

AN ADAPTED VERSION OF TORRANCE TEST OF CREATIVE THINKING (TTCT) IN EFL/ESL WRITING: A RUBRIC SCORING AND A REVIEW OF STUDIES

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Abstract

Tests and scales are viewed as evaluative requirements for programs to enhance creativity. They are utilized in the process of teaching and learning and the forms of assessment are modified to match and urge higher-order thinking. Creativity in writing is no exception because writing skills open up opportunities for creativity assessment. In this regard, the adapted Torrance Test of Creative Thinking (TTCT) is invaluable in assessing the writing creativity of students ranging from pre-school students to graduate students. Many studies have used an adapted version of TTCT, which is an easy and enjoyable way for students, in order to determine the students' creativity levels (fluency, flexibility and originality) in the context of EFL/ESL. TTCT is an effective screening method that identifies the level of creative potential.

Keywords: TTCT, Creative writing, Creativity, EFL/ESL writing.

Introduction

The importance of creativity assessment has been noted as early as the 1960s in the area of creativity research (Guilford, 1967; Sternberg, 2006; Torrance, 1965). Treffinger (1987) claimed that the justification behind the assessment of creativity was to establish baseline data that are useful in diagnosing students' needs and curricula, to evaluate efforts for creativity enhancement, to assess creativity efforts for creativity enhancement, and to assess creativity aspects, which are invaluable in explaining the functions of creativity (Bonk & Graham, 2006; Treffinger, 1987). Starko (2013) also addressed the need for creativity enhancement, stating that the efforts expended to improve creativity in students appeared to be doomed to failure unless the root of creativity is determined (Starko, 2013; Wang, Fussell, & Cosley, 2011).

Accordingly, tests and scales are viewed as evaluative requirements for programs to enhance creativity (Treffinger, 2009). Creativity in writing is no exception because writing skills open up opportunities for creativity assessment (Majid, Tan, & Soh, 2003). The premise behind the assessment of creativity is to create baseline data for diagnosing students' needs, for developing appropriate curricula, for the evaluation of efforts to enhance creativity, and for assessing the various creativity aspects (L. M. Rababah, Mohamed, Jdaitawi, & Melhem, 2013; L. Rababah &

Melhem, 2015). In this context, Guilford (1967) and Torrance (1965) created the Torrance Test of Creative Thinking (TTCT) to assess creativity of students (Cheung, 2005).

An Adapted version of TTCT encompasses three EFL/ESL creative writing aspects, namely, fluency, flexibility and originality. Rababah et al. (2013) described fluency as the ability of the individual to produce novel ideas, flexibility as the ability of the individual to produce various ideas and originality as the ability of the individual to produce distinct and personal ideas and solutions to problems. Moreover, TTCT is useful for the assessment of students' writing creativity from the pre-school age to the graduate level (Cheung, 2005).

The Adapted Version of TTCT

Torrance and Guilford developed the TTCT to assess students' creativity. TTCT covers the assessments of three aspects of creativity in EFL/ESL writing; fluency, flexibility and originality as recommended by both Guilford (1967) and Torrance (1965). The TTCT can be utilized to assess creativity in writing from pre-school to graduate school (Cheung, 2005), and students find it easy. The TTCT is quite invaluable in identifying both high and low creative potential (Bermejo et al., 2005). Moreover, the test is the most commonly used to measure creativity, and researchers have validated its preference over other creativity tests. According to Treffinger (1987), the rationale behind the creativity assessment is to develop baseline data that is invaluable in diagnosing students' needs, in planning effective instruction methods and in evaluating efforts of creativity enhancement and assessing the many facets of creativity.

Creativity may be increased through tests and scales, which are considered as evaluative criteria in instructional programs. As a consequence of its validity and extensive use, the TTCT has been translated into several languages (Millar, 2002). The TTCT comprises two sub-tests, namely, verbal and figural, each of which has further been divided into forms A and B. The adapted version of TTCT used a verbal- A of the test to identify the level of creativity in EFL/ESL writing among students.

Studies that Utilized the TTCT

Several empirical studies are discussed in this section to clarify the reader's understanding of previous related research. TTCT test has been utilized for creativity measurement. The TTCT test is considered to be the best test for evaluating creativity dimensions in writing including: fluency/ number of ideas, flexibility/various categories in answers, and originality/considering innovative answers that are neither familiar nor unsuitable. The importance of the TTCT in determining the level of the student creativity has been cited often in previous studies. The latest studies, in Jordan and internationally that have utilized the TTCT are discussed below (Al-Faoury & Khwaileh, 2014; Cheung, 2005; Hamadneh & Ayasrah, 2010; Jiazeng, Yanbao, Yi, & Wenxian, 1997; L. M. Rababah et al., 2013).

In the context of Jordan, Al Rababah and Rababah (2018) study aimed at exploring the level of creative writing among non-natives Arabic language learners. The study chose a purposive

sample of 36 multinational students divided into 9 male and 27 female students from the Language Center at the University of Jordan in Amman, Jordan. The study started in the first semester of the academic year 2016 \ 2017. The study aimed also to know if there are any significant differences between male and female students. Utilizing TTCT, the findings revealed that 36% of the students were found at the high level, 47% at the moderate level and 17% at the low level of creative writing. The findings also showed that there were no statistically significant differences between males and females in all components of creativity differences ($t(34) = .47, p > .05$). Some of the recommendations suggested are that further research needs to be conducted into the reasons why some students fell into low and moderate levels.

Similarly, Al-Faoury and Khwaileh (2014) carried out an experimental study to find out the effectiveness of CoRT Program No. 4 on creative writing abilities of 36 gifted students in Jordan. A pre-test and post-test were administered for both groups to measure fluency, flexibility and originality. The results of the study showed that the mean score of the experimental group was significantly higher than the mean score of the control group on fluency, flexibility and originality, which indicates that CoRT Program No. 4 was successful in developing the creative abilities of gifted learners in writing English short stories.

Additionally, Rababah et al.'s (2013) study examined student creativity in EFL writing among Jordanian public secondary schools students. Rababah et al. (2013) used a random sample comprising 100 secondary school students enrolled in schools located in Irbid and Amman. The results showed that most of the study sample lacked all three writing creativity dimensions with 65% of them being categorized as moderate in their creative writing abilities, 19% as low, and 16% as high.

In another related study in the context of Jordan, Ayasrah and Hamadneh (2010) examined the level of creative thinking among secondary school students enrolled in Irbid schools using school type, gender and educational track through the TTCT. Based on the results, significant differences in the sample mean scores on the creative thinking measure were noted in terms of the educational track in favour of scientific track students and in terms of schools in favour of private schools. However, no differences were revealed in terms of gender, educational track and type of school on each creative thinking skill. The study called for future research to focus on creative thinking in various school levels and with other variables.

Internationally, Cheung (2005) conducted research comprising three studies addressing the issue of describing creativity and improving creativity in the context of Chinese writing of primary students in Hong Kong. The results of the assessment conducted through the TTCT Scale and the Williams Scale showed that the students in the target group improved in almost the entire aspects of creativity while the students in the other group failed to show any improvement. Also, Jiazeng et al. (1997) studied the dimensions of creativity among South East University students in

Nanjing, China. The TTCT was used in the study, and the results revealed that most of the 72 participating students could be categorized as moderate.

Rubric Scoring of TTCT

In order to determine the creativity level in EFL writing among students, descriptive statistics should be used along with the TTCT. First, the researcher should create a descriptive profile of the respondents and associated this profile with their level of creativity in EFL/ESL writing through the use of mean scores. This helps in characterizing the general features of the data (Creswell, 2013), as descriptive statistics enable the researcher to carry out various activities such as data organization, summarizing findings, displaying evidence, and profiling the findings.

The adapted TTCT and its scales have three components of fluency, flexibility and originality (See Appendix1). Fluency refers to the ability to generate new ideas. Flexibility refers to the ability to generate a wide variety of ideas. Originality refers to the ability to produce unusual, unique or highly personal ideas or solutions. Each component has a rubric for scoring from a total of 12 points. The total possible score is 36. The total mean is used to place students into the following categories: 25 and above, a high level of creativity, from 13 to 24, a moderate level, and less than 13, a low level (See Appendix 2).

Validity

Rababah et al. (2013) sent a copy of an adapted version of TTCT to a team comprising English specialists from both Jordan (EFL context) and Malaysia (ESL context) in order to validate and evaluate TTCT items and scoring methods. The team included one full professor and two assistant professors who are specialists in different fields of majors and three English Language supervisors (See Table 1).

Table 1

The team of evaluators

<i>The team of evaluators</i> Evaluator	Institution	Years of experience	E-mail
Prof. Che Sue Mustaffa	University Utara Malaysia, Malaysia	More than 25	chesu402@uum.edu.my
Dr. Minah Harun	University Utara Malaysia, Malaysia	More than 25	minn@uum.edu.my
Dr. Ahmed Al Zu'bi	Al Balga University, Jordan	16	dr.alzu3bi@yahoo.com
Anas Abu Eid	MoE, supervisor , Jordan	12	Anas2000@yahoo.com
Ali Metlaq	MoE, supervisor, Jordan	14	alimtlaq@yahoo.com

The team provided their comments and suggestions, and the TTCT and its scale were modified accordingly. Following this, the researcher prepared two versions of the TTCT – one in English and the other in Arabic – with the assistance of two experienced translators from Jordan.

Reliability

According to Rababah et al. (2013), the outcome of Cronbach Alpha towards this entire research instrument (TTCT) was proven highly reliable which is (.886)

Phases of Data Collection

Data collection procedures were collected through three phases.

Pre-Pilot Study Phase

The participants to the study should be informed of the objectives of the study beforehand the main study phase. This should be followed by informal meetings of the researcher with the participants where the former explain the objectives of the research and provide some information regarding TTCT as some of them might not have been familiar with the test.

Pilot Study Phase

A pilot study is considered to be a crucial step in the development of measurement scales because it acts as an experimental study for enhancing particular research instruments (Zikmund, 2003). By using its ability to identify weaknesses and even failure of the instruments, a pilot study increases the accuracy and consistency of measurements. Therefore, for the pilot test, a version of the instrument (TTCT) will be distributed after initial validation by a panel of experts and after the translation process.

Main Study Phase

At the beginning of the main study phase, the researcher will distribute the version of the TTCT to the participants. The TTCT process will be initiated with the researcher/s identifying the purpose of the study and conveying his/her gratitude to the participants for taking part in the study. They will be told that the TTCT had two purposes. First is that TTCT will be used to determine the level of creativity in EFL/ESL writing among the participating students, which was designed to answer the research question. Second is that the TTCT will be used to determine those students who are weak in creativity based on the TTCT results and may be interviewed them later to find out the barriers that hindered their EFL/ESL writing. The process should be carried out in a safe, quiet and public place at the end of which the researcher/s once again should thank the students for their contributions to the study. A make-up test should be administered for absentees.

Reflection

TTCT has been proven to be easy and enjoyable for students, and it is an effective screening technique in determining high/low creative potential. It is not only the most widely used tests of creativity, but researchers have also corroborated its validity against its counterparts. Many researchers reported its high validity and reliability scores as stated in its 1990 manual (Ghonsooly & Showqi, 2012; Hamadneh & Ayasrah, 2010; L. M. Rababah et al., 2013). Because of its validity and usefulness, the TTCT has been translated into at least 35 languages (Millar,

2002). On a positive note, the TTCT may show less bias for EFL/ESL speakers, and is highly praised and recommended in the context of education.

The TTCT contributes to methodology by adapting, validating and translating the scale to fit the EFL/ESL settings. Thus, this may provide additional empirical inquiry in establishing more reliable, valid measurements of creativity in writing, which has been used as outcome measures for assessing the effectiveness of enhancing creativity in EFL/ESL writing contexts.

TTCT has implications for establishing baseline data, which is useful in diagnosing students' needs and curricula, in evaluating efforts for creativity enhancement, in assessing creativity efforts for creativity enhancement, and in assessing creativity aspects, which are invaluable in explaining the functions of creativity. Adapting the test for the EFL/ESL context provided a basis for judging whether current practice meets the requirements of any country's policy in promoting students' creativity in writing.

Benefits of pre-pilot study phase were several. First, a researcher familiarizes himself/herself with the use of TTCT. Moreover, the participants become familiar with the study objectives and the researcher. Finally, permission to access and collect data allow the researcher to conduct brief meetings with the participants at first, because they would likely be overwhelmed with all of the activities taking place. This slow entry helped to build rapport with individuals at the site and helped the researcher assimilate the large amount of information.

Conducting a pilot and pre-pilot studies aimed at ensuring that students would not face any difficulties in doing the test in terms of clarity, simplicity and length before implementing it on the intended groups. Moreover, a pilot study is also aimed at ensuring that the provided time is sufficient for the students to answer the test. As a result, a test can be judged for its acceptability, that students are familiar with such types of tests, and that the time allotted for completion is sufficient.

Additionally, a pilot study has several advantages. First, the content and face validity of the instrument are confirmed through improving questions, wording sequences and format. Second, the researcher is able to enhance his/her skills in interviewing, observation and administering of the TTCT. Third, the researcher is able to enhance his/her interview and observational methods through the correct estimation of the duration of the process in an actual setting (Creswell, 2013; Denscombe, 2014). Fourth, this testing stressed the crucial element of having all the materials ready to use, and the participants are given the chance to familiarize themselves with the TTCT. Moreover, the finding of the instruments' testing provides the researcher with room to learn and develop skills in the actual collection of data. The processes of the interviews, observations, and the TTCT take place as the researcher tested the validity of the questions (by probing, developing and clarifying the questions) and the flow of discussion and examined the effectiveness of the process.

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Appendix 1

TTCT Scale of Creativity in Writing

1. Fluency

- Refers to the ability to generate new ideas
- Count the number of idea units in each paragraph
- Each idea unit will be counted from 0 to 3

- 0- no answer at all (0 Pt)
- 1- Unrelated or repeated idea (1-4 Pts.)
- 2 - Each incomplete idea unit (5-8 Pts.)
- 3 - Each complete idea unit (9-12 Pts.)

2. Flexibility

- Refers to the ability to generate a wide variety of ideas
- The sample will be scored according to the degree of diversity in the content (paragraph)
- Each idea unit will be counted from 0 to 3

- 0- no answer at all (0 Pt)
- 1- No transformation or development of time/ place/person (1-4 Pts.)
- 2- Each incomplete transformation or development of time/place/person (5-8 Pts.)
- 3- Each complete transformation or development of time/place/person(9-12 Pts.)

3. Originality

- Refers to the ability to produce unusual, unique or highly personal ideas or solutions.
- Each special quality or originality will be counted from 0 to 3

- 0- no answer at all (0 Pt)
- 1- No illustration of originality (1-4 Pts.)
- 2- Illustration of originality that appears rarely (5-8 Pts.)
- 3- Illustration of originality that appears more frequently (9-12 Pts.)