

A Systemic Literature Review: Educational Programming Models For Gifted Students in Indonesia

Adi Suseno^{1*}, Rochmat Wahab²

^{1,2} Universitas Negeri Yogyakarta. Jl. Colombo Yogyakarta No.1, Karang Malang, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta, 55281, Indonesia.

* Corresponding Author. E-mail: masadisuseno@uny.ac.id

Received: 07-02-2023; Revision: 11-03-2023; Accepted: 07-05-2023

Abstract: *This study presents a systemic literature review that discusses the state of educational programming models for gifted students in Indonesia. The purpose of the study is to give a summary of the current educational programming approaches for gifted students at all academic levels and to depict students who are eligible for educational programming models. This study uses the guidelines of the systemic review process by Newman & Gough which consists of several stages. The selected publications for literature study were based on inclusion and exclusion criteria in terms of document type, year of publication, language, and place of research. The results of this literature study provide an overview that (1) most teachers have the same understanding of gifted students who are defined as having a standardized IQ test score above 130, and some schools apply specific additional criteria for students who will receive gifted programs, and (2) the model of educational programming that is often used for gifted students is acceleration, either a full-year or grade-skipping acceleration.*

Keywords: *educational programming models, gifted students*

Studi Literatur: Model Program Pendidikan bagi Siswa Berbakat di Indonesia

Abstrak: Studi ini menyajikan tinjauan literatur sistemik yang membahas tentang model program pendidikan untuk siswa berbakat di Indonesia. Studi ini bertujuan untuk memberikan gambaran model program pendidikan yang ada untuk siswa berbakat di semua jenjang sekolah dan untuk memberikan gambaran siswa yang memenuhi syarat untuk model program pendidikan tersebut. Kajian ini menggunakan pedoman proses tinjauan sistemik oleh Newman & Gough yang terdiri dari beberapa tahapan. Publikasi yang dipilih untuk studi literatur melalui kriteria inklusi dan eksklusi dalam aspek tipe dokumen, tahun publikasi, bahasa, dan tempat penelitian. Hasil dari studi literatur ini memberikan gambaran bahwa (1) sebagian besar guru memiliki pemahaman yang sama tentang siswa berbakat yang didefinisikan memiliki skor tes IQ terstandar di atas 130, dan beberapa sekolah menerapkan kriteria tambahan yang spesifik bagi siswa yang akan menerima program keberbakatan, dan (2) model pemrograman pendidikan yang sering dilakukan untuk siswa berbakat adalah akselerasi, baik akselerasi satu tahun penuh atau lompatan kelas.

Kata Kunci: model program pendidikan, siswa berbakat.

INTRODUCTION

The paradigm regarding students with special needs, including gifted students as assets for the progress of a country in the future (Nashori, 2016), is growing in a better direction, and this is supported by policies that have been established globally and nationally, (Kismawiyati, 2018). Referring to international policies, education should be free, mandatory, and accessible to everyone under equal circumstances, according to Article 26 of the Universal Declaration of Human Rights (Ninkov, 2020). In Indonesia, the legislation number 2 of 2003, which governs the National Education System in Indonesia, stipulates that gifted students must get special instruction, namely in article 5 paragraph 4 which reads "citizens who have potential intelligence and special talents are entitled to special education". In addition, Article 12 paragraph 1b states that "every student in each education unit has the right to receive educational services according to their talents, interests and abilities".

The presence of gifted students in schools is common and spread across various levels of education, but identifying and providing an educational service for gifted students in a school population

is challenging (Clark, 2012). Statistical data from the BPS Statistics for Education (2021) shows that the number of students in 2020-2021 is 45,215,000 students spread across the elementary, middle, high school, and vocational levels. Based on the prevalence of gifted children explained by Hallahan & Kauffman (2006), gifted children are around 2.1% of the total population of school-age children which indicates that there are 949,515 gifted children in Indonesian schools.

Table 1. The total amount of students in 2019 to 2021 from the Ministry of Education and Culture, Indonesia

School levels	The total amount of students	
	2019/2020	2020/2021
(1)	(2)	(3)
Elementary school	25.203,4	24.848,6
Middle school	10.112,0	10.090,5
High school	4.976,1	5.017,3
Vocational school	5.249,2	5.258,6

U.S. Department of Education in Smith (2017) and Joyce Vantassel-Basca (2021) explain that school-age children who are gifted and talented are individuals who have been identified by professionals who, due to their exceptional ability, are capable of great performance. To realize their contributions to themselves and society, these kids need distinctive educational programs and services beyond what is often offered by the ordinary school curriculum. Children who have shown accomplishment or/and promise in any of the following areas—general intellectual ability, specialized academic aptitude, creative or productive thinking, leadership ability, visual or performing arts, psychomotor ability—are considered to be capable of high performance. Furthermore, the meaning of gifted students is based on Renzulli's three-ring conception of giftedness, which considers three gifted traits: above average ability, creativity, and task commitment (Davis et al., 2014).

Educational programs for students with giftedness can take many different forms, but they generally aim to provide opportunities for these students to reach their full potential and challenge them academically. There are some examples of programs that are commonly used and accessed by the gifted students referred to Davis et al. (2014), Clark (2012), and Semiawan (1997) in which programs may differ such as in the categories of students served, program goals, the general program models(s) followed, acceleration plans, enrichment plans, grouping and organizational arrangements, instructional or delivery strategy used, community professionals and resources involved, and program level (classroom, school, district, state, or national) that are explained below:

1. **Enrichment programs:** These programs offer gifted students opportunities to explore subjects in greater depth and breadth than regular coursework. They may involve advanced or specialized classes, independent projects, or opportunities to work with experts in the field.
2. **Acceleration:** Acceleration involves moving students through the curriculum at a faster pace than their peers. For example, a gifted student may skip a grade level or take advanced classes earlier than usual.
3. **Mentorship programs:** Mentorship programs pair gifted students with mentors who are experts in their areas of interest. The mentors may provide guidance, support, and opportunities for the students to pursue their passions.
4. **Summer programs:** Many universities and organizations offer summer programs designed specifically for gifted students. These programs provide opportunities for intensive study in a variety of subjects and often involve living on a college campus.
5. **Online learning:** Online learning provides flexible and personalized opportunities for gifted students to pursue their interests and challenge themselves academically.
6. **Gifted schools:** Some school districts have specialized schools for gifted students that provide a challenging and stimulating educational environment designed specifically for these students.

It is important to note that educational programs for gifted students should be tailored to the individual needs and interests of each student. A one-size-fits-all approach is unlikely to be effective for these students, who often have unique strengths, weaknesses, and interests. In addition, Indonesia as a diverse and populous nation recognizes the importance of catering to the needs of its gifted population. Hence, by conducting a systematic literature review on educational programming models for gifted

students in Indonesia, this study can provide an overview of the existing educational programming models implemented for gifted students in Indonesia and those who are eligible for educational programming models.

METHOD

This study employs a literature review methodology, which gives an overview of the state of the field and often includes both substantive findings and theoretical and methodological contributions (Hart, 2018). With different topic areas chosen based on intriguing and contemporary events and diverse research questions addressed in a relevant manner, the literature review process is used to examine, analyze, and identify all accessible research (Triandini et al., 2019). This study used the systemic review process by Newman & Gough (2020) as the guideline that consists of several stages as below.

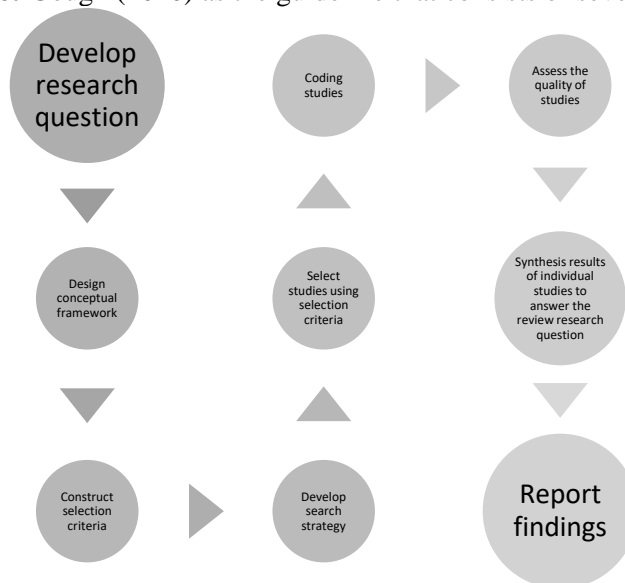


Figure 1. The systemic review process (Newman & Gough, 2020)

Systemic Review Questions and the Conceptual Framework

Based on the guidelines, the first stage in conducting a systematic literature review is to specify the research questions. The Research Questions (RQ) were formulated as (RQ1) “How do the Indonesian schools define gifted students who are eligible for educational programming models?” and (RQ2) “What educational programming models are used by Indonesian schools to support gifted students?”. Therefore, this study reviews the existing literature on gifted education with the aim of providing an overview of the educational programming models implemented for gifted students in Indonesia, and those who are eligible for educational programming models.

The conceptual framework refers to Davis et al. (2014), Clark (2012), and Semiawan (1997) stating the educational programming models such as enrichment programs, acceleration, mentorship programs, summer programs, online learning, and gifted schools, and refers to Davis et al. (2014) Renzulli's three-ring conception of giftedness with three traits namely above average ability, creativity, and task commitment.

Selection Criteria and Developing the Search Strategy

The selection criteria are formulated by the review questions and conceptual framework. To delimit the selection of studies related to the main topic of the review, the keyword of gifted program in Indonesia “gifted education” in English was identified.

The search strategy will detail the sources to be searched and the way in which the sources will be searched. The database was used in this study namely Google Scholar published peer-reviewed publications between 2012 and 2022. A total of 72 publications were produced after conducting the initial results of the search across the database. The number of results was subsequently reduced using both the inclusion and exclusion criteria, as below:

Table 2. the inclusion and exclusion criteria of the database

The aspects of database	Inclusion criteria	Exclusion criteria
Document types	Research results, comparative study	proceedings papers, book reviews, book chapters, review articles, discussions, reprints, meeting abstracts, letters, etc.
Publication years	2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012	2023, 2011, 2010, 2009, 2008, etc,
Language	English, Indonesia	Spain, Turkey, Portuguese, etc.
Research placement	Indonesia	Malaysia, Philippine, Hong Kong, Oman, Latin American and the Caribbean, etc.

The Study Selection Process and Appraising the Quality of Studies

To make sure the studies fit the selection criteria, publications that were found through the search are put through a process of verification or screening. Titles and abstracts were evaluated initially to see if the study was likely to be relevant. This was done in two steps, and then a full copy of the paper is acquired to complete the screening exercise. 61 Publications were removed because did not include any empirical evidence, did not emphasize on gifted programs, and/or did not take a place in Indonesia, and the remaining 11 publications were then considered for the next stage.

Coding Studies and Synthesis

In this stage, the 11 publications considered for the systemic review were justified with the eligibility of research question 1 and 2. Based on that consideration, 6 out of 11 were removed and the remaining 5 publications were considered for the systematic review.

Table 3. the publications for the systemic review

References	Title	Year	Eligibility	
			RQ 1	RQ 2
Dimiyati, S., & Said, A.	How to Teach Science for Elementary Gifted Students: A Case Study Done At CGS Cianjur In Indonesia	2014	x (refers to Fakhruddiana & Ardiyanti's article)	✓
Abdillah	The Implementation of Gifted Education through Acceleration Program at Senior Islamic High School (MAN) 1 Medan North Sumatera	2015	✓	✓
Safura, S.	An Analysis of Accelerated Classroom in Indonesia	2017	x	✓
Utami, H. & Ashadi	Direct EFL Instruction for Gifted Students: A Case Study	2018	x (refers to Fakhruddiana & Ardiyanti's article)	✓
Anaguna, N., Suhendra, S., & Rahmadani	Tracking down gifted students' creative thinking in solving mathematics problems	2018	✓	✓
Hartati, S. et al.	Empowerment Gifted Young Scientists (GYS) in Millennial Generation: Impact of Quality Improvement in Education of Gender Perspective	2019	x (undergraduate students)	✓
Liana, Y.R., Linuwih, S., & Sulhadi	Science activity for gifted young scientist: thermodynamics law experiment media based IoT	2020	x	x
Suherman, S., Maryanti, R., & Juhanaini, J.	Teaching Science Courses For Gifted Students In Inclusive School	2021	✓	✓
Eva, N., Tairas, MMW., & Alsa, A.	Gifted students' achievement in Natural Sciences: a modeling study	2022	✓	✓
Wahyuni, A.S.	Literature Review: Pendekatan Berdiferensiasi Dalam Pembelajaran IPA	2022	x	✓

Fakhruddiana, F. & Ardiyanti, D.	Studi Komparatif Sekolah Khusus Anak Gifted/ Berbakat di Indonesia dan di Malaysia	2022	✓	✓
----------------------------------	--	------	---	---

RESULT AND DISCUSSION

Tabel 4. Summary of the reviewed educational programming models for gifted students

No	Author	Result			
		Educational Programming Models	School Levels (state/private)	Gifted students	Findings
1	Abdillah	Acceleration	High school (state)	25 students with IQ scores above 130, grades in science more than 7.0, physically health, and parents' support.	The accelerated classes use the National Curriculum with some adjustments such as additional hours lessons on the science subjects, and vice versa. It's supported by teacher's mastery in gifted programs and school facilities.
2	Anaguna, N., Suhendra, S., & Rahmadani	Enrichment	Junior high school (private)	Two students with high ability in solving math problems	The students think creatively in searching for a way delivering answer, study the mathematics pattern, also find and generalize mathematics solution.
3	Suherman, S., Maryanti, R., & Juhanaini, J.	Acceleration	Elementary school (not available)	15 students whose intelligence above average and high learning outcomes compared to peers.	Student's learning outcomes has improved after receiving intense treatment.
4	Eva, N., Tairas, MMW., & Alsa, A.	Acceleration	Junior high school (state)	45 students with IQ scores above 130.	The students' achievement in natural science is influenced by teacher-student interaction and peer support, but parents' involvement.
5	Fakhruddiana, F. & Ardiyanti, D.	Gifted school	Elementary school Junior high school Senior high school (private)	All students that meet the criteria of having IQ scores above 130, commitment, verbal quotients, autonomy for daily life, and lower-income family.	The school applies acceleration, enrichment, project-based activities, and competition.

Research Question 1: How do the Indonesian schools define gifted students who are eligible for educational programming models?

Given the summary of the reviewed publications related to gifted education, there are five authors identifying students who eligible for gifted educational programming models. Abdillah (2015) states the gifted students should meet IQ scores above 130, have grades in science at least 7.0, be in the state of physical health, and have parents' support to join with the gifted program. This study shows that parents play a vital role to underpin and succeed the gifted students' educational program (Mun, et al., 2021; Nilles et al., 2019). Anaguna et al. (2018) define that the students with high ability in solving math problems are eligible for the enrichment program. The eligibility of receiving gifted programs in this study refers to specific high ability in science, technology, engineering, and mathematics (STEM), and students with interests in STEM (Ulger & Çepni, 2020).

Suherman et al. (2021) include acceleration program is designed for students whose intelligence above average and high learning outcomes compared to peers. The high learning outcomes are used for additional criteria as these outcomes could portray the students' profile and preventing underachievement and disengagement before students take in gifted program (Ronksley-Pavia & Neumann, 2020). In addition to those who might be eligible for gifted program, Wahab (2017) on his study stated that students could receive gifted programs once they hold IQ score above 130, high academic potentials, and have good personal-social skills.

Eva et al. (2022) state the students with only IQ scores above 130 are eligible for acceleration program. A common definition of a gifted individual is that a child's gifted behavior predicts that he will score above 130 on his IQ test (Winner, 2000). But IQ tests are only good if they measure what the test is intended to measure. It offers different levels of validity in identifying gifted students (Smedsrud, Her Boreland, 2020). Fakhruddiana & Ardiyanti (2022) announce the gifted school is designed for students that meet the criteria of having IQ scores above 130, have strong commitment, hold verbal quotients, have autonomy for daily life, and come from lower-income family.

Most authors have the same basic understanding of gifted students as having IQ scores above average range or 130. Although that basic understanding has not yet met the Renzulli's three-ring conception of giftedness with three traits namely above average ability, creativity, and task commitment (Davis et al., 2014), some claim that having high IQ scores is not guaranteed students to receive and eligible for educational programming models, but they must hold additional criteria specified by the schools that might vary such as having good grades or high ability in specific subjects, being in a good condition physically, being supported by parents, possessing strong commitment, having proficient verbal quotients, owning autonomy for daily life, and deriving from lower-income family.

Research Question 2: What educational programming models are used by Indonesian schools to support gifted students?

Based on the summary of the reviewed publications related to gifted education, five authors apply educational programming models to support gifted students in schools.

Abdillah (2015) shows that the implementation of accelerated classes in a high school uses the National Curriculum with some adjustments such as additional hours lessons on the science subjects, and vice versa, reduced hours for non-science subjects. In addition, the program is supported by teachers whose mastery in gifted understandings and programs, and the school is responsible for providing necessary facilities. Suherman et al. (2021) adds that gifted students in elementary school have showed an improvement on student's learning outcomes after receiving acceleration program. Moreover, Eva et al. (2022) state that acceleration program in junior high school was conducted with the result of the students' achievement in natural science influenced by teacher-student interaction and peer support. Based on the theoretical framework provided by Davis et al. (2014), Clark (2012), and Semiawan (1997), acceleration is one of gifted program models that entails accelerating the pace at which students complete the curriculum relative to their peers. A gifted student might, for instance, skip a grade level or enroll in advanced programs earlier than typical.

Anaguna et al. (2018) shows the application of enrichment model in junior high school. The results show that students are looking for ways to provide answers, studying mathematical patterns, and thinking creatively in finding and generalizing mathematical solutions. This research complies with the general outline of the enrichment program, which provides gifted students with chances to investigate topics in more depth and breadth than in the standard curriculum. Students may take part in advanced

or specialized classes, individual projects, or chances to collaborate with subject-matter specialists (Davis et al., 2014; Clark, 2012; and Semiawan, 1997).

Fakhriddiana & Ardiyanti (2022) explain that the implementation of gifted school applies acceleration in which includes enrichment, project-based activities, and competition for gifted students. Given the theoretical framework by Davis et al. (2014), Clark (2012), and Semiawan (1997), some specialized schools for gifted students provide a challenging and stimulating educational environment designed specifically for these students. Acceleration is one of common strategies used for gifted education in Indonesia that could be implemented through full-year or grade-skipping acceleration, (Dewi, 2017).

Based on the result of the systemic review, the most educational program model for gifted students is acceleration, and the implementation of the accelerated program may differ from one to another due to specific reasons such as accelerated program in classes or specific subjects.

CONCLUSION

When referring to children who require special educational services and programs above what is generally provided by the traditional school curriculum in order to make contributions to themselves and society, the phrase "gifted students" is used loosely. This study gives a summary of the gifted kids who qualify for educational programming models and the current educational programming models used for gifted students in Indonesia based on a review of the literature. Numerous publications define gifted students as having IQs above average. Some contend that having a high IQ score does not automatically qualify students for educational programming models. Instead, they must meet additional criteria set forth by the schools, which may vary, such as having good grades or high ability in specific subjects, being in good health, or some combination of these. Then, Acceleration is the most common educational program model for gifted kids, and different accelerated programs may be implemented for different reasons, such as accelerated programs in particular classes or disciplines.

REFERENCES

- Abdillah. (2015). The implementation of gifted education through acceleration program at senior Islamic high school (MAN) 1 Medan North Sumatera. *IOSR Journal of Humanities and Social Science*, 20 (1). pp. 40-50. ISSN 2279-0837.
- Anaguna, N., Suhendra, & Rahmadani. (2019). Tracking down gifted students' creative thinking in solving mathematics problems. *Journal of Physics: Conference Series*. 1211. 012059. <http://dx.doi.org/10.1088/1742-6596/1211/1/012059>
- Clark, Barbara. (2012). *Growing up gifted: developing the potential of children at school and at home*, 8th edition. USA: Pearson.
- Davis, G.A., Rimm, S. B., & Siegle, D. (2014). *Education of the gifted and talented (6th ed.)*. Boston, MA: Pearson.
- Dewi, Anita. (2017). Acceleration provisions for academically gifted and talented junior secondary school students in Indonesia. *Master's thesis*. New Zealand: The University of Auckland.
- Dimiyati, Surachman, & Said, Asnah. (2014). How to Teach Science for Elementary Gifted Students. a Case Study Done at Cgs Cianjur in Indonesia. *2nd International Conference on Education and Language 2014, Bandar Lampung, Indonesia, May 2014*. Bandar Lampung University.
- Eva, N., Tairas, MMW., & Alsa, A. (2022). Gifted students' achievement in Natural Sciences: a modeling study. *Journal of Gifted Education and Creativity*, 9(2), 203-218.
- Fakhriddiana, F. & Ardiyanti, D. (2022). Studi Komparatif Sekolah Khusus Anak Gifted/ Berbakat di Indonesia dan di Malaysia. *Jurnal Riset Psikologi (JRP)*, 2(2), 131-140. <https://doi.org/10.29313/jrp.v2i2.1603>
- Hallahan, D.P. & Kauffman, J.M. (2006). *Exceptional learners: introduction to special education 10th ed.* USA: Pearson.
- Hart, C. (2018). *Doing a literature review: releasing the research imagination*. London. SAGE.

- Hartati, S., Purnama, S., Heriati, T., Palupi, E, K., Kasayanond, A., & Roslina, R. (2019). Empowerment Gifted Young Scientists (GYS) in Millennial Generation: Impact of Quality Improvement in Education of Gender Perspective. *Journal for the Education of Gifted Young Scientists*, 7(4), 885-898. <http://dx.doi.org/10.17478/jegys.621021>
- Indonesian Government. (2003). *Undang-undang nomor 20 tahun 2003 tentang sistem pendidikan nasional*. Indonesia
- Kismawiyati, R. (2018). Identifikasi anak berkebutuhan khusus di sekolah PAUD Kabupaten Jember. "HELPER" *Jurnal Bimbingan Dan Konseling FKIP UNIPA*, 35(1). <https://doi.org/10.36456/helper.vol35.no1.a1456>
- Liana, Y.R., Linuwih, S., & Sulhadi. (2020). Science activity for gifted young scientist: thermodynamics law experiment media based IoT. *Journal for the Education of Gifted Young Scientists*, 8(2), 757-770. <http://dx.doi.org/10.17478/jegys.657429>
- Mun, R. U., Ezzani, M. D., & Yeung, G. (2021). Parent Engagement in Identifying and Serving Diverse Gifted Students: What Is the Role of Leadership?. *Journal of Advanced Academics*, 32(4), 533–566. <https://doi.org/10.1177/1932202X211021836>
- Nashori, Fuat. (2016). Kebijakan pendidikan untuk anak berbakat. *Buletin Psikologi UGM* , 10–13. <https://doi.org/10.22146/bpsi.13235> or <https://jurnal.ugm.ac.id/buletinpsikologi/article/view/13235>
- Newman, M., Gough, D. (2020). Systematic Reviews in Educational Research: Methodology, Perspectives and Application. In: Zawacki-Richter, O., Kerres, M., Bedenlier, S., Bond, M., Buntins, K. (eds) *Systematic Reviews in Educational Research*. Springer VS, Wiesbaden. https://doi.org/10.1007/978-3-658-27602-7_1
- Nilles, K., Jolly, J.L., Inman, T.F., & Smutny, J.F. (Eds.). (2019). *Success Strategies for Parenting Gifted Kids: Expert Advice From the National Association for Gifted Children (1st ed.)*. Routledge. <https://doi.org/10.4324/9781003238287>
- Ninkov, I. (2020). Education policies for gifted children within a human rights paradigm: a comparative analysis. *Journal of human rights and social work*, 5(4), 280–289. <https://doi.org/10.1007/s41134-020-00133-1>.
- Ronksley-Pavia, M., & Neumann, M. M. (2020). Conceptualising Gifted Student (Dis) Engagement through the Lens of Learner (Re) Engagement. *Education Sciences*, 10(10), 274. <http://dx.doi.org/10.3390/educsci10100274>
- Safura, S. (2017). An Analysis of Accelerated Classroom in Indonesia. *Jurnal Dedikasi Pendidikan*, 1(1), 36-44. <https://doi.org/10.30601/dedikasi.v1i1.66>
- Semiawan, Conny, R. (1997). *Perspektif pendidikan anak berbakat*. Jakarta: PT Gramedia Widiasarana Indonesia.
- Smedsrud, J. (2020). Explaining the Variations of Definitions in Gifted Education. *Nordic Studies in Education*, 40(1), 79–97. <https://doi.org/10.23865/nse.v40.2129>
- Smith, Deborah Deutsch. (2017). *Introduction to Contemporary Special Education: New Horizons*, 2nd Edition. USA: Pearson
- Suherman, Y., Maryanti, R., and Juhanaini, J. (2021). Teaching science courses for gifted students in inclusive school. *Journal of Engineering Science and Technology*, 16 (3), 2426-2438
- Triandini, E., Jayanatha, S., Indrawan, A., Werla Putra, G., & Iswara, B. (2019). Metode Systematic Literature Review untuk Identifikasi Platform dan Metode Pengembangan Sistem Informasi di Indonesia. *Indonesian Journal of Information Systems*, 1(2), 63–77. <https://doi.org/10.24002/ijis.v1i2.1916>
- Ulger, B.B. & Çepni, S. (2020). Gifted education and STEM: A Thematic Review. *Journal of Turkish Science Education*, 17(3), 443–466. Doi: 10.36681/tused.2020.38

- Utami, Hidayati & Ashadi, Ashadi. (2018). Direct EFL Instruction for Gifted Students: A Case Study. *CELT: A Journal of Culture, English Language Teaching & Literature*. 18. 327. <http://dx.doi.org/10.24167/celt.v18i2.870>
- Vantassel-Basca, Joyce. (2021). *Talent Development in Gifted Education: Theory, Research and Practice*. New York: Routledge.
- Wahab, R. (2010). Model bimbingan perkembangan untuk meningkatkan kecakapan sosial-pribadi anak berbakat akademik. *Jurnal Cakrawala Pendidikan*, 1(3). <https://doi.org/10.21831/cp.v1i3.241>
- Wahyuni, Ayu Sri. (2022). Literature Review: Pendekatan Berdiferensiasi Dalam Pembelajaran IPA. *JURNAL PENDIDIKAN MIPA*, 12(2), 118-126. <https://doi.org/10.37630/jpm.v12i2.562>
- Winner, E. (2000). The origins and ends of giftedness. *The American psychologist*, 55 1, 159-69. <https://doi.org/10.1037/%2F0003-066X.55.1.159>

A BRIEF PROFILE

Adi Suseno was born in Kebumen, Central Java, on January 27, 1992. He earned his bachelor's degree in special education at Universitas Negeri Yogyakarta in 2016 and graduated from master's degree in teaching and curriculum at Syracuse University in 2020. He was a special education teacher both in inclusive and special schools. His roles were to develop, remodel, conduct and evaluate academic and functional curriculum adaptations for students with special needs, and those require collaborations between a school, family, and society. Currently, he has joined the Department of Special Education, Faculty of Education and Psychology, Universitas Negeri Yogyakarta as an academic staff. He takes a charge of (1) developing, transferring, and evaluating updated knowledge and practices based on literature and practice to undergraduate students through teaching and learning, (2) designing and conduct research and grants related to disability issues and education, and follow them into publications nationally and internationally, and (3) organizing and assessing problem-based programs in educational and community service.

Rochmat Wahab was born in Jombang, East Java, on January 10, 1957. He earned his bachelor's degree in special education and graduated from master's degree in counseling and guidance at Universitas Pendidikan Indonesia. He received second master's degree in Curriculum and Instruction for Elementary Education at University of Iowa. Currently, he is a professor specialized in gifted education in the Department of Special Education, Faculty of Education and Psychology, Universitas Negeri Yogyakarta.