

The validity of Developing Minangkabau Natural Culture Learning Media with KIM Games

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Abstract

Efforts to foster a spirit of togetherness and preserve regional cultural traditions must continue to be carried out, including holding the pantun dendang that is Melayu Irama Seni (KIM) Minangkabau. Various traditional arts have been held in various places. The consistency of fostering local culture should be appreciated. Kim is a Malay-Minang culture, an inseparable part of the culture of the archipelago. In the Minang tradition, Kim is a means of aesthetic presentation, communication media, social integration of the people wrapped in entertainment of dendang packages, lyrics and music. The importance of the Budaya Alam Minangkabau (BAM), developed, is evident from government policies at the national and local level of education. This subject contains the main things about the Budaya Alam Minangkabau (BAM) which are important to be studied at school. So as to facilitate learning, it is necessary to develop relevant instructional media. Therefore the researcher aims to develop the learning media of the Budaya Alam Minangkabau by measuring aspects of the Learning Strategy, Media and Standard Indonesian Language. It was concluded that the development findings were declared valid so that the Media could be applied in SMP.

Keywords: Validity, Media of Budaya Alam Minangkabau, KIM Games

1. Introduction

The Indonesian nation consists of various tribes with diverse cultures such as: customs and tradition, procedures, language, arts, crafts, and regional skills. Cultural diversity is a characteristic that enriches the values of Indonesian life. Culture limits itself to the problems of art, literature and the like (Alfian, 1982: 2). Culture needs to be developed and preserved while maintaining the noble values of the culture through educational efforts with the curriculum in the subjects of Budaya Alam Minangkabau (BAM). In order to produce quality education, the effective learning is needed, such as: planning, organizing, implementing, and evaluating. The effective learning is a very important part of the "learning process". There are three types of unique forms of acceptance by students in relation to the reception of

information or material provided by the teacher, namely: auditory, visual, and kinesthetic (Branch, 2009: 98-99). Because of this, teaching materials that students learn should not only be based on textbooks, but need to use and develop them through various media and learning resources that are relevant to the topic.

Media is a learning aid that is used to facilitate the delivery of material in order to achieve goals optimally. Basically, by using learning media; all five students' senses can be used in their entirety through hearing, sight, and also touching. That way, all types of students can be touched, both auditee, visual, and kinesthetic types (Rusman, 2012: 495). The benefits of media in learning are especially felt in training foreign languages, music literacy, distance learning, and learning packages or modules for the purpose of independent learning (Rusman, 2012: 171-173). Learning media can facilitate the learning process for teachers (Asnur et al, 2020).

Education needs to allocate time to develop local content subjects (*mulok*) that are tailored to the needs,



abilities, and conditions of the region and the school where the learning process is developed. *Budaya Alam Minangkabau* (BAM) is the name of a subject that is classified into the subject of local content in the Curriculum in schools in West Sumatra Province (Minangkabau). Therefore, it needs to be examined " *Budaya Alam Minangkabau* Subjects".

The importance of the Budaya Alam Minangkabau (BAM), development, and even preservation is apparent from government policies at the national and local level of education. The Budaya Alam Minangkabau (BAM) is manifested in subjects that are in accordance with the cultural environment of the community. The education unit is located nationally which is more commonly referred to as the Local Content (Mulok) subject. The preservation of the Budaya Alam Minangkabau (BAM) through education is an appropriate and wise choice, because through learning everything can be planned, programmed, and measured with certainty. Especially if these subjects include those, that must be taught and not choice. In accordance with regional autonomy, the concept of back to Nagari was announced; and learning Budaya Alam Minangkabau (BAM), included in the school curriculum starting from Elementary School (SD) to High School / Vocational High School (SMA / SMK).

The anxiety and the concern about the erosion of the Minangkabau culture today have been anticipated, among others in the world of education. The West Sumatra National Education Office has designed a curriculum that suits the needs of the region called the local content curriculum. Teaching of local content is one of the subjects of *Budaya Alam Minangkabau* (BAM). This subject aims to preserve Minangkabau culture as early as possible in various ways. This curriculum has been implemented since 1995 at the level of Elementary Schools (SD), Junior High Schools (SMP), High Schools (SMA), and Vocational High Schools (SMK).

After the *Budaya Alam Minangkabau* (BAM) subject is part of the school curriculum, the *Budaya Alam Minangkabau* (BAM) was taught back from elementary to high school. In learning *Budaya Alam Minangkabau* (BAM), various things are taught including: social norms, customs, leadership, *rumah gadang* architecture, marriage system, inheritance, and so on. So far, the learning material of the *Budaya Alam Minangkabau* (BAM) has not been graded in accordance with level of education, which is appropriate in elementary school and even appropriate in junior high school. Likewise the packaging of learning materials is still too general or not yet specifications. Likewise, instructional media are still lacking and have not stimulated student interest so that learning outcomes are not as expected.

In learning the *Budaya Alam Minangkabau* (BAM), various social norms, traditional norms, ethnicity and literature are taught, therefore the curriculum must be relevant in education (Hendriyani, et al. 2020) in the junior high school curriculum in the *Budaya Alam Minangkabau* (BAM) learning unit, learning is prioritized

on memorizing concepts. Certain policies will not be able to run as expected if they are not carefully escorted and followed up. Returning something is not as easy as turning the palm of the hand; but efforts need to be made. From this phenomenon, it is very clear that the seriousness of the government is very highly expected. This is evident from the non-transparency of routine and gradual planning and financing to improve the learning of the *Budaya Alam Minangkabau* (BAM).

The problem that occurs is that the teaching materials used are "... text", black boards, which is very inadequate/inadequate. Yet the success of education is very highly dependent on many things at once which should get the attention of the education unit. Then from that point, it shows the lack of teacher knowledge about the material of the *Budaya Alam Minangkabau* (BAM).

Minangkabau people who lived before 1965 who had learned Budaya Alam Minangkabau (BAM); especially the Minangkabau custom of mamak and their parents were studied in Surau after read the Al Quran. However, after that, surau was left until the early 20th century with the motto "The Fall of Our Surau". This event was appointed as the title of the famous and favorite novel in the field of literature by A. A. Navis around the 1970s. Seen from the changes that occur from studying the Koran in Surau, in learning the Budaya Alam Minangkabau (BAM), more or less ended in the 1960s; and the distance back to the nagari more or less 1990s (30 years), in this period there is no learning of customs in Minangkabau. It can be estimated to be close to one generation. One that can be drawn from this stretch of time, namely the current generation, people who should study in the mosque and learn the customs do not learn and do not understand the customs themselves. It is estimated that they have now become parents and some even have grandchild in middle and high school who were born in the range of course not learning Budaya Alam Minangkabau (BAM), including teachers born in the range; almost did not learn the Budaya Alam Minangkabau (BAM). So that, the teachers who teach the Budaya Alam Minangkabau (BAM) are set in a short of time like a crass program (fast program) for about 1 week. Obviously they are not scholars of the Budaya Alam Minangkabau (BAM). This causes the teacher's ability to learn the Budaya Alam Minangkabau (BAM), which is limited; and BAM learning that is conveyed is not well understood by children and is complicated (Gayatri, 2008).

The Minangkabau Natural Culture (BAM), has been increasingly neglected in the 1960-2015 range now, more or less for 55 years. It is feared that generations living in that period did not have the chance to learn the Minangkabau Natural Culture (BAM). They only learn Budaya Alam Minangkabau (BAM) through schools where teachers get brief lessons. These subjects contain the main things about the Budaya Alam Minangkabau (BAM). This study material was selected and determined based on consideration of the needs of students and the



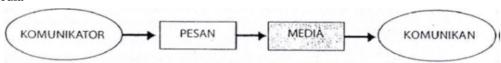
community and its relevance in daily life. Through these considerations, students are expected to be familiar with and love the environment and culture. Likewise, the community, not yet with high awareness, supports the learning of the Budaya Alam Minangkabau (BAM). This can be seen from the confusion obtained with the reality in the community. Many of the unsynchronized application of cultural values and customs are learned by students with those that occur in the household and in the community. For example: wearing short and tight "Hawaii" pants when they are going outside the house, and riding a 3-4 person motorcycle (pillion). Even more unusual is that in learning the Budaya Alam Minangkabau (BAM), the Minangkabau language is not taught as a structured material, even though it is the ancestral language of Budaya Alam Minangkabau (BAM) itself.

Based on the foregoing, the writer aims to measure the validity of the development of the learning media of the *Budaya Alam Minangkabau* (BAM) with the KIM game. The development of Science and Technology Science (IPTEKS) is very rapid. The (IPTEKS) is certainly a challenge and at the same time an opportunity for education units in utilizing (by utilization) and developing (by design) effective learning media. In the era of the industrial revolution 4.0, it is needed the role of technology in learning (Verawadina, et al, 2020) Besides that students must also have skills (Bandri et al., 2020).

Teachers in carrying out learning can use teaching media, which aims to facilitate the delivery of teaching materials. The current state of technology, teachers must have skills in using technology. (Feladi et al., 2020). Learning media include attributes, several characteristics and definitions, planning processes in learning, levels of production, and a number of types (Kemp, 1989: 390). In other words, the position of the media in the learning component is very important and decisive.

2. Literature Review

Learning Media



Picture 1: Media in a Learning Process **Source:** *Rusman* (2012:153).

Natural Minangkabau and its Issues

Minangkabau people call their homeland the Alam Minangkabau. Nature for them is everything (contains meaning that is not matched). It is understood that the meaning of natural elements as institutions or individuals in society. Harmony is understood as harmony or suitability of life among fellow institutions and fellow individuals, between institutions and individuals, and vice versa. Thus the tribes who inhabit the western half of central Sumatra, called Minangkabau, are loyal to the customs of their ancestors. They have self-government, written or unwritten laws and laws, and "people's play". The unwritten laws and laws are still faithfully obeyed, and become a powerful way of life as a unifying tool. Even though it has been conquered and colonized, but the view of life that comes from the law and the law has been seen as their custom. Their loyalty to the tradition is expressed in four categories, namely: (1) actual tradition, (2) customs and tradition, (3) traditional customs, and (4) traditional customs.

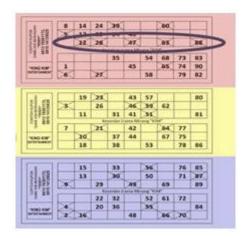
The Minangkabau folk game as traditional art is open as public property, easily changed due to its contact with outside cultures, its role in history as an ethnic group that accepts relations with outsiders, and their habits of going abroad. Understanding change can be interpreted as developing, enriching, or increasing (Navis, 1986: 263).

The process of developing arts in Minangkabau is in line with the process of developing social life, especially after the emergence of secular education and Islamic madrasa education such as INS, Diniyah Putri and Madrasah Irsyadunnas both in Padangpanjang. The art which was originally polar mingled at M. Syafe'i's Kayutanam INS school. Art is an active-creative education tool, used diatonic tones for traditional songs accompanied by Western music and sung together in choir. In Japanese times all kinds of Western arts were forbidden. Finally the Minangkabau art got a new face, which is "kim folk play".

KIM

KIM is a typical game of the Minangkabau region, West Sumatra Province (Indonesia), where participants hold cards with different colored numbers: pink, yellow, green, blue and white. The numbers that appear are delivered with *dendang jogged Melayu* or chant (referred to as Minangkabau), which is lively and funny and quirky rhymes. A glance at the sheet of paper and the numbers are reminiscent of bingo, a community game where numbers are drawn randomly and players mark the numbers on their respective coupons, so that they are commensurate with the predetermined pattern.





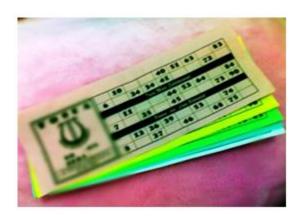
KIM appeared in the 1960s. Initially the song style rhymes without the accompaniment of musical instruments. Zuber Usman in a discussion at the Minangkabau Art seminar in Batusangkar (1970). Then a new instrument was added. In the 1970s KIM was popular in Jakarta, and among the ethnic Chinese community of Medan and Padang. It is interesting to note that China's involvement in this music genre. Singers sing KIM songs, imitating the sounds of Chinese. Some of KIM's early albums contained songs about Chinese gamblers, for example a song called 'Tan A. Kong'. Maybe KIM was copied from a country in East Asia. In live music performances, KIM's songs are sung by solo men accompanied by a keyboard (a combination of games and songs). The main source of song lyrics is the Minangkabau pantun. Any song, rhymes are the basics. Sometimes it is identified as 'Pantun & Lagu' (the form of the song that is actually arranged for the poem). Song poems in KIM have a faster rhythm and cheerful character, contain elements of humor and are full of jokes, but do not require dance. This game is similar to European bingo games but there is not enough evidence that Kim is inspired by Bingo. The main genre is called playing KIK presented in lyrics or melodies by imitating Hindustani / Indian or Chinese music melodies.

KIM being the pros and cons. Some say KIM is game music but others say no. KIM is not a gaming and a gambling, it is just a form of general entertainment to treat listeners' worries. Currently, when Minangkabau nomads hold weddings and other celebrations in various cities outside West Sumatra, KIM becomes the favorite type/genre of music to enliven the party. However, some Islamic community groups in certain areas recognize the negative side of stigma. Especially those with the label of the Islamic religion see KIM prone to be misused as gambling music.

KIM is the People's Game

This Kim game can be done in stages. It starts with distributing paper coupons where on each paper coupon consist a set of 1-90 random numbers. Participants get different numbers on each paper. As the game progresses,

the game leader chants the song while calling a random number. Participants must be observant to listen to the numbers that come out and immediately put a sign on a paper coupon. The first line 5 numbers have been "marked" means there is already a winner. Marking can be done by circling, or crossing, or checking. As in the picture above.



Picture 2: Color Coupons Play Five Stages

In general, KIM is the name of a form of entertainment in the form of Minang rhythm art which is quite well known in the community of fans. It is a combination of game and song. Therefore the main genre is called KIM [play KIM]. It does have a fast rhythm and cheerful character, but it doesn't require dance. A game that is likely to figure out. KIM is an exciting game that is addictive, KIM knows what it stands for there is mention of Minang Rhythm Art there are also other versions. Playing KIM is fun, relieving stress, and if lucky you can bring home the prize. According to singer and song composer Edi Cotok, KIM is an abbreviation of Minang rhythm art (Minangkabau rhythm of art).

3. Method

Development research is a process or steps to develop a new or existing product, which can be accounted for (Nana, 2008: 164). The product can be in the form of learning materials such as books, modules, or computer programs. The term learning development applies to a wide process for designing a learning program - a single module-wether, a complete unit, or total course - using a systematic, objective procedure (Kemp, 1989: 4-5). Research development in education is a process used to develop and validate research products. Research on the Development of Budaya Alam Minang Kabau Learning Media (BAM) "in the context of a local content-based curriculum" applies to the research process of designing a BAM subject learning program, which will be focused on BAM learning program products with teaching games, as well as demonstration methods in seventh grade (one), in semester one of Junior High School 1 of Tanjung Emas District.



The experimental subjects in this study were their respective areas of expertise: BAM subject teachers, learning planners, KIM musicians, and documentations. In each area of expertise, at least one expert is required. Data collection techniques used in this study include: (1) questionnaire method (questionnaire).

4. Results and Discussions

To find out the quality of the development of the KIM Media in *Budaya Alam Minang Kabau* Learning, then prior to being used or carried out an experiment was conducted. Experiments were conducted with experts in the form of Focus Group Discussion (FGD).

FGD: Information Collected Through Experts

Focused Group Discussion (FGD) is a scientific meeting to exchange ideas about an issue, or a discussion conducted by a group of people discussing a topic of general focus in the presence of experts. The experts are given the opportunity to ask questions or give opinions; especially the elements that highlight a part of the sentence so that the attention of the listener (reader) is drawn to that part. To test the development of KIM's Media *Budaya Alam Minang Kabau* Learning, the resource person consists of a group of people / experts in their fields.

Table 1: Advice: Experts advice

			Discussion
No.	Expert's Name	Areas of Expertise	Result/Advice/Suggestions/Advantages and Disadvantages
1	Prof. Dr. Nizwardi Jalinus, <i>M.Ed</i> .	Promoter	 a. The discussion of the problem focuses on KIM as BAM learning media; b. Deliver the poetry; c. Learning Budaya Alam Minangkabau (BAM) with KIM's media; d. KIM's direction as BAM learning media; e. KIM stands for Kesenian Irama Minang; f. The development of KIM's media in BAM learning; g. The development of KIM-based models.
2	Prof. Dr. Agusti Efi, <i>M.A</i> .	Co-promoter	a. How to learn Budaya Alam Minangkabau (BAM) to be interesting and fun?
3	Prof. Dr. Ardipal, M.Pd.	Cultures and arts education	 a. There are many goals to be achieved, which one? understanding, motivate, learn KIM, to teach the children make a KIM poems, compose a song, and playing a musical instruments. b. Or, did the writer instill people's leve for the nature of Minangkabau? Certainly deeper! Which one will be processed? What is it exactly? c. What is KIM?
4	Dr. Ridwan, M.Sc.Ed.	Learning models	 a. Specify; b. Perhaps, there needs to be another aspect of learning, such as evaluation; c. Try to describe the specific learning activities developed by students; d. Concrete the social system; e. The links between consistent learning models (such as media development or models); f. Need a more theoretically proportional description.
5	Dra. Emidar, M.Pd.	Indonesian language	 a. Some tables and figures do not use titles; b. Table title is above and figures is below; c. The numbering system is no longer a sysmbol; d. Note the use of bibliography in the manuscript especially the author's name in the citation; e. Title: suggestion: "KIM media development in BAM learning";



			f. There are four objectives of teacher competency, including the pedagogic and professional fields; g. Also notes "the use of punctuation"; h. A module book, it should be a module, because the term module has a meaning, that is a		
			book;		
			i. Ineffective footnotes. Include it into the		
			manuscript.		
	D: 1 0 0 0 1		j. Subtopic should not be italic.		
6	Diana Lomuda, S.Pd.	The senior teacher of	a. Kesenian Irama Minang (KIM), can motivate		
		Budaya Alam	and stimulate learning activities.		
		Minangkabau (BAM) subject in SMP			
7	Ria Resta, SH.	KIM's singer	a. KIM stands for Kesenian Irama Minang;		
			b. Poems;		
			c. Additional rhymes contain the saying		
			proverb;		
			d. The goal is to convey learning		
			material/content to the students;		
			e. The numbers are 1 to 90.		

Validity

To measure the validity of the development of learning media for *Budaya Alam Minangkabau* (BAM), the KIM game can be analyzed using the Aiken calculation. The aim is to find out whether the developed media is declared valid so that it can later be applied in learning

the *Budaya Alam Minangkabau*. According to Azwar (2012: 113), the results of Aiken's calculations ranging from 0 to 1 are stated in the valid category. The instrument validation was carried out by three experts, namely: learning strategy experts, media experts, and Indonesian.

Table 2: Validator Assessment Results

No	indicator	Validator Assessment I: Learning Strategist					
		Module	Model	Teacher ad Student		Index	Assessment
				Guide		Aiken'sV	Criteria
1	Item 1	4	3	4		0 - 0.8	Medium Validity
2	Item 2	3	4	3		0 - 0.8	Medium Validity
3	Item 3	4	4	4		0,8	Medium Validity
4	Item 4	4	4	4		0,8	Medium Validity
5	Item 5	3	4	4		0 - 0.8	Medium Validity
6	Item 6	4	4	3		0 - 0.8	Medium Validity
7	Item 7	4	4	4		0,8	Medium Validity
8	Item 8	4	3	4		0 - 0.8	Medium Validity
9	Item 9	4	4	4		0,8	Medium Validity
10	Item 10	3	4	4		0 - 0.8	Medium Validity
		Va	alidator As	ssessment II:	Media Exp	oert	
No	1	2	3	4	5	6	7
	Indicator	Module	Model	Teacher	Media	Index	Assessment
				ad		Aiken's V	Criteria
				Student			
				Guide			
1	Item 1	5	4	5	5	>0,8-1	High Validity
2	Item 2	5	5	5	5	1	High Validity
3	Item 3	4	5	4	5	>0.8-1	High Validity
4	Item 4	4	4	4	-	0,8	High Validity
5	Item 5	4	5	5	4	>0.8-1	High Validity



6	Item 6	5	5	5	4	>0,8 - 1	High Validity		
7	Item 7	5	5	5	5	1	High Validity		
8	Item 8	5	5	5	4	>0,8 - 1	High Validity		
9	Item 9	5	5	5	5	1	High Validity		
10	Item 10	5	5	5	5	1	High Validity		
	Validator Assessment III: Standard Indonesian								
No	1 Item	2	3	4	5	6	7		
	Indicator	Module	Model	Teacher	Media	Index	Assessment		
				and		Aiken's V	Criteria		
				Student					
				Guide					
1	Item 1	4	4	4	4	0,8	Medium Validity		
2	Item 2	4	4	4	4	0,8	Medium Validity		
3	Item 3	4	4	4	4	0,8	Medium Validity		
4	Item 4	4	3	3	3	0 - 0.8	Medium Validity		
5	Item 5	-	-	-	-	-	Medium Validity		
6	Item 6	=	4	-	-	0,8	Medium Validity		
7	Item 7	4	3	4	4	0 - 0.8	Medium Validity		
8	Item 8	4	4	3	4	0 - 0.8	Medium Validity		
9	Item 9	4	4	3	4	0 - 0.8	Medium Validity		
10	Item 10	5	5	4	5	> 0.8 - 1	High Validity		

Based on the results of the validation by the experts on the development of learning media *Budaya Alam Minangkabau* declared valid, it can be seen from table 2 Learning Strategists, Media Experts and Standard Indonesian Language. Thus, from this developed media, it can be tested to test the practicality and effectiveness in learning the *Budaya Alam Minangkabau*.

5. Conclusions

Learning media developed in the learning of the *Budaya Alam Minangkabau* (BAM) are declared valid. The aspects of the validity assessment are the determinants of the success of the quantity and quality of education expected in schools, which are the points of convergence namely Learning Strategies, Media and Standard Indonesian Language. It was concluded that the results of the validator's evaluation showed valid, so that KIM Media developed in the *Budaya Alam Minangkabau* subject could be applied in junior high school.

References

- [1] Alfian. 1982. *Politik Kebudayaan dan Manusia Indonesia*. Jakarta: LP3ES.
- [2] Asnur, L., Ambiyar, Ramadhani, D., & Verawardina, U. (2020). Project-based learning uses vlog media on food and beverages products. *International Journal of Scientific and Technology Research*, 9(1), 82-85.
- [3] Branch, Robert Maribe. 2009. *Instructional Design: The ADDIE Approach*. Springer New York Dordrecht Heidelberg London.
- [4] Kemp, Jerrold E., & Don C. Smellie. 1989. Planning, Producing, And Using Instructional Media. Sixth edition. Harper & Row, Publisher,

- New York Grand Rapids, Philadelpia, St. Louis, San Francisco, London, Singapore, Sydney, Tokyo; *p.* 283-285;357-358.
- [5] Navis, A. A. 1986. Alam Terkembang Jadi Guru: Adat Dan Kebudayaan Minangkabau. Jakarta: PT Temprint.
- [6] Nana. 2008. Penilaian Proses Hasil Belajar Mengajar. Jakarta: Bumi Aksara.
- [7] Putra, Irdhan Epria Darma. 2013. "Pengembangan Media Pembelajaran Teori Musik Dasar di Jurusan Sendratasik Fakultas Bahasa dan Seni Universitas Negeri Padang". Tesis. Padang: Program Pascasarjana UNP.
- [8] Rusman. 2012. *Manajemen Kurikulum*. Jakarta: PT RajaGrafindo Persada.
- [9] Usman, Zuber. "Seminar Kesenian Minangkabau di Batusangkar". 1970.
- [10] Rukun K, Huda A, Hendriyani Y, Hartanto S.
 DESIGNING INTERACTIVE TUTORIAL
 COMPACT DISC (CD) FOR COMPUTER
 NETWORK SUBJECT. JURNAL
 TEKNOLOGI. 2015;77(23):21-6
- [11] Verawadina, U., Jalinus, N., Krismadinata, Widya, R.N., & Simeru, A. (2020). Needs Assessment of E-Learning Vocational Education. *International Journal of Innovation, Creativity and Change*, 11(4), 262–274.
- [12] Hendriyani, Y., Ramadhani, D., Nasution, T., Susanti, W., & Verawardina, U. (2020). Examining Career Development of Informatics Engineering Vocational Education Students in the Industrial Revolution 4.0. *International Journal of Innovation, Creativity and Change*, 11(4), 275–298.



- [13] Hendriyani, Y., & Amrizal, V. A. (2019). The Comparison between 3D Studio Max and Blender Based on Software Qualities. Journal of Physics: Conference Series, 1387(1). https://doi.org/10.1088/1742-6596/1387/1/012030
- [14] Purnama, Y., Ismail, I., Noviandri, D., Hendriyani, Y., Nguyen, P. T., & Putu, I. (2020). Expert System in Detecting Children's Intelligence using Certainty Factor. 7(1), 52–55.
- [15] Bandri, S., Rukun, K., Verawardina, U., & Ramadhani, D. (2020). The Validity of the Model of Employability Skills Requiredfor Graduates to Enter the Workplace. *Test Engineering & Management*, 83, 1638–1642.
- [16] Feladi, V., Hendriyani, Y., Dewi, I. P., Darni, R., & Verawadina, U. (2020). The Profile of Technological Pedagogical and Content Knowledge of Information and Communication Technology Teachers. Test Engineering & Management, 83, 1666–1673.