







## A STUDY OF FACTORS INFLUENCING THE DEVELOPMENT OF STUDENT TALENT

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### ABSTRACT

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#### Keywords

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This study examined how the development of student talent is influenced by factors such as guidance and counseling, the school environment, parent participation, and learning activities that are high quality, competitive, and character building. The research was conducted in eight secondary schools (four states schools and four private schools). In order to gain an insight into the development of student talent, the sample respondents were the parents of students. The main instrument used in the data collection process was a questionnaire, which was supplemented by focus group interviews and discussions. The items in the questionnaire were validated and verified using the Pearson and Cronbach Alpha product moment test criteria and the SPSS version 24.0 program. Data were processed and analyzed using the Structural Equation Modeling (SEM) approach, using the Lisrel 8.70 program. The results show that the above factors have a positive effect on students' talent and competency development, including self-awareness, learning and problem-solving skills, as well as strengthening students' characters and personalities. On this basis, efforts to develop student talent should consider all such variables of influence and their indicators, and more attention should be paid to the indicators that influence student talent the most.

**Contribution/Originality:** This study focuses on the importance of paying attention in order to manage a number of factors that significantly influence the development of student talent. As well as affecting the development of student talent, these factors also have a positive impact on self-awareness, learning and problem-solving skills, and the strength of students' character and personality.

### 1. INTRODUCTION

The implementation of talent-based education is still lacking in Indonesia. Students are more often confronted with a general education, as the chance to acquire a vocational education is generally based on the desire to get a job quickly, as opposed to talent. Gardner (1993) believes there are at least eleven types of intelligence possessed by humans, which include: musical, visual-spatial, verbal linguistic, logical mathematical, kinesthetic, interpersonal, intrapersonal, naturalistic, existential, and spiritual. A number of excellent schools that pay attention to the development of student talent are able to produce high-quality graduate learning achievements, with most graduates being accepted by their chosen universities. Furthermore, after graduating from university, they also

tend to work in accordance with their talents in order to develop their competencies and careers. Schools that pay less attention to student talent tend to produce graduates of poor quality who work in lower skilled jobs and find it difficult to develop their competencies and careers.

The current government has put an emphasis on student talent, categorizing it as an aspect that needs attention in teaching and learning activities in schools. With this additional attention, it is hoped that teachers will guide and direct the learning process of their students in order for them to form competencies that will improve and expand their futures. Generally, it is a teacher with a background in guidance or counseling who will discover the talents of their students, perhaps in coordination with an external psychological consulting company. However, the fact that developing student talent is influenced by other factors has not been sufficiently examined through observations or assessments of teacher guidance and counseling. Student talent will not develop if students are not supported by a conducive school environment, which should offer accessibility to experts who can guide students, facilities that support talent development, and the possibility for collaboration with parties outside the school. Furthermore, talent will not function optimally if it is not supported by the parents of the students concerned, especially with regard to their child's education. It must be realized that schools are not entirely responsible for a child's education, as many other factors are thought to influence the development of student talent, including: the role of local government, the role of teacher organization, the role of subject teachers, extra and co-curricular activities, and the influence of the child's surrounding social and physical environment.

Why, therefore, should attention be given to the development of student talent and the variables that influence them? The main reason for talent-based education tends to be to develop student competencies that are in line with their own desires. If one's education is appropriate and one's talents are nurtured, this will result in happiness, an energetic attitude, critical-thinking skills, creativity, innovative thinking, and the energy required to continue to develop one's talent and competencies in one's line of work. Conversely, those who acquire an education and occupation that are not in accordance with their talents tend to be passive, less creative, less concerned with the purpose of life and their future, and often, they do not understand the potential for self-development.

This study focuses on teacher guidance and counseling, the school environment, and the role of parents in directly influencing the development of student talent. In addition, it is assumed that these three factors indirectly influence the development of student talent through learning activities. [Wahyuni and Falah \(2016\)](#) and [Mawaddah \(2017\)](#) examine the role of teachers in guiding and counseling students and their talent development. [Agung, Widiputera, and Widodo \(2019\)](#); [Folaranmi \(2019\)](#) and [Tjalla \(2020\)](#) discuss the influence of teacher guidance and counseling, the school environment, and parental participation on the development of student talent. [Widatik \(2017\)](#) and [Pulungan, Syafaruddin, and Nasution \(2018\)](#) examine how certain variables in the school environment, particularly learning activities, influence student talent development.

This study aims to determine both the direct and indirect effects of teacher guidance and counseling, the school environment, and the role of parents, predominantly through learning activities and how they focus on the development of student talent. This study provides an explanatory overview of the relationship between these variables and the indicators covered in each variable.

## 2. LITERATURE REVIEW

### 2.1. Guidance and Counseling

There has long been a demand for educational implementations that consider students' characteristics and talents as the basis for their further development. This is usually done by mentoring guidance and counseling (GC) teachers, who encourage students' talents so that they can reach their potential. Such guidance helps individuals understand themselves and their world, so as to maximize their potential ([Willis, 2014](#)). The counseling process gathers facts about the student, as well as information about their experiences, and then focuses on specific issues that the students need to address. Counseling is an interaction between counselor and client that occurs in a

professional environment with the aim of facilitating behavior change, improving problem-solving skills, improving decision-making skills, and enhancing interpersonal relationships (Jones, 2010). In particular, GC teachers have the task of providing guidance and developing the potential of individual students through behavioral change by improving their skills and ability to deal with problems and relationships with others.

Theresa (2016) states that the purpose of mentoring and counseling is to realize the potential of students. This is achieved by helping students solve problems, contributing to the development of the curriculum, and contributing to school adjustments, as well as providing technical assistance to teachers in selecting, organizing, and interpreting tests, using cumulative, anecdotal, and other types of notes. Hallen (2012) has stated that there are five functions of GC teachers, namely: understanding the specific parties involved in student development, helping students to avoid problems that may hinder their development process, providing GC services that will help solve many problems that students face, maintaining and developing a variety of positive conditions for students, and offering suggestions that will enable students to develop their potential as much as possible.

Paimun (2005) stated that the function of GC consists of: (1) A development function, which involves helping students to develop their knowledge, attitudes and skills; (2) A distribution function, which involves helping students channel their talents, interests, and aspirations; (3) A repair function, which involves helping students correct mistakes, shortcomings, and weaknesses in their speech, behavior and actions, both towards themselves and others; (4) An adjustment function, which refers to the specific function of GC to help the counselee dynamically and constructively adjust to himself and his environment; and (5) An adaptive function, which involves helping school staff, especially teachers, to adapt their teaching and guidance programs to the appropriate level of development and aspiration for the students.

## 2.2. School Environment

Experts have different conceptions about schools, according to their individual perspectives. Some see them as buildings or institutions for learning (Daryanto, 1997), some view them as systems consisting of inputs, processes, and learning outputs (Usman, 2016), and others view them as a system of social interaction—an organization of personal interactions built on organic relationships (Admodiwiro, 2000). In this paper, the conception of schools is that they consist of both physical and non-physical elements, as well as human and non-human elements.

The physical and non-human elements of the school include the school itself, the office buildings, classrooms, meeting rooms, fitness centers, health rooms, school libraries, and laboratories. The non-physical and human elements include the principals, teachers, administrative staff, health workers, library staff, laboratory staff, extracurricular instructors, and many more. All of these elements need to be synergized and managed in a mutually supportive way in order to support the implementation of a talent-based education, which will, in turn, develop competitive and competent students who are capable of anticipating, responding, and adapting to change.

Efforts to manage all elements of the school must have the common goal of producing students who master science and technology and are able to develop their talents. Student competencies are built on the basis of student talent, changing environments, and meeting a competitive labor market. It has been considered that the completeness of these elements influence talent-based education. As a result, schools will have difficulty developing student talent if they face inadequate support, both externally and internally. Setiadi, Eko, and Suwahyo (2008); Mulyani (2006); Nur (2015); Widagdorini (2017) and Safitriyani (2018) have demonstrated that the development of student talent and learning outcomes positively influences a school's infrastructure, performance, and teachers. The school environment has an impact on students' motivation to learn (Arsyad, 2012; Munggaran, 2018; Palangda, 2017), so an innovative school layout that supports the learning process is required (Li, Yu, & Zhou, 2014).

### 2.3. Parent Participation

Implementing an educational program involves various parties, including central and regional governments, the community, parents, principals, and teachers, among others. Given that the family is the earliest known environment of a child's education, the contribution of parents is particularly important to the success or failure of the implementation of education in schools.

Simple participation can be defined as the involvement of an individual or group of people in working towards the success of an organization or activity, thereby supporting the achievement of desired goals and outcomes. Davis and Newstrom (2004) argue that participation refers to a person's mental and emotional involvement in an organization or activity, for which they take full responsibility. In other words, participation refers to the mental and emotional engagement of someone who is motivated to contribute in order to achieve the goals and outcomes of the group or organization.

In the context of a school as an organization that carries out learning activities, parent participation refers to their engagement and support in order to achieve certain goals and outcomes for the school. Studies by Rogers, Adam, and Theule (2009); Durišić and Mila (2017); Akhmad, Hassan, Ahmad, Chua, and Othman (2017) and Syamsudduha (2017) show that one of the reasons why a school may succeed is the participation of parents. Putri (2010); Mutodi and Ngirande (2014); Islami (2016); Muryati (2017) and Persada, Pramono, and Murwatiningsih (2017) have shown that the active participation of parents supporting school activities can improve the quality of learning. Parental participation has a major influence on learning processes and achievements. A number of studies, such as one by Balarabe and Omar (2010) have suggested that there is a significant relationship between parent participation and student achievement. The findings of research conducted by Kusuma and Mustikawati (2017) showed that the attentiveness of parents significantly influenced the achievements of students in school. There are at least four areas within a school's administration that are open to parental involvement: participation in the school's finances, participation in the provision of learning facilities, participation in the renovation of schools and classrooms, and participation in teacher teaching skills. Of course, deep involvement with school management and learning authorities should be avoided.

Parental involvement is also valuable in terms of the school's efforts to identify the students' characteristics and talents and support their development, particularly in terms of funding and providing facilities. Parents should understand that the school aims to determine the students' interests and talents, in order for them to be more focused in terms of their plans for their future. However, the school's efforts would be thwarted without good GC teachers and other extra-curricular activities, such as journalism, sports and art activities (singing, dance, drama, drawing, and sculpture). Parental participation is also related to the potential acquisition of experts that schools need in order to develop students' talents and interests. Furthermore, the concerns of parents about their children's education will affect the success of the implementation of talent management.

### 2.4. Learning Activities

The term 'learning' is interpreted differently by the majority of education experts. Gagne, Briggs, and Wager (1992) view learning as a system that aims to facilitate student learning, which contains a series of events designed to influence and support the development of the student learning processes. Corey (2011) defines it as a deliberately managed environmental process that allows a person to act or respond to a particular situation. In the Republic of Indonesia, Law No. 20/2003 establishes a teacher-led learning process to develop a creativity of thought that enhances students' skills and knowledge. In Law No. 14/2005, it is stated that teachers are required to have four specific abilities in order to achieve high quality student learning outcomes, which are: (1) Pedagogical and learning management skills; (2) Professional skills in the form of an understanding of the material and the use of digital technology; (3) Social skills, which refer to the ability of teachers to communicate and interact effectively; and (4) A personality that embodies certain attitudes, behaviors, morals, so as to become a role model for the students.

Facing an era of globalization in the 21st century, teachers need to change their teacher-centered learning patterns to student-centered learning. The challenge that teachers face is to produce competent students who have the skills and abilities to develop their scientific and technical knowledge, as well as their creativity, critical thinking, collaboration skills, communication skills, and the ability to solve problems in accordance with their environment. Some educators have developed problem-based learning and project-based learning (PBL) based on high level thinking skills (HOTS) and problem solving (see [Anderson and Krathwohl \(2001\)](#)).

In the PBL approach, teachers are no longer immersed in learning patterns that focus on the learners' ability to simply memorize, understand, or apply scientific theories and concepts; instead, teachers focus on the learners' ability to use them as analytical tools to solve problems. [Rhem \(1998\)](#) and [Lambros \(2004\)](#) define the PBL method as a method of learning that uses problematic principles and strives to generate new knowledge that can be used in all types of curricula. [Barge \(2010\)](#) developed the "Aalborg PBL Model" that defines the role of teachers in the learning process as initiators and facilitators of communicating knowledge. The model starts by looking at the problem and developing it into a question. The problems that are formulated through these questions are the beginnings of the learning process. After learning the problem formulas, students analyze the issues based on interdisciplinary or predefined subjects. The students work in supervised groups to plan, manage, and solve problems.

### *2.5. Activity Centers*

The development of student talent often involves external activity centers. These activity centers are not intended to be a center for non-formal education, as defined by the Minister of Education and Culture Regulation No. 4/2016; instead, they are places used by communities or groups of people to carry out certain activities, such as art, drama, dance, music, sports, training, journalism, robotics, automotive courses, and many more (see [Wikipedia \(2019\)](#)). These activity centers can be an alternative place for students to collaborate, channel and develop their talent.

Centers of activity outside schools are potential sources for supporting, channeling and developing student talent. These centers are multifaceted because, as well as being a place for developing talent, they also enhance students' creativity, and character. [Widatik \(2017\)](#) introduces the idea that the development of talent through extracurricular activities, such as dance, helps to enhance creativity, as well as developing the potential and talent of students. [Hayani \(2016\)](#) presents studio activities in the form of traditional games or training (in areas such as dance, computers, English, and environmental care) as having a positive impact on one's self-confidence and character. Some of the central requirements of an activity center that develops student talent are: a location close to the school and student residences, low costs, adequate equipment, and the availability of coaches and instructors.

### *2.6. Student Talent Development*

A talent can be interpreted as an apparent characteristic of a person. [Wofle \(2014\)](#) suggested that a little training can improve one's characteristics through knowledge and skills. In this context, the school is a place to educate students in order for them to acquire competencies according to their interests and talents. In this case, competence refers to the possession of certain abilities or knowledge in certain subjects obtained from education and other experiences in school. As stated by [Robbins \(2006\)](#) and [Wibowo \(2007\)](#) competence is the ability or capacity of a person to perform various tasks in a job, where ability is determined by two factors: intellectual and physical ability. [Frampton and Ho \(2010\)](#) divide competencies into two categories: (1) Basic competencies (competency threshold) are central characteristics, usually in the form of basic knowledge or expertise, and (2) Competencies that distinguish somebody as a result of the characteristics they possess.

Competence is needed, not only by employees in the workplace, but also by students in schools. Talent-based student competencies tend to give rise to creativity, critical thinking, collaboration, and communication, which are

skills that are needed in order to respond to the challenges of the current global era (Agung, 2017; Lazear, 2002; Pearlman, 2006, 2009). Creativity refers to the ability to encourage curiosity and bring about ideas to find ways to improve things through creation or experimentation (Ayan, 2003; Clegg & Birch, 2007). Critical thinking refers to the ability to analyze and evaluate data and information, draw conclusions, and solve problems (Kahneman, 2011; Paul & Elder, 2013; Walker & Finney, 2006). Collaboration is a relationship between two people or a group of people working together to achieve certain goals (see (Colbry, Hurwitz, & Adair, 2014; Lindeke & Sieckert, 2005)). Communication is the ability to compose and communicate ideas, as well as the ability to solve problems and draw conclusions following an analysis and evaluation of information (Canale & Swain, 2002; Skinner, 2002).

2.7. Theoretical Framework

Based on the description above, a theoretical framework on the factors that influence the development of student talent was prepared.

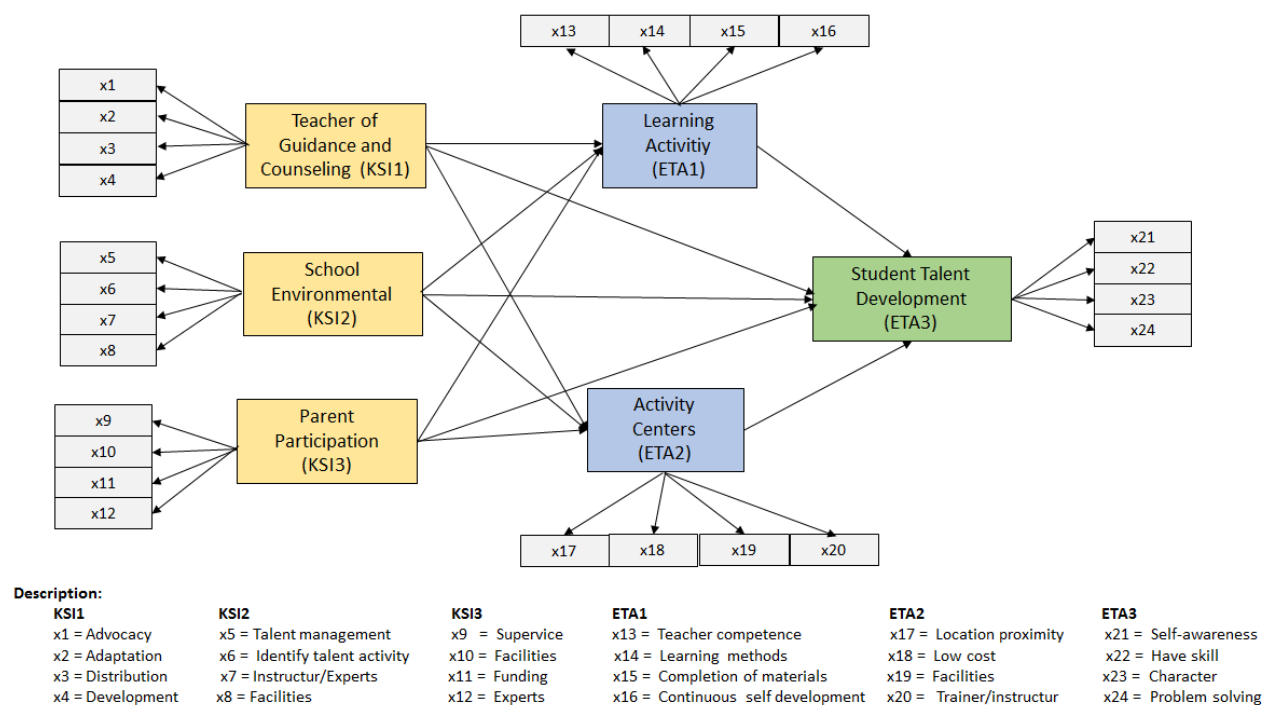


Figure 1. Theoretical framework of factors that influence the development of student talent

2.8. Hypothesis

- KS11, KS12, and KS13 have an influence on ETA1, ETA2, and ETA3.
- ETA1 and ETA2 have an influence on ETA3.

3. RESEARCH METHODOLOGY

3.1. Population and Sample

This paper was part of the 2019 field study results in three cities: Central Jakarta in the DKI Jakarta Province, South Tangerang in the Banten Province, Bogor, and the West Java Province. In each city, eight secondary schools (four public and four private) were randomly selected, although they had to meet the criteria of having a GC and a psychologist. From each school, twenty parents were randomly selected as research samples. The total sample was 480 parents. Indonesian regulations on regional autonomy give authority to the management of senior high schools under the provincial government, whereas the management of primary and secondary education is under the authority of the district or city government. Provincial governments are regions that are led by governors, which consist of a number of districts or cities that are led by a mayor or regent.

### 3.2. Types of Data

The main instrument used in the data collection was the distribution of the questionnaire to the parents. The items in the questionnaire were validated and verified using the product moment test criteria from Pearson and Cronbach Alpha using version 24.0 of the SPSS program. In addition, information was obtained through interviews with the principal and other focus group discussions (FGD), which included participants from the Office of Education, the principal, GC teachers, subject teachers, and the parents of students.

### 3.3. Analysis of Data

The data was processed and analyzed using the Structural Equation Modeling (SEM) approach and the Lisrel 8.70 program. The SEM approach can be carried out on a fairly large sample; in fact, according to experts, the SEM approach needs to meet the requirements of more than 100 respondents (Hair, William, Black, & Babin, 2010; Haryono & Wardoyo, 2017; Kusnendi, 2009).

## 4. FINDINGS

### 4.1. Characteristics of the Respondents

Not all parents returned the questionnaire that was distributed to them. Of the total respondents, 425 (88.54%) returned the questionnaire, and 410 of them (85.42%) were eligible for further analysis. The filling out of the questionnaire was carried out by 236 (57.56%) fathers and 123 (30.0%) mothers from complete families, 38 (9.28%) fathers or mothers as single parents, and the remaining 13 (3.17%) were filled out by brothers, sisters, or other relatives, such as uncles and aunts. The occupations of the respondents varied from state civil servants (in both central and local government), members of the military and police, teachers, advocates, notaries, business people, and others (see Table 1).

The income level of the respondents varied from just under 1 million to more than 50 million (exchange rate: USD \$1 = approximately 14,000 rupiah). Most respondents had between two and three children, although some had more.

Table 1. Respondents' employment (N = 410)

No.	Type of Job	Male (%)	Female (%)	Total
1.	National Civil Apparatus (central and District)	85 (20.73)	44 (10.73)	129 (41.46)
2.	Military / Police members	21 (5.12)	2 (0.49)	23 (5.61)
3.	Lecturer / Teacher	12 (2.93)	4 (0.96)	16 (3.90)
4.	Advocate	4 (0.96)	-	4 (0.96)
5.	Notary	1 (0.24)	3 (0.73)	4 (0.96)
6.	Businessman	2 (0.49)	4 (0.96)	6 (1.46)
7.	Merchants	45 (10.99)	14 (3.41)	59 (14.40)
8.	Consultant	4 (0.96)	2 (0.49)	6 (1.46)
9.	Private employees	27 (6.59)	23 (5.61)	50 (12.20)
10.	Labor	12 (2.93)	4 (0.96)	16 (3.90)
11.	Open a shop	28 (6.83)	36 (8.78)	64 (15.61)
12.	Driver / Object	17 (4.15)	2 (0.49)	19 (6.64)
13.	Something else	8 (1.95)	6 (1.46)	14 (3.41)
	Total	266 (64.88)	144 (35.12)	410 (100.00)

\* Source: Study of factors influence the development of student talent. 2019.

### 4.2. Validity and Reliability

Hair et al. (2010) suggest that the Confirmatory Factor Analysis (CFA) is conducted to test the dimensionality of a construct or variable. CFA needs to be implemented as a validity and reliability test in order to determine whether indicator variables form the latent variables studied (Haryono & Wardoyo, 2017). A validity test is carried out to find out whether the question items meet the standardized value of the factor. If the value of the standard

loading factor is greater than 0.5, the question item is valid. Table 2 shows that all items in the statement or indicator in this study are valid, as they all have a loading value greater than 0.5.

Table 2. Validity and reliability results

Indicators	SLF	ei	CR	VE	Conclusion	Indicators	SLF	ei	CR	VE	Conclusion.
x1	0.82	0.33	0.888	0.667		x13	0.77	0.41			
x2	0.89	0.20			Valid & reliable	x14	0.76	0.43	0.894	0.681	Valid & reliable
x3	0.86	0.26				x15	0.82	0.32			
x4	0.68	0.54				x16	0.94	0.12			
x5	0.90	0.19	0.960	0.858		x17	0.85	0.28			
x6	0.94	0.12			Valid & reliable	x18	0.82	0.33	0.932	0.773	Valid & reliable
x7	0.92	0.16				x19	0.91	0.18			
x8	0.95	0.10				x20	0.94	0.12			
x9	0.84	0.29	0.948	0.820		x21	0.91	0.10			
x10	0.82	0.33			Valid & reliable	x22	0.97	0.06	0.927	0.763	Valid & reliable
x11	0.99	0.02				x23	0.85	0.28			
x12	0.96	0.08				x24	0.71	0.49			

\*Source: Study of factors influence the development of student talent, 2019.

#### 4.3. Goodness of Fit (GOF) Models

A structural model analysis in SEM begins by testing the suitability of the overall model, which is based on the Goodness of Fit Index (GFI) indicator of the LISREL output (Hair et al., 2010). Overall, a summary of the critical values from the model compatibility test can be shown in Table 3.

Table 3. GOF results

Size Degree of Match	Value	Acceptable level of compatibility	Conclusion
RMR (Root Mean Square Residual)	$\leq 0.05$ atau $\leq 0.1$	0.022	Good Fit
RMSEA (Root Mean square Error of Approximation)	$\leq 0.08$	0.0276	Good Fit
GFI (Goodness of Fit)	$\geq 0.90$	0.95	Good Fit
AGFI (Adjusted Goodness of Fit Index)	$\geq 0.90$	0.93	Good Fit
CFI (Comparative Fit Index)	$\geq 0.90$	0.96	Good Fit
Normed Fit Index (NFI)	$\geq 0.90$	0.99	Good Fit
Non-Normed Fit Index (NNFI)	$\geq 0.90$	0.96	Good Fit
Incremental Fit Index (IFI)	$\geq 0.90$	0.95	Good Fit
Relative Fit Index (RFI)	$\geq 0.90$	0.97	Good Fit

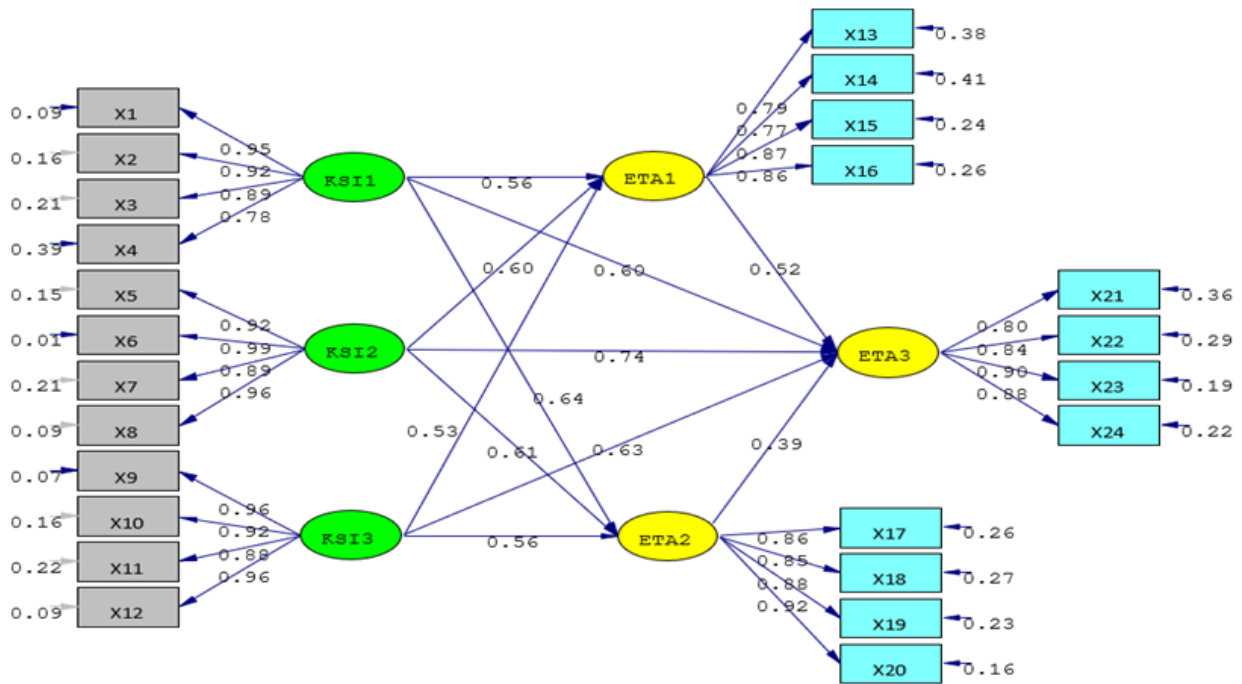
Source: Study of factors influence the development of student talent, 2019.

The model match test results show that the RMSEA is smaller than 0.08; therefore, it is said to be a good fit model. In addition, the results of testing CFI, IFI, NFI, RFI, GFI, and AGFI show that the suitability of the model has been met, as each value is greater than 0.90, thereby demonstrating a good fit.

#### 4.4. Structural Model and Hypothesis Results

SEM is an analytical technique used to build and test statistical models. One function of SEM is to measure indicators in latent variables (Hair et al., 2010; Haryono & Wardoyo, 2017; Hox, 2020; Sarwono, 2010). The data analysis technique used in this study was the SEM technique, using version 8.70 of the Lisrel program. The advantage of the SEM application is its ability to confirm the dimensions of concepts or factors that are commonly used in management, as well as its ability to measure the influence of theoretical relationships. The structural model and the values of the data process are shown in Figure 2.





Chi-Square=418.95, df=24, P-value=0.001325, RMSEA=0.0276

Figure 2. Structural model of factors that influence the development of student talent

\*Source: Study of factors influence the development of student talent, 2019.

Hypothesis tests were conducted by examining the critical value (CR) at a 95% confidence level or a 5% error level. The CR value obtained was 1.96 (Hair et al., 2010). Table 4 shows five hypotheses that have been accepted because they have obtained a value of t greater than 1.96.

Table 4. Hypothesis test results

Hypothesis	Path Coefficient	T-Value	Conclusion
KSI1 → ETA1	0.56	28.41	Significant
KSI2 → ETA1	0.60	30.15	Significant
KSI3 → ETA1	0.53	27.19	Significant
KSI1 → ETA2	0.64	32.09	Significant
KSI2 → ETA2	0.61	30.52	Significant
KSI3 → ETA2	0.56	29.92	Significant
KSI1 → ETA3	0.60	14.23	Significant
KSI2 → ETA3	0.74	14.35	Significant
KSI3 → ETA3	0.63	14.56	Significant
ETA1 → ETA3	0.52	12.95	Significant
ETA2 → ETA3	0.39	6.66	Significant

\* Source: Study of factors influence the development of student talent, 2019.

Table 4 shows that the variables of GC teachers (KSI1), the school environment (KSI2), and parent participation (KSI3) have significant positive effects on learning activity (ETA1), activity centers (ETA2), and student talent development (ETA3). Variables KSI1, KSI2, and KSI3 have direct and indirect effects on (ETA1) and (ETA2) on ETA3. It can be seen in Table 4 that the school management variable (KSI2) had the highest impact on student talent development (ETA3), at 0.74, followed by the parent participation (KSI3), at 0.63. On the other hand, it appears that the influence of learning activities (ETA1) is greater than the influence of activity centers (ETA2) on the development of student talent (ETA3). These results also indicate that the school environment (KSI2) plays a very important role in developing student talent (ETA3), followed by parent participation (KSI3). Student talent is difficult to develop without the support of the school, which includes the availability of adequate resources, working

with relevant experts to assist and direct student talent, and working with external activity centers that nurture student talent. Parental attention is also important in terms of supporting the development of student talent. This study shows that GC teaching positions have a limited ability to evaluate student talent and help their development; instead, the primary factors in talent development are schools and parents. On the other hand, ETA1 exerts a greater influence than the ETA2 on student talent development, especially in relation to identifying, channeling, directing, and enriching their knowledge of future talent. While the above analysis describes the relationship with outcome variables, each indicator in this study also contributes to exogenous and endogenous variables. To estimate the results, the relationship between variables and indicators can be seen from the coefficient values in the model. The factor load coefficient or high coefficient is evidence that the measured variable represents an underlying construction. Table 5 shows the relationship between variables and indicator variables.

Table 5. Results of the relationship between variables and indicators

Variables	Indicators	Measurement Equations	Loading Value	Construct Coefficient	Contribution
Function of Guidance and Counseling Teacher (KSI1)	x1 = Advocacy	$x_1 = \lambda_1 \text{Advocacy} + \delta_1$	0.09	0.95	0.0855
	x2 = Adaptation	$x_2 = \lambda_2 \text{Adaptation} + \delta_2$	0.16	0.92	0.1472
	x3 = Distribution	$x_3 = \lambda_3 \text{Distribution} + \delta_3$	0.21	0.89	0.1869
	x4 = Development	$x_4 = \lambda_4 \text{Development} + \delta_4$	0.39	0.78	0.3042
School Environment (KSI2)	x5 = Talent management	$x_5 = \lambda_5 \text{Management} + \delta_5$	0.15	0.92	0.1380
	x6 = Talent activities	$x_6 = \lambda_6 \text{Activities} + \delta_6$	0.01	0.99	0.0099
	x7 = Instructor/Experts	$x_7 = \lambda_7 \text{Experts} + \delta_7$	0.21	0.89	0.1869
	x8 = Facilities	$x_8 = \lambda_8 \text{Facilities} + \delta_8$	0.09	0.96	0.0964
Parent Participation (KSI3)	x9 = Supervision	$x_9 = \lambda_9 \text{Supervise} + \delta_9$	0.07	0.96	0.0672
	x10 = Facilities	$x_{10} = \lambda_{10} \text{Facilities} + \delta_{10}$	0.16	0.92	0.1472
	x11 = Funding	$x_{11} = \lambda_{11} \text{Funding} + \delta_{11}$	0.22	0.88	0.1936
	x12 = Experts	$x_{12} = \lambda_{12} \text{Experts} + \delta_{12}$	0.09	0.96	0.0864
Learning Activity (ETA1)	x13 = Competence	$x_{13} = \lambda_{13} \text{Competence} + \delta_{13}$	0.38	0.79	0.2964
	x14 = Learning methods	$x_{14} = \lambda_{14} \text{Approach} + \delta_{14}$	0.41	0.77	0.3157
	x15 = Completion of materials	$x_{15} = \lambda_{15} \text{Completion} + \delta_{15}$	0.24	0.87	0.2088
	x16 = Continuous self-development	$x_{16} = \lambda_{16} \text{Continous} + \delta_{16}$	0.26	0.86	0.2236
Activity Centers (ETA2)	x17 = Location proximity	$x_{17} = \lambda_{17} \text{Location} + \delta_{17}$	0.26	0.86	0.2236
	x18 = Low cost	$x_{18} = \lambda_{18} \text{Lowcost} + \delta_{18}$	0.27	0.85	0.2295
	x19 = Enough facilities	$x_{19} = \lambda_{19} \text{Enoughfac} + \delta_{19}$	0.23	0.88	0.2024
	x20 = Trained Instructor	$x_{20} = \lambda_{20} \text{Trainer} + \delta_{20}$	0.16	0.92	0.1472
Student Talent Development (ETA3)	x21 = Self-awareness	$x_{21} = \lambda_{21} \text{Selfawareness} + \delta_{21}$	0.36	0.80	0.2880
	x22 = Have skill	$x_{22} = \lambda_{22} \text{Have skill} + \delta_{22}$	0.29	0.84	0.2436
	x23 = Character	$x_{23} = \lambda_{23} \text{Character} + \delta_{23}$	0.19	0.90	0.1710
	x24 = Problem solving	$x_{24} = \lambda_{24} \text{Problemsolving} + \delta_{24}$	0.22	0.88	0.1936

\*Source: Study of factors influence the development of student talent, 2019.

## 5. DISCUSSION

The variable of GC teachers (KSI1) had positive effects on learning activities variables (ETA1), activity centers (ETA2), and student talent development (ETA3). From the KSI1 variable, it has been seen that development (x4) is the indicator with the highest value (0.3042), followed by distribution (x3; 0.1869), adaptation (x2; 0.1472), and advocacy (x1; 0.0855). These results show that parents fully trust the guidance and direction of teachers in schools to develop the talent of their children, as well as their encouragement in selecting a program of further education. [Sriyono \(2017\)](#) and [Wahyuni and Falah \(2016\)](#) suggest that GC teachers play an important role in developing and directing students' interests and talents, both in terms of furthering their education and selecting their future employment.

School environment variables (KSI2) also have positive effects on learning activities variables (ETA1), activity centers (ETA2), and student talent development (ETA3). Of the KSI2 variables, the instructor/expert indicator (x7) contributed the highest value of 0.1869, followed by talent management (x5; 0.1380), facility support (x8; 0.0864), and the implementation of talent activities (x6; 0.0099). Parents see that the availability of instructors and experts is the most important factor that enables children to direct their education in accordance with their talents. Schools must provide instructors and experts according to the talents of the children and the support and development they require. It is expected that the school environment can be managed systematically in order to encourage the future prospects of children, such as determining their future educational program and selecting a suitable job. [Kinyoro, Wambui, Njeri, and Susan \(2017\)](#) have highlighted the impact of the school environment on student talent development. [Mawaddah \(2017\)](#) argues that the management of a school needs to modify the role of teachers so that they are not only facilitators of knowledge, but also supporters and guides for the development of student talent through the provision of support, facilities, and direction.

Parental participation (KSI3) also had positive effects on learning activities variables (ETA1), activity centers (ETA2), and student talent development (ETA3). In this KSI3 variable, the highest contribution value was support fund (x11; 0.1936), followed by facility support indicator (x10; 0.1472), expert support indicator (x12; 0.0846), and final supervision support (x9; 0.0672). The role of parents in supporting the funding and facilitating of activities for their children was perceived highly, especially in terms of supporting activities in external education and training centers for the development of talent. This also reflects the concerns parents have about their children's talent and how they should try to develop it. [Yulianti \(2014\)](#); [Nihayah \(2015\)](#) and [Niswah \(2018\)](#) show that parents have an important role in developing the talents of their children, especially if their children have unique talents, as they help their children to learn more about their talent and facilitate their development.

All of the above variables (KSI1, KSI2, and KSI3) have a positive effect on the learning activities variables (ETA1), which is an intermediate variable that influences student talent development (ETA3). The highest recorded contribution was learning methods (x14; 0.3157), followed by teacher competence indicators (x13; 0.2964), continuous self-development indicators (x16; 0.2236), and the completion of learning material (x15; 0.2088). These results suggest that parents think that learning methods are an important element in the development of student talent. Proper learning methods and approaches tend to achieve the right results, especially in developing students' competencies that match their talents. The use of such learning methods necessitates teacher competence, including the ability to communicate teaching materials. Such learning methods stimulate creativity, critical thinking skills, and problem solving, which helps in the development of sustainable talent and personal competence. Teaching materials were placed last because parents can use them at home and the materials can be found elsewhere, such as in private tutoring sessions, libraries, bookstores, or the internet. [Maesaroh \(2013\)](#) presents the positive impact of using certain methods on students' interests and learning outcomes. [Wintara \(2017\)](#) shows that the right use of materials by teachers plays an important role in developing students' interests, talents, and creativity.

Another intermediary variable is activity centers (ETA2). The KSI1, KSI2, KSI3 variables had a positive effect on the ETA2 variable, which subsequently influenced the development of student talent (ETA3). The indicators

that contributed the highest value to the ETA2 variable were low cost (x18; 0.2295), followed by location proximity (x17; 0.2236), facilities (x19; 0.2024), and trainers/instructors (x20; 0.1472). Parents' perspectives tend to emphasize the importance of low costs with regard to participating in activities organized by external institutions and organizations. The low cost is not only related to the fees that parents have to pay, but also the cost of transportation to the activity center. Therefore, parents also emphasize the importance of location. The availability of facilities, coaches, and instructors are also emphasized, especially in terms of facilitating the development of student talent. [Laksana, Utama, and Kurnia \(2018\)](#) demonstrate how many parents discourage children from developing talent if they are faced with relatively high costs. [Munandar \(2009\)](#) emphasized the importance of low costs in activity centers that aim to develop talent (studios, club sports clubs, robotics clubs, aerodynamics clubs, journalism training centers, computer training courses, automotive clubs).

Student talent development (ETA3) is an endogenous variable influenced by the exogenous variables, KSI1, KSI2, KSI3, ETA1, and ETA2. Of the ETA3 variables, the highest contributing indicators were self-awareness (x21; 0.2880), followed by skill (x22; 0.2436), problem solving abilities (x24; 0.1936), and self-reinforcing character indicators (x23; 0.1710). [Fajriyah \(2013\)](#) and [Maharani and Mustika \(2016\)](#) emphasize the fact that developing talent can shape a student's competencies, especially in terms of self-awareness, personality development, and emotional control (see [Maharani and Mustika \(2016\)](#)). The ETA3 variables also indicate the fact that developing talent will result in the acquisition of skills, especially those that are useful for work, such as the ability to solve problems and environmental issues. [Veluchamy, Bera, Rajput, and Krishnan \(2016\)](#) show that talent development has a positive impact on students' competencies and skills. In the context of the workforce, it appears that talent development positively affects self-efficacy, employee engagement, retention, and employee performance ([Mohammed, 2015](#)). Talent-based competency will also increase the sense of fun involved in performing an activity or job, thus directly or indirectly shaping the character and personality of students, including their sense of responsibility, discipline, hard work, self-reliance, self-esteem, behavior, and manners. [Pardi \(nd\)](#) suggests that developing talent supports independence, hard work, and success. [Saragih \(2014\)](#) argues that developing talent brings about independence, responsible behaviors, self-esteem, and discipline in terms of the achievement of self-competence.

## 6. CONCLUSION

Talent development will impact students' personal competencies, including their self-awareness, work skills, problem-solving abilities, as well as strengthening their character and personality. Student talent development is influenced by a number of variables, including the function of GC teachers, the school environment, parental participation, learning activities, and the presence of activity centers.

On this basis, efforts to develop students' talents should consider all of these variables and the indicators they encompass. The indicators in each variable are interrelated and cannot be ignored. The results that show the highest value contribution underline the importance of emphasizing the management of these indicators. The focus of this study has shown that education with an emphasis on student talent will develop high-quality, competitive, and character-based competencies.

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