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Development of Children's Anxiety Test Special Needs

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This study aims to produce anxiety tests for children to identify anxiety in children with special needs. The approach used in this study is quantitative. The subjects of this study were 102 SLB students in Yogyakarta province. The sample technique used was purposive sampling. Data analysis is divided into 2, validity using EFA technique and reliability using alpha cronbach approach. Data analysis using SPSS 20.0 program. The results showed that there were 5 components forming an anxiety test for ABK children. The instrument used is sumative rating scale. The construct validity of the instrument with the EFA approach is obtained by 20 valid results by forming 5 factors (components) based on eigen value. The reliability value is 0.832 (> 0.70) which means a reliable instrument. These results show that anxiety tests which have 5 components and 20 items can be used to identify the anxiety of children with special needs.

Keywords: tests, anxiety, children with special needs

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Background

Students with special needs have a relatively more sensitive personality compared to normal students. They require special attention and treatment. However, in terms of daily life, student with special needs live in social environment and socialize with others like normal students. Anxiety often occurs to student with special needs while socializing. Up to present, anxiety on student with special needs is difficult to record properly due to the limited assessment instrument. Incorrect measures to detect anxiety on Student with special needs may disrupt their socialization process.

Student with special needs is a student with specifically different mental, social, emotional, or physical characteristics from those of a normal student (Lakshita, 2017:7). Student with special needs is classified into several categories namely: student with visual

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impairment, student with hearing impairment, student with speech impairment, student with intellectual disability, student with physical impairment, student with emotional and social impairment, and gifted student. Every student falling under each category has their own level of social anxiety along with its characteristics.

Students with visual impairment tend to be more alert in crowded places due to their lack of vision. They get nervous when finding orientation and moving in new environment. Such nervous feeling can be interpreted as high level of alertness as they try to perceive their environment using nonvisual technique, by optimizing their hearing and/or touching ability on their surroundings.

Students with hearing impairment are those with significant difficulty in understanding normal conversation despite using hearing aids (Garnida, 2017:8). Students with such condition are prone to misunderstand messages delivered in communication, leading to suspicion towards other people. They develop highly sensitive feelings upon their interlocutor.

Students with intellectual impairment experience trouble in mental development. Their chronological age does not match their mental maturity. Such condition significantly affects their personal and social life. They find it hard to complete simple tasks such as eating and drinking without assistance from others. These students often have limited language ability and adaptive functioning. Therefore, they tend to lack the interest and ability required in social interaction and is unresponsive as well as dependent when socializing with others.

Anxiety is emotional response towards perceived view, indicating the feeling of fear, nervousness, and insecurity accompanied by various physical responses. It may occur in various contexts of situation or due to illnesses. Additionally, it may trigger repetitive physical reactions such as upset stomach, shortness of breath, heart palpitation, sweating, dizziness, and sudden urge to urinate or defecate. These reactions often followed by the urge to escape the source of anxiety (Stuart and Sundeen, 1998).

Anxiety is nonspecific signs and reactions resulted from autonomous nervous system activity upon uncertain, nonspecific, as well as oft found threat, and usually is a normal emotional response (Carpenito, 2000). A study shows that anxiety is negatively related to student's academic result. Physically, anxiety may cause dizziness, nausea or diarrhea, extreme change in body temperature, excessive sweating, shortness of breath, heart palpitation, dry mouth, and/or fainting. Emotionally, anxiety may result in excessive or extreme fear, anger, and/or disappointment, leading to uncontrollable depression, crying, or laughter as well as hopelessness. In terms of behavior, anxiety leads to worrying, pacing back and forth, substance abuse, and use of offensive language. Whereas, in cognitive aspect, anxiety may lead to vacant mind, difficulty in concentrating, negative self-talk, fear, the act of comparing oneself to others, and trouble in controlling thoughts.

Freud (Calvin S. Hall, 1993) identified three types of anxiety namely: realistic anxiety, defined as fear of threats or dangers from the real-world or environment. Neurotic anxiety, defined as fear of instincts or subconscious urges that may lead to punishment. The fear is not of the instincts but rather the punishment incurred by such instincts in the event that they are acted upon. This anxiety is developed due to childhood experiences of threats and punishments received from parents or person with authority when the subject

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acted impulsively. Moral anxiety, defined as fear of violating moral code (superego). People with good superego tend to feel guilty or ashamed when they act or think contradictory to their moral code. Similar to neurotic anxiety, this type of anxiety is developed due to childhood experiences of threats and punishments received from parents or person with authority when the subject violated the norms. Furthermore, there is another type of anxiety called traumatic anxiety. It is defined as anxiety that cannot be managed effectively. People with this condition experience hopelessness and emotional immaturity.

In the case of person's ego is incapable of mitigating anxiety rationally, such person will take unrealistic measures known as self-defense mechanism such as: repression, projection, reaction formation, fixation, and regression. These forms of self-defense mechanism share common characteristics namely: (1) the mechanisms deny, fake, or distort reality; (2) the mechanism works subconsciously, making the subject unaware of actuality. Anxiety may occur to anyone anywhere, including to students at school. Students may experience realistic, neurotic, or moral anxiety. The condition is a psychological process. Therefore, to determine whether or not a student suffers from anxiety, thorough examination of symptoms or signs as well as the risk factors must be carried out. However, it is worth noting that the obvious symptoms are merely part of the actual problem. They are the tip of the iceberg; there are bigger and more complex problems beneath the surface.

Based on the foregoing background, researchers are interested in developing an anxiety test for student with special needs. Such test is expected to be useful to identify anxiety experienced by student with special needs in relation to social relationship to encourage the provision of appropriate treatment.

Method

This research aims to develop anxiety test for student with special needs. A non-test instrument was developed for the test. Its development was based on physical, emotional, behavioral, and cognitive condition components. Observational Assessment (OA) instrument was utilized considering the respondents involved were students with special needs.

The development of test instrument was implemented using modified procedure recommended by Mccoach (2013; 277-283), consisting of the following 9 steps, namely: 1) establishing relevant definition; 2) choosing scale and determining indicators; 3) creating as well as matching the items on the component/construct; 4) examining items of test instrument; 5) creating the final version of test instrument (prototype) for trial testing; 6) trial testing; 7) collecting data obtained from trial testing; 8) analyzing data of trial testing utilizing exploratory factor analysis (EFA) and Cronbach's Alpha test; and 9) revising instrument based on the result of trial testing analysis. The test instrument developed was then focused on the discovery of components and indicators elligible to assess anxiety on student with special needs. Such components and indicators found served as the basis for the development of test instrument for anxiety on student with special needs.

The research was started by a study conducted at Special Education School (Sekolah Luar Biasa/SLB) 1 Bantul. This initial assessment was used to obtain the description of anxiety on student with special needs. The next stage was comprehensive

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literature review to set up the definition of anxiety on student with special needs, followed by instrument development for anxiety test using summative rating scale derived from modifying Likert scale. Summative rating scale was used to identify the components of anxiety experienced by Student with special needs. The options used in the scale were Always (Sl), Very Often (Sr), Sometimes (Kd), Rarely (Jr), and Never (Tp) with the scoring of 5-4-3-2-1 for favorable statements. Scoring applied in reverse order for unfavorable statements (Setiawan & Mardapi, 2017).

The instrument developed was used to collect data at SLB by involving 102 students as respondents. Analysis was then performed on the data collected. This analysis included item validity test using EFA (Setiawan & Fadil, 2017). EFA was conducted with the assistance of SPSS 20.0 program. It aimed to figure out the number of components formed and the items valid for the test. Instrument reliability was calculated using Cronbach's Alpha test.

Results and Discussion

In the beginning, research generated the instrument used in identifying anxiety on Student with special needs. It was developed based on literature review, field study, and expert consultation. An instrument consisting of 20 items was obtained on this initial stage. Following the stage, construct validity result was acquired using CFA method. KMO and Barlett's test was then carried out to find out the sample adequacy. The result of the test was 0.770. This figure showed that the sample was derived from population with similar variants. Furthermore, test items were validated by observing the value of anti-image correlation matrix which, from the result of EFA carried out, value obtained was between 0.5 up to 0.9. This result means the items were valid and usable.

Validity indicates that a test is essentially valid as long as it detects and measures what it alleges to measure and not something else (Thorndike & Hagen, 1977; Carminess & Zeller, 1979; Angoff, 1988). According to Anastasi & Urbina (2007: 9,125), validity of instrument is related to the object measured by the instrument and the *degree of precision* to which such instrument is capable of measuring in the object measurement. Therefore, *validity can be defined as the agreement between a test score or measure and the quality it is believed to measure* (Kaplan & Saccuzzo, 2005: 134). Or, *validity has been defined as the extent to which a test measures what it was designed to measure* (Aiken, 2000: 94).

Additionally, validity also means accurate measurement (Saifuddin Azwar, 2014). Accuracy is important in measurement. Accurate measurement means accurate data. In pursuant to several definitions, it can be concluded in short that validity can be interpreted as "precision" and "accuracy", which means the extent to which an instrument is capable of measuring in the object measurement or implementing its measuring function.

Valid instrument is not only capable of measuring data precisely, but also provides accurate description of said data. Accurate measurement means it reveals even the smallest differences among subjects (Danang Sunyoto, 2012:5).

The next stage was finding out eigenvalue to determine the factors or components formed in the test. The result obtained are as follows:

Table 1. Eigenvalue of the Instrument

No.	Component/Factor	Eigenvalue
1	Component 1	5.765
2	Component 2	2.875

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3	Component 3	1.789
4	Component 4	1.469
5	Component 5	1.208

Based on the table, 5 components were obtained from the instrument analyzed. These components hereinafter referred to as anxiety development indicators.

Following the assessment of research validity, reliability value was then calculated. Cronbach's Alpha test showed reliability of 0.832. This means the instrument was reliable. The definition of reliability of instrument and reliability of measurement is often deemed similar. However, one must be careful upon their respective uses. The concept of reliability of instrument is never free from measurement error. Measurement error indicates the degree of inconsistency found in the result of measurement when re-performed to similar group of subjects. One cause of measurement error is variation in respondents' responses (Viswanathan, 2005:135). One of the examples is extreme response. It happens when respondents answer an item in the extreme. High reliability means low measurement error and vice versa (Coaley, 2010:100). In relation to such condition, measurement error is worth taking into account in order to obtain high value of instrument reliability.

Reliability is correlation between the scale of item and the respondents answering said item (Robinson, 1991:10). The concept of reliability means the degree to which an instrument produce reliable result (Saifuddin Azwar, 2014:7). Estimation of Instrument's Reliability is calculated using internal consistency approach of Cronbach's Alpha formula. This formula does not use true-false type of answers, instead it uses scaled answers obtained from the criteria of respondents' answers. Instrument is reliable when the coefficient of mixed items (Alpha reliability) is 0.70 (Nunnaly, 1981, Danang Sunyoto, 2015; and Djemari Mardapi, 2017) or more. This explanation further confirms the reliability of instrument.

Conclusion

On the initial stage, KMO value obtained was 0.770. Factor loading value obtained from construct validity test using EFA approach was (>0.5). Reliability value obtained from Cronbach's Alpha approach was 0.832. Five components were found from the anxiety test developed, indicated by the acquired eigenvalue. Based on the discussion, it can be concluded that the instrument of anxiety test used to identify anxiety on student with special needs is valid and reliable.

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