The Effectiveness of the Logic Evaluation Model in K-13 Curriculum Analysis

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A B S T R A C T

This study aimed to evaluate the implementation of the curriculum using the Logic Evaluation Model which includes 4 aspects; input evaluation, activity evaluation, output evaluation and outcome evaluation. The study approach used was mixed approach with a sequential explanatory method (sequence of evidence). This study was conducted by doing quantitative research first, then continue the research with qualitative methods to find conclusions. The sampling technique used Henry King's Nomogram Table, so that the number of teachers involved in this study was 78. In this study, researchers found that the implementation of Kurikulum 2013 was still quite sufficient with an average score was 3.84 and the TCR was 75.52%. The results of the evaluation of Kurikulum 2013 implementation on the input aspect was good with an average score was 3.96 and the TCR was 80.28%, in activity aspect it is sufficient with 3.70 average score and the TCR was 74.06%, The output aspect of Kurikulum 2013 implementation is sufficient with the average TCR was 3.96 and the average indicator was 73.62%, then the outcomes aspect is sufficient with the average score was 3.73 and the TCR was 74.13%. This research implies that there is a need for improvement in activities, inputs, and outcomes aspect, even though the activity evaluation component showed good Kurikulum 2013 implementation.

1. Introduction

Education is a fundamental process for the nation's development. Education is very important for the advancement of human resources; good quality education will produce good quality human resources. Good education quality must be supported by education components. These components are input (students), educators, infrastructure, environment, and curriculum.

According to Undang-undang Nomor 20 Tahun 2003 Pasal 1 Ayat (19), Curriculum is "a set of plans and arrangements regards the objectives, content, and learning materials as well as methods used as guidelines to implement learning activities for certain educational goals". To achieve the goals of national education, appropriate suggestions are needed to change curriculum. Kurikulum Tingkat Satuan Pendidikan to Kurikulum 2013 in vocational high schools are expected to have an impact on the the quality development of the human resources in SMK both in input and output process. According to Kemendikbud, Kurikulum 2013 Development is a further step in Competency-Based Curriculum Development which was initiated in 2004 and KTSP 2006 which includes competency attitudes, knowledge, and skills in an integrated manner. It can be understood that the Kurikulum 2013 does not only refer to the development of hard skills but also the soft kill of students in particular.

In Kurikulum 2013 (Kemendikbud), curriculum changes in SMK include changes in elements of content, specially developed from competencies. So that students can be mastering competencies, therefore this curriculum can be interpreted as the development of a competency-based curriculum that refers to vocational education. Aspects of these changes include the addition of 6 expertise programs, 40 areas of expertise, 121 skill competencies), adaptive and normative reduction, increasing productivity. Thus, Kurikulum 2013 is expected to provide more mastery of vocational competencies for students.

SMK Negeri 1 Ujungbatu is one of five Vocational High Schools located in Rokan Hulu Regency. This school is a vocational engineering technology group with six skill competencies: 1) Light Vehicle Engineering, 2) Motorcycle business engineering, 3) Computer and Network Engineering, 4) Video Audio Engineering, 5) Multi-Media Engineering and 6) Office Accounting. From the six skill competencies in SMK, each competency is managed by a Head of Skills Competencies (KPK) and is assisted by a Head of

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Workshop. Based on data from the administration of SMK Negeri 1 Ujungbatu, the number of students at SMKN 1 Ujungbatu in 2019/2020 academic year are 730 students. The number of ten grade study groups is 9. Eleventh grade is 8 study groups. Twelfth grade consists of 8 study groups (Source: Administration of SMK Negeri 1 Ujungbatu (June, 2014). Also, each class is accompanied by a homeroom teacher who is responsible for helping to develop and supervise the development of each student, especially helping to report and process follow-up learning evaluation results for each summative evaluation period, such as mid-semester and semester exams. . In addition to the role of the KPK and homeroom teachers, subject teachers also have a major role in presenting subject matter to students at school. Because without them the learning process at school will not be carried out. The role of the principal is as the leader and the main person responsible for the quality of the school.

In the implementation of vocational education, SMK is often faced with serious challenges on the quality of the inputs, processes, and outputs produced. Various problems such as input (students who enter SMK) on average come from middle to lower economic groups, lack of information about the chosen major, and low learning motivation. In terms of the process, for example, the constraints in terms of learning time in schools that are long (average number of 50 hours per week), a large curriculum load, the number of students who stop (dropout) during education. In terms of the output itself, for example, it is difficult for vocational students to become independent entrepreneurs or even compete with other graduates to find work according to their chosen major. This is in line with the implications of the current K-13 curriculum.

Kurikulum 2013 has had a major impact on education at SMKN 1 Ujungbatu, because this curriculum has only been running for six semesters, but has provided significant changes and results for the development of education in schools. However, to what extent the success of Kurikulum 2013 against changes in the learning climate and influencing the quality of learning, it is necessary to conduct a study in the form of curriculum program evaluation research in this case the author uses the Logic Model method. Logic models are designed as representations that help organize development, implementation, and evaluation, and when used as assessment tools, logic models focus on important elements of the program, which help in identifying evaluation questions that should be asked (Reflianto et al., 2018). Logic models are used as a tool for modeling program structures (McCoy & Castner, 2020; Reflianto et al., 2018; Rohmatulloh & Shalahuddin, 2014). Logic models become a way to frame evaluation, and conversely, evaluation becomes a way to validate logical models (Wu et al., 2019). Research conducted by (McCoy & Castner, 2020) states that logic models provide tools for nurses to plan, design, and evaluate programs.

Based on this description, the research objectives can be formulated, namely to evaluate the implementation of the curriculum using the Evaluation Logic Model which includes 4 aspects; input evaluation, activity evaluation, output evaluation, and outcome evaluation. The results of this study will help to improve the process of education in schools, of course, this has an impact on the quality of education.

2. Methods

The type of research used in research on the implementation of Kurikulum 2013 at SMK Negeri 1 Ujungbatu is evaluation research with a mixed-method research approach (combination research methods), to be precise an explanatory mixed-method design (sequence of evidence), this research was conducted by conducting quantitative research first. Then, continuing research with qualitative methods to find conclusions (Creswell, 2008).

The study began with data collection and quantitative analysis. Then it continued with qualitative data collection and analysis, and the results of qualitative research were used to provide further explanation of phenomena that have not been explained based on the results of quantitative research (Basit & Rahmawati, 2018). The sampling technique used Henry King's Nomogram Table so that the number of teachers involved in this study was 78 people.

All data obtained were analyzed by explanatory mixed-method analysis, (Creswell, 2008), starting with quantitative data analysis using descriptive quantitative techniques, followed by an explanation and elaboration of the quantitative findings using qualitative data sets that had been obtained using qualitative techniques.

3. Result and Discussion

Based on the quantitative data analysis above, the results of the evaluation of Kurikulum 2013 implementation input at SMK Negeri 1 Ujungbatu are in the good category with a TCR of 80.28% and the average score of the statement items is 3.96. Meanwhile, from the aspect of increasing knowledge of

Kurikulum 2013 through training, utilization of workshops, preparation of teaching media, preparation of content standards, and learning tools look good. The teacher's ability is still categorized sufficient in utilizing theoretical space, making textbooks as a supporting medium in teaching, analyzing student needs, and adjusting the time allocation of subjects. In more detail described in table 01.

Table 01. Interview results about the Input component

No	Component	Category	Interview result
1	Textbook creation	Enough	Teachers still lack interest and motivation in writing and developing teaching materials, partly due to time factors and partly because competence in writing scientific papers is still lacking.
2	Room theory	Enough	It has 3 main rooms for teaching and learning activities, so the theoretical room is generally used by teachers for packages A and B (general subjects).
3	analysis of student needs	Enough	Lack of teacher knowledge in assessing student needs, in addition to the time limitation factor and the large number of study groups
4	Time Allocation	Enough	Teachers are still lacking in time analysis because the spectrum is always changing every year

Based on the description of qualitative and quantitative data evaluation of input/activities on the implementation of Kurikulum 2013 at SMK Negeri 1 Ujungbatu, it can be concluded that the implementation of Kurikulum 2013 at SMK Negeri 1 Ujungbatu has been good and needs improvement to make it even better.

Activity Component
The activity component includes all descriptions of learning preparation carried out by teachers of SMK Negeri 1 Ujungbatu. Based on quantitative data, this aspect has a sufficient category with the respondent's achievement level (TCR) was 74.06% and the average of the teacher's statement items is 3.70.
Judging from the aspects of teaching device readiness, such as effective week, syllabus, SK, KD analysis, KKM, and lesson plans, agenda preparation, list of scores, evaluation instruments, and revision of teaching device development have been done well by the teacher. However, there are still several aspects that need improvement, such as preparation of attendance lists, learning resources, self-development in learning techniques and media through MGMP, and providing time to read books/reference materials to broaden teachers' insights. In more detail described in table 02.

Table 02. Aspects of teaching device readiness

No	Component	Category	Causative factor
1	list of attendees	The student attendance list has not been prepared	1) Teachers start school because most teachers do not have an attendance book taken to the facilities and infrastructure section, although there are a small number of teachers who have prepared attendance lists by typing manually.
2	Preparation of learning media	Enough	1) The availability of time and the dynamics of the preparation aspects in Kurikulum 2013 itself
3	Learning Media	Enough	1) The teacher's lack of knowledge in assessing student needs, in addition to the limited time factor and the large number of study groups.
			2) Even though several trainings have been carried out, they have not been able to prepare the teacher optimally in facing changes to the format of the equipment for several periods since Kurikulum 2013 piloting program in 2013

It can be concluded that based on the findings of quantitative and qualitative data, it can be seen that in the evaluation of the activities of teachers in SMK Negeri 1 Ujungbatu, namely in preparing all the

learning needs, they are in the good category. But there are still some factors that inhibit the smoothness of teacher preparation such as making teaching materials/learning resources, development. self and as well as the preparation of the equipment is caused by technical things such as time availability and the dynamics of the preparation aspects in Kurikulum 2013 itself. Although several trainings have been carried out, they have not been able to prepare teachers optimally to face changes in the format of the tools for several periods since the piloting program Kurikulum 2013 in 2013.

Output Evaluation Component (output / process)

The output component is a core component, where Kurikulum 2013 implementation process is carried out in teaching and learning activities by teachers at SMK Negeri 1 Ujungbatu. This activity includes the preparation or opening of learning activities, the use of media and learning prerequisites and learning approaches or methods. The quantitative evaluation results above show that the category was sufficient (the level of achievement of the respondent was 73.62% with the average score of the respondent's statement item was 3.96.

In general, the preparation of learning that is done by the teacher before learning activities in the classroom is good, it's just that in terms of approach, mentioning learning objectives and managing room comfort is still sufficient. In the components of using media and determining learning prerequisites, teachers of SMK Negeri 1 Ujungbatu are categorized as sufficient or even less. This means that the teacher has not maximized the media / electronic learning resources or made the media by himself, has difficulty managing the class, does not understand the initial situation of students (pre-requisites), and does not involve students actively.

In the indicators of learning approaches and methods, the teacher has implemented it well. Giving structured assignments, individual learning approaches, group learning, giving job sheets have been carried out by the teacher. However, there are still many teachers who do not understand and even implement techniques from learning methods that activate students such as group learning, inquiry learning, and tutorial learning, because most teachers still apply a teacher-centered approach by dominating the learning method using the expository method (lecture) only.

Based on the interview with SP (9 March 2020), it is stated that teachers must be able to vary the learning methods in the classroom and bring a real atmosphere in the classroom so that students have a broad picture of the study of science in class and make them motivated in learning. Teaching methods that only focus on delivering material (recitation) will make students less creative and active in the classroom. Learning approaches and methods that activate students such as assignments by giving worksheets, group learning (cooperative learning), problem-solving, discovery learning (discovery learning and inquiry learning) so that learning becomes fun and students can be trained to give active responses in the classroom.

It can be concluded that based on the findings of quantitative and qualitative data, the output/process component still needs improvement and changes to be implemented properly. The teacher must be able to create learning methods, and understand the characteristics of students, so that the learning process can be carried out properly.

Result components/Outcomes

The components of the results/outcomes as described in the process of implementing Kurikulum 2013 by teachers at SMK Negeri 1 Ujungbatu, include formatting and technical evaluation, remedial and enrichment, and reporting of learning outcomes. The results of the quantitative evaluation above show that the category is sufficient with an average overall score of 3.73 and the level of achievement of the respondents is 74.13%. There are three aspects evaluated in this component, namely compilation of report formats and technical evaluation, remedial and enrichment, and reporting of learning evaluation results.

In the aspect of formatting and technical evaluation, it appears that the teacher has reached a good category, but in the remedial and enrichment aspects of the teacher, it is still in the sufficient category. Meanwhile, the implementation of evaluation reporting and learning outcomes is in the moderate category. In the aspect of remedial and enrichment, teachers of SMK Negeri 1 Ujungbatu do not yet understand the procedure for implementing remedial. Most teachers only do tests to improve grades, not repeat the material and evaluate the results.

Meanwhile, the item of the learning achievement question shows good results every year. Meanwhile, the high student cheating habit shows the validity of the learning outcomes to be achieved is not satisfactory to the teacher. The statement of these two items is negative so that the analysis of the results of the respondents' achievement is interpreted otherwise (because in general, respondents always

and often answer). Meanwhile, the making of a student evaluation report format that is adjusted to the Competency Achievement Index (GPA) is in the sufficient category.

According to the deputy head of the Curriculum (GY, interview on March 13, 2020), the assessment of attitudes in Kurikulum 2013 has provided clear guidance for teachers in providing descriptions of individual attitudes according to the format. It's just that in reporting learning outcomes (report cards) the descriptions written sometimes do not represent the overall attitude of students.

According to SP (interview, 9 March 2020), attitude assessment should indeed describe the development of student attitudes in detail, so that students, parents, and teachers can make it a follow-up. Attitude assessment at SMK Negeri 1 Ujungbatu is still visible only in the form of scoring at the end of the semester, without reporting in the form of notes on attitude developments regularly. Even though the teacher should have made an attitude journal to see an overview of student development and provide feedback to students, the results of this attitude reporting are then conveyed to the Religion and Character Education teacher and the Civic Education teacher who will then conclude the attitude assessment.

When viewed from the student learning outcomes each semester it still does not describe the attitudes of students specifically. Therefore, Kurikulum 2013 is still being made to improve so that all aspects of learning can show valid results. Based on the findings of quantitative and qualitative data evaluation of the Kurikulum 2013 program at SMK Negeri 1 Ujungbatu on the outcomes/results component, improvements are still needed in this aspect, teachers must be trained and accustomed to making reports following appropriate standard procedures, as well as being able to improve the implementation system evaluation that is valid and on target so that it can measure the level of student ability appropriately.

Sudjana stated that product evaluation measures and interprets program achievements during program implementation and at the end of the program, namely in the form of output produced [8]. From the results of the evaluation of the implementation of Kurikulum 2013 at SMK Negeri Ujungbatu, the main implementer is that the teachers have performed quite well, the lack of implementation of Kurikulum 2013 at SMK is caused by many factors. The main factor is because this curriculum is still new and the government is still making improvements every year, so that teachers are required to adjust all learning attributes every year, this causes teachers to be a little overwhelmed and it is difficult to perfect all aspects of education, especially the core aspects of learning, namely output / a process that will impact the learning outcomes.

Based on the description of the results of the study, it can be said that with the implementation of the evaluation model logic, several things were obtained, namely the curriculum applied in SMK has been running well, this can be seen from the components of input, activities, evaluation of output, and components of the results. The components analyzed were said to be good but needed to be improved. Things that can be done to improve is to prepare facilities following the needs of the teacher in the learning process. With the facilities that support the learning process, it will make the learning atmosphere easier. The results of this study are in line with research conducted by (McCoy & Castner, 2020) which states that logic models provide tools for nurses to plan, design, and evaluate programs. Then research conducted by (Clapham et al., 2017) stated that the use of a logic model provides a visual representation of the Kids Together model and its parts and shows how a coordinated and collaborative approach can work in various situations.

Giving training that is not only done to certain teachers but also targeted equally so that the teacher's ability to design learning is equal and of course will have an impact on the learning process and will affect the quality of education. Training/seminar workshops / FGDs will assist teachers in solving problems faced by teachers in implementing the learning process. FGD can be simply defined as a systematic and focused discussion on a particular issue or problem with the number of participants varying between 8-12 people, carried out with the guidance of a moderator (Swadayaningsih, 2020; Waluyati, 2020; Rochimatun, 2016). The advantage of FGD is that the teacher's involvement is holistic and comprehensive in all activities (Waluyati, 2020).

Research conducted by (Waluyati, 2020) states that the application of focus group discussion (FGD) can improve the ability of teachers to use the environment as a learning resource. Then the research conducted by (Swadayaningsih, 2020) stated that coaching and guidance through the FGD approach can improve the ability of teachers to use the school environment as a learning resource. Research conducted by (Widiyati, 2019) stated that there has been a significant increase in the 2 cycles carried out, both in terms of activities and learning outcomes after participating in the social studies learning process with the Focus Group Discussion (FGD) model. Research conducted by (Rochimatun, 2016) states that the application of the group discussion method has been proven to be effective in teaching and learning activities in economic subjects to improve student learning outcomes of X.3 class in the first semester of SMA Negeri 3 Sukoharjo in the 2014/2015 academic year.

4. Conclusion

Evaluation research using the Logic model aims to be able to see more deeply about the implementation of Kurikulum 2013 at SMK Negeri 1 Ujungbatu. This research uses the sequential explanatory method (sequence of evidence), where the data is analyzed quantitatively and qualitatively, then the findings of both become a research result. After conducting the research, it was concluded that the following were: (1) based on the score of the teacher's statement regarding the implementation of Kurikulum 2013 at SMK Negeri 1 Ujungbatu, it was found that the average achievement of the teacher's statement score was 3.84 with the average respondent's level of achievement (TCR) was 75, 52%. Quantitatively, the implementation of the curriculum at SMK Negeri 1 Ujungbatu is quite accomplished. The four aspects of evaluating the implementation of Kurikulum 2013 are only the input aspect that shows the implementation of Kurikulum 2013 is good, while the activity, output, and outcome aspects are still sufficient, (2) the results of the evaluation of Kurikulum 2013 implementation inputs by teachers at SMK Negeri 1 Ujungbatu are good, meaning that all teachers have implemented curriculum according to the standards set (the average statement score is 3.96 and the TCR is 80.28%), (3) based on the findings of qualitative data the aspects that need to be improved by the teacher are the addition of scientific insights from books, making teaching materials and determining allocations. time, (4) the results of the evaluation of Kurikulum 2013 implementation activities by teachers at SMK Negeri 1 Ujungbatu are still in the sufficient category (the average statement score is 3.70 and the TCR is 74.06%). Based on the findings of qualitative data, among the aspects that need to be improved include preparation of attendance lists, learning resources, self-development in choosing learning techniques, and making learning media independently or through MGMP (Subject Teacher Consultation). Another thing that hinders teacher activity is the provision of time to read reference books/materials to broaden teacher insights. For this reason, teachers must be required to continue to improve their professional abilities, both pedagogical, psychological, and social. (5) the results of the evaluation of the output/process of implementing Kurikulum 2013 by teachers at SMK Negeri 1 Ujungbatu are still categorized as sufficient (the average statement score is 3.96 and the TCR is 73.62%). In the aspect of preparing teaching materials physically the teacher has shown good indications, but in the aspect of knowing the learning prerequisites, preparing media and learning resources as well as methods and approaches. There are still many teachers who have not maximized technology-based media because they are constrained by the availability of facilities in schools. Also, the methods and approaches to stimulate students to be more active have not been maximized by the teacher so that the dominance of the teacher-centered approach is still the most important applied, (6) the results of the evaluation of the outcomes/results of implementing Kurikulum 2013 by teachers at SMK Negeri 1 Ujungbatu are still categorized as sufficient (average -the average statement score was 3.73 and the TCR was 75.52%), the preparation of the format and technical evaluation, remedial and enrichment, and reporting of learning outcomes. The quantitative evaluation results above show sufficient categories. Aspects that are still below sufficient are remedial and enrichment aspects as well as aspects of reporting evaluation results.

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