

Learning Content and Process for Academically Talented Students

Syafrimen Syafril¹ ¹Universitas Islam Negeri Raden Intan Lampung, Indonesia

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ABSTRACT

Academically talented students are students who have above average abilities, particularly in the academic since birth, and can develop through a process of training. As their ability to process learning and information is faster than the average students, they are prone to feel frustrated if they are treated the same as the average students. Hence, this study analyzes the content and learning process in-depth required by these academically talented students. The analysis document through the embedded multiple-case design was used for data collection in this study. The data were analyzed qualitatively using NVIVO 12.0 software. The results of the analysis showed that the learning content for academically talented students are; (i) content based on current issues, (ii) significant content, (iii) challenging content, (iv) advanced content, (v) inspiring content), (vi) thematicintegrative, (vii) critical knowledge and experience construction content-based, and (viii) controversial content issue and active debate. While the learning process for academically talented students are; (i) independent study, (ii) problem solving, (iii) criticism learning, (iv) effective learning, (v) inspired learning, (vi) higherorder thinking learning (HOTs), (vii) guesswork learning), (viii) inquiry learning, (ix) possibility learning, (x) exploring learning, (xi) flexibility learning), (xii) straight learning, and (xiii) giving students liberty (learner-centered). Considering the results of this study, to develop the ability of academically talented students to the maximum, behavioristic and constructivist learning and a varied combination of both can be applied.

Corresponding Author: Syafrimen Syafril, Universitas Islam Negeri Raden Intan Lampung, Jl. Letkol H. Endro Suratmin, Sukarame, Bandar Lampung, Indonesia. Tel. +6281374576227. E-mail: syafrimen@radenintan.ac.id.



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1. Introduction

Academically talented students are defined as students who possessed intellectual abilities above average and can perform outstandingly, have courage, achievement, creativity, innovation, and motivation, as well as special abilities in academics (Ambrose & Machek, 2015; Chang & Qin, 2017; S. Lee et al., 2018; McCoach et al., 2004; Mills, 1993; Renzulli, 1978; Syafril et al., 2020; Vogelaar et al., 2019; Yusof et al., 2020; Zhbanova et al., al., 2013). Characterized by the high value obtained and more active in learning (K. M. Lee et al., 2017; Pollet & Schnell, 2017; Villatte et al., 2011). Academically talented students have potential abilities that they were born with and can develop optimally through the environment and training (Taslim & Jabar, 2019; Wahab, 2005). Academically talented students own a positive academic self-concept (Dixon et al., 2001; Vogelaar & Resing, 2018). Based on these various views, academically talented students are

identified as students who have superior abilities or whose intelligence levels are above the average regular students and can be developed through constant training.

Academically talented students have characteristics: possess more positive self-concept, perfectionists, have abundant enthusiasm and physical energy, general intellectual abilities, creative or productive thinking, leadership abilities, psychomotor abilities, cognitive abilities, have a high sense of curiosity, keen on challenges, more responsive and easy to memorize, have extraordinary abilities in reading, intelligent, flexible, sensitive, extraordinary reasoning abilities, have efficient memory span, have the ability to identify and discard irrelevant information, apply approaches to solving problems, expressive, idealistic, and superior analytical thinking skills (McCoach & Siegle, 2003) (Dixon et al., 2001; Maksić & Iwasaki, 2009; Pfeiffer & Stocking, 2000) (Fox, 1981; Harkness, 1988; Lupart, 1991; Majida & Alias, 2010; Syafril et al., 2020) (Al-Hadabi, 2010; Eilam & Vidergor, 2011; Jones & Day, 1996; Mulhern, 197 8; Yusof et al., 2020) (Neihart, 2008). Talented students have a more rapid ability to learn and process information, work at a higher level in subject matter, and focus on conceptual content higher than their peers (Van Tassel-Baska et al., 1992). They are moderately shown in Figure 1.1 below.



Figure 1.1. Academic talented student characteristics

Very often, the lack of quality material or content conveyed to these academically talented students and ineffective learning environment, thus did not meet students' expectations (Özarslan & Çetin, 2018), inadequate learning about concepts that consider content related to mathematics and physics (Grouws et al., 1996). Academically talented students are sometimes seen to underperform in learning due to learning style and lack of interest in learning (Lapointe et al., 2005; Stewart, 1981). Academically talented students are often delayed in order for other children to complete their work (Martin, 2002). Academically talented

children are bored, saturated, and exasperated when treated the same as other children, where their needs are not met, due to their ability to process learning and information faster (Benson, 2002). There is a need for variation in the learning experience and the need for different features between academically talented students and students in general. Academically talented students possessed distinct characteristics and requirements that make learning effective and efficient (Waldrop, 1990).

Research on content and learning processes has been conducted by previous studies, including project-based learning processes to support academically talented students interested in learning materials and developing their enthusiasm, interest, and attitude towards learning (Özarslan & Çetin, 2018). Teachers are also required to produce activities that reflect achievement in the school environment, including in (academic) subjects, achievements in music, fine arts, and sports activities (non-academic achievements), and in interpersonal and leadership activities (Chan, 2008). However, academically talented students need challenging programs as well as providing learning processes that can challenge students' weaknesses in problem -solving skills and independent skills (Beckely, 1998), critical thinking skills (Del Giorno, 1977), discussion, and active learning (Peterson & Lorimer, 2012; Sisk, 1972), culture-based learning, learning content that transforms theory into practice (McHatton et al., 2010), and learning content that visualizes theory (Gordon & Poze, 1980). Academically talented students require programs that are academically and creatively challenging (Perez, 1980). It is important to consider each academically talented student's needs in selecting the appropriate curriculum in the learning process (Tyler - Wood et al., 2000). Therefore, research related to the content and learning process for academically talented students is still minimal and is obligated to answer various questions as described earlier.

2. Method

This study used a qualitative approach with case study research types (Chesebro & Borisoff, 2007; Creswell, 2014; Mason, 2014; Yin, 2017). Case studies were used as a comprehensive explanation related to aspects of a person, group, organization, a program, or a community situation that were studied to be developed and analyzed in depth. The design of this study is an embedded multiple-case design, which involves more than one unit of analysis (Baxter & Jack, 2008; Scholz & Tietje, 2012). Data were collected through analytical documents (theory, scientific articles, management documents, and teacher-prepared learning process documents) (Bastani et al., 2018; Bowen, 2009; Esterberg, 2014; Fossey et al., 2002; Moen & Middelthon, 2015). Data were analyzed thematically through data reduction, data display, and conclusion drawing and verification (James, 2013). All data analysis techniques were performed with the assistance of NVIVO 12.0 software to facilitate in analyzing and organizing data to produce themes or essential points to find out the appropriate content and learning process for academically talented students.

3. Results and Discussion

Academically talented students possess learning differences from other students. Hence, there is a requirement for content and learning processes for academically talented students that is essential to be developed by teachers to focus on those students' academic talents. Generally speaking, learning for academically talented students is oriented towards Behavioristic and Constructivistic learning, and a combination of the two is varied. Based on the analysis document conducted, the learning content for academically talented students is shown in Figure 3.1 below.



Figure 3.1. Learning content for academically talented student

An in-depth understanding of each of these learning content is described below: (i) Current issue-based content (Gross & Smith, 2019; Ruban & Reis, 2005; VanTassel-Baska, 2005). Content that comprises current issues by reducing introductory material and material that students have already know in evading boredom and speeding up the learning process. (ii) Significant content: refers to a variety of extra learning or tasks used to elaborate on academically talented students' abilities to expand students' understanding of the learning material or content conveyed. (iii) Challenging content: refers to efforts to challenge talented students to learn more complexly and obtain more information and may not be grasped by regular average students. (iv) Innovative content (advanced content): refers to efforts to present content that is not covered in the school curriculum (J. J. Gallagher, 1994). (v) Inspiring content: to reinforce solid conceptual reasoning to help academically talented students learn (Rogers, 2007). (vi) thematic-integrative content, i.e., not only the material of a lesson. Academically talented students are adept at learning new content or facts and should be encouraged to pursue learning at their own pace (Watters & Diezmann, 2003). (vii) Content-based construction of critical knowledge and experience (Chowdhury, 2016) is learning content that encourages students to construct knowledge independently through critical discourse with their own experiences, fellow students, and teachers. (viii) Moreover, CI and AD (Controversial Issue and Active Debate) content is learning content that takes controversial issues and learning content that encourages students to debate in the learning process actively (Aini et al., 2019; J. Gallagher et al. al., 1997).

Furthermore, the results of the analysis related to the learning process for academically talented students as shown in Figure 3.2 below:



Figure 3.2. The learning process for academically talented student

Comprehensive understanding of each of the learning processes for academically talented students is described below: (i) Independent study, academically talented students prefer independent learning, projects, and independent learning materials than regular average students. Independent learning impacts learning motivation (inner motivation and external motivation) and ultimately affects the academic achievement obtained by students (Berman et al., 2012; Rogers, 2007). Individual strategies (independence) positively affect learning, evidenced by increased cognitive growth (Betts & Neihart, 1986). (ii) Problem-solving, academically talented students execute a planned process to acquire knowledge through problem-solving provided in a study. (iii) Feedback (criticism learning), critical interaction between students with students, and students with teachers in the learning process. (iv) Develop practical learning skills by providing activities that lead to specific experiences through training to achieve maximum results. (v) Inspired learning is a learning process that inspires students' creativity for maximum ability development through rewards and positive rewards (Kim et al., 2013). (vi) Higher-order thinking learning (HOTs), academically talented students have abilities above their peers so that the learning process builds high-level thinking creativity. (vii) Encourage the willingness to speculate (guesswork learning), (viii) Inquiry learning, and learn by cultivating the courage to inquire. (ix) Possibility learning by increasing the willingness to take risks. (x) Exploratory learning, learning with research and investigation. (xi) Flexibility learning increase flexibility to develop students' interest (xii) Learning through direct activities (straight learning), students' involvement with learning that triggers students' curiosity. With the aim of students to become more interested in the learning process. (xiii) Learning that grants liberty to students (learner-centered) is a learning process that provides the broadest possible autonomy to students to explore knowledge through various sources. Such a learning process may precede other peers (Calero et al., 2011; Cropley & McLeod, 1986; Park & Oliver, 2009; Sak, 2004; Scot et al., 2008; Scott et al., 2016; Swartz, 1993).

5. Conclusion

Intellectual ability above peers since birth, able to develop through the influence of the environment and continuous training, is a characteristic of academically talented students. Content and the learning process should be able to develop the student's abilities to the core. Behavioristic and Constructivistic Learning and a combination of the two can be used variably, as shown by the results of this study. For that reason, it takes a high level of creativity by teachers to realize the content and the learning process to meet the learning requirements of academically talented students.

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