THE CONCEPT OF INDEPENDENT LEARNING JOHN DEWEY'S PROGRESSIVISM GENRE PERSPECTIVE IN LEARNING MATHEMATICS

Pangestu Danang Wiguna[1], Ranti Arum Andalas[2], Diyan Ayu Sri Lestari[3], Laely Agustina[4], Nurul HusnahMustika Sari[5], Nalim[6]

IAIN Pekalongan

pangestudanang134@gmail.com, rantistembase@gmail.com, diyanayu4@gmail.com, laelyagustina240@gmail.com, nurul.husnah.ms@iainpekalongan.ac.id, yusufnalim@iainpekalongan.ac,id

ABSTRAK

Merdeka Belajar yang digagas oleh Mendikbud Nadiem Makarim dan aliran filsafat progresivisme John Dewey memiliki benang merah yang berfokus pada pemberian kesempatan kepada siswa untuk mengembangkan potensi dan pemikirannya agar dapat menyelesaikan permasalahan dalam kehidupan. Artikel ini merupakan review literature yang bertujuan untuk mengetahui relevansi dari merdeka belajar perspektif aliran progresivisme dalam pengembangan pembelajaran matematika. Hasil penelitian menunjukan bahwa merdeka belajar perspektif aliran progresivisme John Dewey berkaitan dengan pembelajaran matematika. Dalam hal ini, merdeka belajar dirumuskan karena Menteri Pendidikan dan Kebudayaan ingin kualitas pendidikan menjadi lebih baik dengan peningkatan kemampuan analisis, penalaran, dan pemecahan masalah guna menghadapi tantangan di abad 21, serta dikemas dengan proses pembelajaran yang menyenangkan bagi semua yang terlibat. Hal tersebut sesuai dengan esensi merdeka belajar itu sendiri yaitu pengembangan potensi yang ada pada guru dan siswa. Kemudian, aliran progresivisme John Dewey berpandangan bahwa pendidikan berpusat kepada siswa bukan kepada guru serta berfokus dalam perkembangan kemampuan siswa dalam belajar sebagai bekal berkehidupan di zaman yang tengah dijalani. Kedua hal tersebut sesuai dengan keinginan peningkatan kemampuan yang hendak dicapai dalam Merdeka Belajar. Dalam proses pembelajaran matematika sendiri, kemampuan-kemampuan tersebut digunakan untuk menyelesaikan permasalahan permasalahan dalam kehidupan hingga dapat bermanfaat bagi kehidupannya sendiri hingga orang lain.

Kata kunci: merdeka belajar, progresivisme, John Dewey, pembelajaran matematika

ABSTRACT

Independent learning which was initiated by the Minister of Education and Culture, NadimMakarim, and the philosophy of progressivism by John Dewey had an underlying cause that focuses on providing opportunities for students to develop their potency together with thoughts to find the solution for every problem in their daily life. This

research shows us that the genre of Progressive Perspektive's John Dewey is relevant to the mathematics learning method. In this case, Independent learning is created by Education and Culture Minister (Menteri Pendidikan dan Kebudayaan) that want to build the education better with increase the analism ability, reasoning, and finding the solution of the problem to take on the challenges in 21 Era, also with packed all of the learning processes behave fun for all people who involve there. That thing is relevant with independent learning essential that is to improve the potential of teacher and student. Then, the genre of Progressive Perspective's John Dewey focuses that the education is centered by the student, not a teacher to prepare all student can take on their era. Both of the things are relevant with improvement skills expectation that wants to achieve of independent learning. At the Independent learning, all of the ability is used to solve the problem in life that so can usefully for themself and people around them.

Keywords: independent learning, progressivism, John Dewey, mathematics learning

INTRODUCTION

In the Great Dictionary of The Indonesian Language, "pendidikan" comes from the word "didik" which means to nurture and train, then education (*pendidikan*) itself means the process of changing the attitudes and behaviors of a person or group of people in an effort to mature people through teaching and training efforts. By understanding that education is an effort to mature people, the expected output of education is the improvement of human self-quality in life. Therefore, the management of the quality and quantity of education must be properly considered and carried out properly because the quality of education management will affect the quality of society in public life as well as in the development of the Nation and State (Wardhana et al., 2020). Thus, education is a systematic effort in developing the ability to think, act, and live as part of society.

Education is a conscious and systematic effort in developing the potential of students (Ternate et al., 2019). Law no. 20 of 2003 on the National Education system has formulated the functions and objectives of national education that serve as the direction of national education. Chapter II article 3 of the Sisdiknas Law states that "National education serves to develop and shape the character and civilization of a

dignified nation to educate the life of the nation, aiming to develop the potential of learners to become human beings who believe and fear God Almighty, noble, healthy, knowledgeable, capable, creative, independent and become democratic and responsible citizens". As the main means of educating the nation's diversity, education should always be pursued with all the challenges faced in every age by paying attention to the potential that each student has to create a fun learning atmosphere for students.

In the 21st century that has entered the era of industrial revolution 4.0, changes in social structure occur so quickly, technology takes a role in social ties in society, the loss of several types of jobs, and society has the same opportunities with resilient competitiveness. In the era of industrial revolution 4.0, education provided through classroom learning was organized by adjusting the needs of students, formative tests, teachers as facilitators, and students were seen as having unequal potential as other students. Education 4.0 is an equalization and improvement program of education quality as well as the utilization and expansion of technology access that produces collaboration, communication, critical thinking, and creative skills to educate the lives of nations that can compete in the world community (Sherly et al., 2020). By paying attention to every challenge that exists in the era of industrial revolution 4.0, education is expected to be present to prepare the next generation of nations that are resilient to existing challenges and can compete as part of a global society.

To improve the quality of human resources in Indonesia, especially in the era of industrial revolution 4.0, the Ministry of Education and Culture declared the Independent Learning program policy as a director of learning in the future (Sherly et al., 2020). Independent Learning is a learning program that is presented to create a fun learning atmosphere for students and teachers. The concept of Independent Learning, which was proclaimed by the Ministry of Education and Culture, refers to the Progressivism developed by John Dewey which has the basis that people must keep up with the times. So that education must be

adapted to the current era so that the education undertaken can create people who can solve problems and can face the challenges of the times they face (Aiman, 2020).

John Dewey's progressivism suggests that education is centered on students rather than teachers and focuses on developing students' ability to learn as a provision of life in the current era. The view of progressivism on learning is based on the view of learners as beings who have advantages compared to other beings (Mustaghfiroh, 2020). Learners have had the intellect and intelligence which is a gift from The One True God. Armed with this dynamic and creative resourcefulness and intelligence, students can solve problems in their lives in various ways. Increasing the intelligence and creativity of students is what is the responsibility of the world of education.

Mathematics is one of the compulsory subjects for every level of school in Indonesia and has benefits for daily life (Sumartini, 2016). As a compulsory subject ranging from primary to secondary education, mathematics does not escape the enactment of Independent Learning. Therefore, it is necessary to have fun learning so that the students' math learning does not get bored in following the learning process.

This article is a literature review that aims to know the relevance of the independent learning perspective of the genre of progressivism in the development of mathematical learning In this article the author uses qualitative research methods to know the concept of freedom of learning from the perspective of the genre of progressivism John Dewey in mathematics learning. In the process, this research was conducted with literature studies. A literature study is an activity conducted by collecting information, reading, recording, and processing research data. The study of literature in this study was conducted by searching for information through the internet, books, journals, and other sources that can be accounted for. The literature study conducted in this study is to gather information on the concept of freedom of learning and the genre of the progressivism of John Dewey, record important points that will be used as research data, and process data, namely finding the

concept of freedom of learning in the perspective of John Dewey's progressivism genre in mathematics learning by paying attention to the information that has been collected.

DISCUSSION

Independent Learning

Minister of Education and Culture of the Republic of Indonesia Nadiem Anwar Makarim launched a new program or policy that is free of learning. This is based on the results of research on Indonesian students in the Research Programme for International Student Assessment (PISA) in 2019 for the field of mathematics and literacy, Indonesia ranked 74th out of 79 countries (Mustaghfiroh, 2020).

There are four points of independent learning policy (Tohir, 2019).

1. National Standardized School Exam (USBN)

The Sisdiknas law gives schools the power to determine graduation, but usbn can limit the application of such policies. Curriculum 2013 is competency-based. Therefore, in the application, a more holistic assessment is needed to measure the child's competence. Therefore, in 2020 USBN will be replaced with an assessment that is only held by the school. This exam is used to assess the competence of students conducted in the form of written tests and/or other more comprehensive assessments such as portfolios or assignments.

2. National Examination (UN)

UN material is too dense. This makes students and teachers tend to test content mastery instead of reasoning competencies. UN only assesses the cognitive aspects of learning outcomes so that it has not yet tapped the character of the student thoroughly. Because it becomes an indicator of student success, UN becomes a burden by the students themselves, teachers and parents. Therefore, in 2021 UN will be changed to Minimum Competency Assessment and Character Survey.

This assessment tests three skills, namely literacy skills, numerical and character skills implemented by students in the middle of the school level (e.g. grades 4, 8, 11) to encourage to improve the quality of learning and cannot be used for the selection base to the next level. This policy also refers to good

practices at the international level such as PISA and TIMSS.

3. Learning Process Implementation Plan (RPP)

In the making of RPP, teachers are directed to follow a format that is too rigid, too many components to be written in detail. One RPP document contains dozens to dozens of pages. Thus, it can take a lot of time that should be used to prepare and evaluate the learning process. In the new policy, teachers have a free RPP format as long as it meets 3 components that must be written, namely learning objectives, learning activities, and assessment so that enough 1 page in one document. RPP writing is done efficiently and effectively, so teachers have more time to prepare and evaluate the learning process.

4. New Student Admissions Regulation (PPDB) Zoning

Before the new policy, PPDB zoning aimed to provide access to quality education by realizing tripusat's education (schools, families, communities) with a minimum zoning division of 80%, a maximum achievement of 15%, and a maximum transfer path of 5%. In its implementation, regulations related to PPDB are less accommodating to regional situation differences, have not been implemented with lancers in all regions, and have not been accompanied by teacher equality. The new policy brings PPDB zoning more flexible to accommodate access and quality inequality in various regions with a minimum zoning line division of 50%, affirmation of at least 15%, the maximum displacement of 5%, and the remaining achievement path, which is 0-30% or adjusted to regional conditions. In its implementation, the region is authorized to determine the final proportion and determine the zoning area. Equal access and quality of education need to be accompanied by other initiatives by local governments such as redistribution of teachers to schools that lack teachers.

John Dewey's Progressivism

In language, the term progressivism comes from the word progressive which means to move forward. Progressivism can also be interpreted as a movement for change towards improvement. Progressivism is often associated with the word

progress, i.e. progress. That is, progressivism is a school of philosophy that wants progress that will bring about a change (Mustaghfiroh, 2020).

The genre of progressivism centers on the school of philosophy of pragmatism introduced by William James (1842-1910) and John Dewey (1859-1952) which emphasized the benefits to practical life. This means that these two traditions both emphasize in terms of maximizing human potential to deal with the problems of daily life. In addition, this similarity is based on the belief of pragmatism that the human mind is very active and always wants to research, is not passive, and does not simply accept certain views before the truth is empirically proven.

The view of progressivism about learning is based on the view of learners as beings who have advantages compared to other beings. In addition, the close relationship between the school and the community is the trigger for the development of ideas of progressivism. Learners already have intellect and intelligence. So that students can have the creativity to solve problems. Progressivism wants a principle of flexibility to advance education. To achieve that goal, according to John Dewey education must be democratic. That is, education serves more to provide freedom and freedom to students. So that the potentials that students have can develop well.

Simply put the principles of education in the genre of progressivism are as follows (Mustaghfiroh, 2020):

1. Learners must have freedom and develop naturally.
2. Hands-on experience is the best stimulation in learning.
3. Teachers should be able to guide and be good facilitators.
4. Educational institutions should be educational laboratories for student change.
5. Activities in educational institutions and at home should be cooperative.

Mathematic Learning

Mathematics is one of the compulsory subjects for every level of school in Indonesia and has benefits for daily life (Sumartini, 2017). In mathematics, the nature of the object

studied is abstract so that some teachers or learners have difficulty in the process of learning mathematics. Mathematics has three aspects, namely, first, the product aspect that includes concepts and principles in mathematics subjects, second, the process aspect that includes the way used to acquire knowledge in mathematics learning, third, the attitude aspect that is the scientific attitude that includes the beliefs that everyone who learns mathematics (Holisin, 2007).

There are five objectives for mathematical learning standards set by the National of Teachers of Mathematics (NCTM) that must be owned by each student, namely problem-solving skills (problem solving), communication skills, connection skills, reasoning skills, and representation skills (Siagian, 2016). According to the Ministry of Education in 2016, the objectives of mathematics learning that must be owned by each student are: (1) understand mathematical concepts, explain between concepts and apply concepts or algorithms, efficiently, efficiently and precisely in problem-solving, 2) use reasoning on patterns and traits, perform mathematical manipulations in making generalizations, compile evidence, or explain mathematical ideas and statements, (3) solving problems that include the ability to understand problems, design mathematical models, complete models and interpret the solutions obtained, (4) communicate ideas with symbols, tables, diagrams, or other media to clarify circumstances or problems, (5) have an attitude of appreciating the usefulness of mathematics in life, namely having curiosity, attention, and interest in learning mathematics, as well as a tenacious and confident attitude in problem-solving.

Thus, some things must be considered to achieve the objectives of mathematics learning, namely the provision and preparation of teaching materials to facilitate and actively engage learners in every learning conducted (Siagian, 2016). All those in the scope of education have the task of realizing the standards and objectives that have been set before. The skills that should be possessed by students in the mathematical learning process according to the Ministry of Education, namely, problem-solving

skills, communication skills, connection skills, reasoning skills, and representation skills.

Problem-solving skills are very necessary for each student because problem-solving skills are a general goal, core process, and basic skills in mathematics learning. Steps taken to improve the problem-solving skills of learners in solving a problem are to understand the problem, plan the problem, solve the problem as planned, and recheck all the steps that have been done (Hidayat & Sariningsih, 2018).

Communication skills are the essential mathematical basics of mathematics (Aminah et al., 2018). Mathematics requires the right verbal and verbal communication skills to avoid misinformation that will be conveyed so that it is easy to understand by others. (Aminah et al., 2018).

Connection skills are students' ability to find mathematical concepts and procedures, understand between topics in mathematics, and apply mathematical concepts in other fields and daily life (Wati et al., 2020).

Reasoning ability is the ability of students to solve problems by doing reasoning and proof using basic aspects, making and investigating mathematical guesses, developing and evaluating mathematical arguments and proofs, and choosing to use these types and methods of reasoning (Wibowo, 2017).

The ability of representation is the ability of students in understanding concepts, application of mathematical concepts in problems in life through mathematical models, as well as understanding and finding mathematical ideas to communicate mathematical ideas from abstract to concrete so that they are easy to understand (Handayani, 2015).

The Relationship between Independent Learning John Dewey's Progressivism Genre Perspective In Learning Mathematics

Mathematics learning cannot be separated from Independent Learning policy. The purpose of mathematics learning is broadly focused on mathematical modeling to solve problems in life. The enactment of an independent policy of learning can influence the learning process of each subject, without exception

mathematics. Mathematics is a subject that aims to understand the concept of mathematics in problem-solving, generalize problems by designing mathematical models, interpreting solutions to problems, communicating ideas to clarify situations and problems, and have an attitude of appreciating mathematics as a science that is studied and believed to be useful for life.

Mathematics learning that focuses on understanding mathematical concepts to solve a problem can be supported by the policy of Independent Learning formulated into four policy points, namely procurement of USBN based assessment, replacement of UN with minimum competency assessment and character survey, simplification of RPP, and PPDB Zoning. In (Apriliana, 2018) states that vocational school students in Kuta experience anxiety facing UN with a very high anxiety percentage of 7.5%, high 37.5%, medium 45%, and low 10%, then with the unenforceable UN, can slightly avoid student anxiety that results in the tendency to focus only on content mastery but can focus more on reasoning competencies. In (Jamal, 2014) shows that over 50% of students are wrong or wrong when solving math problems, especially opportunity materials due to lack of concept understanding, so by focusing only on content mastery, students cannot apply mathematical concepts to problem-solving. Because, if the student only focuses on mastering the content, the attitude can be in the form of memorization of the teaching materials learned by the student, so that it can cause students difficulty in solving problems that require more understanding of mathematical concepts. In understanding the material, students need a little time. Therefore, with the implementation of RPP simplification, the time used by teachers to arrange RPP becomes shorter, so that it can be diverted to guide students in understanding the material or conducting evaluations.

Independent Learning initiated by Minister of Education Nadiem Makarim and the philosophy of progressivism John Dewey has a common thread that focuses on giving opportunities to students to develop their potential and thinking to solve problems in life. In this case, the

genre of progressivism also has a role in the mathematics curriculum (Musyarapah, 2017), which is that there are five important points in the curriculum: first, the curriculum should be prepared by relying on providing educational, experimental, and organized experiences regularly. Second, teachers must have more knowledge in the field of science and master the field because teachers act as facilitators who facilitate and guide students in achieving learning objectives. Third, students have the opportunity to develop, be active and creative, and be independent in actualizing themselves. Fourth, the success of education is inseparable from environmental influences. Fifth, the educational process should prioritize methods over materials.

The genre of progressivism adheres to the principle of flexibility, meaning that teachers are free to determine the course of the learning process to achieve the objectives of learning by paying attention to the criteria of each student. Teachers are free to determine the strategies and models of mathematics learning to be applied in the classroom where the learning strategies and models are tailored to the potential and uniqueness that students have without neglecting aspects of students' excitement in carrying out the learning process.

The application of the learning process of mathematics should be done by applying contextual learning models, that is, the learning of mathematics presented by teachers contains problems/activities that are "close" to students or can also be referred to as contextual problems so that students can more easily accept lessons and hopefully students can apply the lesson in daily life. Because, according to John Dewey the science can be obtained and developed by applying experience, then used to solve new problems (Musyarapah, 2017). When contextual problems are given, students have sufficient knowledge of the problems/activities presented, to solve them students need to understand and translate the context of the problem into a mathematical model so that it can be solved using mathematical procedures, at this stage mathematical connection skills are required (Aminah et al., 2018).

Teachers are tasked with assisting and assisting students in understanding problems to solve problems, provide emotional passion and motivate students to develop independently. The method used is not very focused on the content and does not use the memorization method (Mustaghfiroh, 2020). Students are allowed to explore their ability to understand math problems and/or problems in life to then solve problems by designing mathematical models to communicate problems and ideas for solving math problems. Therefore, mathematics learning should be done by student-centered learning. By applying the learning process that adheres to the principle of progressivism genre, namely, giving freedom to students, providing direct experience to students in learning, and teachers acting as facilitators and guiding the course of learning, it is expected that the mathematical learning process can achieve the goal of mathematics learning, namely students can understand problems, solve them, and communicate solutions to existing problems of life.

One of the learning models that represent contextual approaches in mathematics learning is realistic mathematics learning (Iis Holisin, 2016). According to Gravemeijer (Iis Holisin, 2016) three main principles of realistic mathematical learning, namely guided reinvention /progressive mathematizing, didactical phenomenology (didactic phenomenon), and self-developed models.

1. Guided reinvention

This principle means that students should be allowed to discover a concept, definition, theorem, or way of solving it independently through the provision of contextual problems

2. Didactical phenomenology

This principle means that teachers must find appropriate contextual problems in introducing mathematical topics to students. This contextual problem must be able to be addressed by students or can be equipped with supporting images.

3. Self-developed models

This principle means that students are given the benefit of developing models in their way when

solving contextual problems that have been given.

From these three principles, five basic characteristics of realistic mathematics learning are obtained, namely:

1. Using contextual issues

The learning process always begins with contextual problems. The problem used is a daily problem that is commonly faced, known, and imagined by students.

2. Using the model

The use of models, schemes, diagrams, symbols, and other supports is an alternative for students from concrete situations to abstracts. Students are expected to develop their models.

3. Using Student Contributions

Students have the opportunity to find ways to solve problems with or without the help of a teacher. This process shows that problem solving is the result of the construction and production of students themselves or student contributions are very concerned.

4. There is Interaction

Students in the process of solving an existing problem cannot do so by themselves. It takes interaction built by both teachers and students and vice versa.

5. There is a connection between parts of the subject matter

The structure and concept of mathematics have a connection between topics or materials, therefore it is necessary to develop good learning about the interrelationship between the topics or materials. So that the learning process will be more meaningful.

CONCLUSION

To be able to face the challenges of the times, education is needed that focuses on the development of the times. The Independent learning stream of progressivism comes with an education centered on students and focuses on the development of student's abilities as a provision of life in the current or to be lived. The mathematics that aims for its standard of learning is better to use student-centered learning to realize these goals. By understanding and applying the concept of "independent learning" that has been proclaimed by the Minister of Education Nadiem Makarim and the school of philosophy of education

progressivism perspective John Dewey who has similar concepts and objectives can certainly realize the purpose of mathematics learning.

This article has a limited subject of john dewey's independent learning perspective on progressivism in mathematics studies, so there are still various mathematical learning models needed to improve the ability to face the challenges of the times. Thus, researchers suggest that this article can be used as a reference for the development of further research.

REFERENCES

Aiman, F. dan I. K. (2020). Konsep Merdeka Belajar Pendidikan Indonesia Dalam Perspektif Filsafat Progresivisme. *Jurnal Pendidikan Dan Pembelajaran*, *12*(2 juli), 155–164. https://ejournal.unisbablitar.ac.id/index.php/konstruktivisme/index

Aminah, S., Wijaya, T. T., & Yuspriyati, D. (2018). Analisis Kemampuan Komunikasi Matematis Siswa Kelas Viii Pada Materi Himpunan. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *2*(1), 15–22. https://doi.org/10.31004/cendekia.v2i1.29

Apriliana, I. P. A. (2018). Tingkat kecemasan siswa SMK menghadapi ujian nasional berbasis komputer tahun 2018. *Counsellia: Jurnal Bimbingan Dan Konseling*, *8*(1), 37. https://doi.org/10.25273/counsellia.v8i1.2341

Handayani, H. (2015). Pengaruh Pembelajaran Kontekstual Terhadap Kemampuan Pemahaman Dan Representasi Matematis Siswa Sekolah Dasar. *Didaktik : Jurnal Ilmiah PGSD STKIP Subang*, *1*(1), 142–149. https://doi.org/10.36989/didaktik.v1i1.20

Hidayat, W., & Sariningsih, R. (2018). Comparative histopathological study of pulmonary tuberculosis in human immunodeficiency virus-infected and non-infected patients. *JNPM (Jurnal Nasional Pendidikan Matematika)*, *2*(1), 109–118. https://doi.org/10.1016/S0962-8479(96)90008-8

Holisin, I. (2007). Pembelajaran Matematika Realistik (PMR). *Didaktis*, *3*(3), 1–68. http://journal.um-surabaya.ac.id/index.php/didaktis/article/viewFile/255/199

Jamal, F. (2014). Analisis Kesulitan Belajar Siswa Dalam Mata Pelajaran Matematika Pada Materi Peluang Kelas XI IPA SMA Muhammadiyah Meulaboh Johan Pahlawan. *Jurnal MAJU (Jurnal Pendidikan Matematika)*, *1*(1), 18–36. http://www.ejournal.stkipbbm.ac.id/index.php/mtk/article/view/232

Mustaghfiroh, S. (2020). Konsep "Merdeka Belajar" Perspektif Aliran Progresivisme John Dewey. *Jurnal Studi Guru Dan Pembelajaran*, *3*(1 SE-Articles), 141–147. https://e-journal.my.id/jsgp/article/view/248

Musyarapah. (2017). The Role of Progressive Philosophy in the Curriculum Based on John Dewey's

Theory. *Al-Hayat*, *1 (1)*, 32–39.

Sherly, Dharma, E., & Sihombing, H. B. (2020). Merdeka belajar: kajian literatur. *UrbanGreen Conference Proceeding Library*, *1*, 183–190.

Siagian, M. D. (2016). Kemampuan Koneksi Matematika Dalam Pembelajaran Matematika. *MES (Journal of Mathematics Education and Science)*, *2*, 58–67.

Sumartini, T. S. (2017). Analisis Peningkatan Kemampuan Koneksi Matematis Mahasiswa Ptik Melalui Pembelajaran Berbasis Masalah. *Jurnal Pendidikan Matematika (Mosharofa)*, *5*(2), 148–158. http://jurnal.upmk.ac.id/index.php/jumlahku/article/view/139

Ternate, I., Utara, M., Ode, W., La, M., & Alumu, O. (2019). *Integralisasi Budaya Dalam Sistem Pendidikan Nasional Usman Ilyas*. 173–184.

Tohir, M. (2019). *Empat Pokok Kebijakan Merdeka Belajar*. https://doi.org/10.31219/osf.io/67rcq

Wardhana, I. P., S, L. A., & Pratiwi, V. U. (2020). Konsep Pendidikan Taman Siswa sebagai Dasar Kebijakan Pendidikan Nasional Merdeka Belajar di Indonesia. *Prosiding Seminar Nasional*, 232–242.

Wati, R., Dwi, Y., & Ningtyas, W. K. (2020). Analisis Kesalahan Koneksi Matematis Siswa Dalam Menyelesaikan Masalah Kontekstual Ditinjau Dari Kemampuan Matematis Siswa. *Jurnal Gammath*, *5*(1).

Wibowo, A. (2017). Pengaruh pendekatan pembelajaran matematika realistik dan saintifik terhadap prestasi belajar, kemampuan penalaran matematis dan minat belajar. *Jurnal Riset Pendidikan Matematika*, *4*(1), 1. https://doi.org/10.21831/jrpm.v4i1.10066