quality and spirit of teaching. 4) Based on the above conclusions.

The recommendations submitted are as follows: 1) The need to improve facilities, especially laboratorium as a means and infrastructure of learning strengthening activities. 2) The need to improve the skills and quality of human resources. 3) The need for increased incentives, therefore, is necessary to increase incentives to improve the quality of teaching and human resources.

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