

## DEVELOPMENT OF SCALE TO MEASURE STUDENTS' CREATIVITY IN THE SUBJECT OF ENGLISH FOR GRADE XII

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### **Abstract**

*This study aims to develop and validate the Students' Creativity Scale to assess the creativity of Grade XII students in the subject of English. Grounded in Torrance's theoretical framework, the scale addresses the lack of standardized tools for measuring English-related creativity in Pakistan's higher secondary education. Employing a quantitative, descriptive design with a cross-sectional screening method, data analysis confirmed the scale's psychometric soundness. Expert review established content validity with a Scale Content Validity Index (SCVI) of 0.87, indicating strong agreement. The Kaiser-Meyer-Olkin (KMO) value of .825 and significant Bartlett's Test of Sphericity ( $\chi^2 = 2365.993, p < .000$ ) verified data suitability for factor analysis. Exploratory Factor Analysis (EFA) identified a four-factor structure (Fluency, Flexibility, Originality and Elaboration) explaining 52.03% of the total variance. Reliability analysis showed good internal consistency (Cronbach's alpha = .765-.812). The scale provides educators and researchers with a reliable tool to evaluate creativity, fostering innovative teaching practices and supporting SDG 4: Quality Education.*

**Keywords:** *Creativity, Scale Development, Psychometric Validation, English Subject, SDG 4 Quality Education*

### **Introduction**

Creativity is often known as one of the important features of the human mind (Boden, 2004). Creativity helps people to adjust to major shifts in society and technology, develop new and beneficial concepts, resolve conflicts, and live more meaningful lives. Looking from a societal standpoint, creativity has emerged as a key 21st-century skill in the era of globalization, integrative innovation, sophisticated communication, and advanced technology (Sawyer, 2012).

According to Alencar and Fleith (2003), a primary dimension in most definitions of creativity involves the generation of a new product, idea, or improvement of existing products or ideas. Torrance (1974) defined creativity as the capacity to identify gaps, propose various solutions, produce novel ideas, restructure them, and infer new relationships among concepts (as reviewed in Kim & Song, 2022). Further, Guilford and Torrance identified core processes frequently assessed in creativity: fluency, flexibility, originality, and elaboration (Guilford, 1967; Torrance, 1974).

In the context of English language learning, creativity plays a vital role in enhancing students' ability to articulate complex ideas, engage in critical reflection, and produce original written and oral compositions (Richards, 2013). Beyond improving linguistic proficiency, creative engagement in English promotes higher-order thinking, self-expression, and problem-solving

skills (Maley & Kiss, 2018). For Grade XII students—who are at a critical transitional stage preparing for higher education and professional pathways that demand innovation and adaptability—cultivating creativity is particularly essential. Integrating creative tasks into English instruction not only strengthens communication skills but also nurtures learners' confidence and capacity for lifelong learning (Beghetto & Kaufman, 2014; Craft, 2011).

Although the significance of creativity in English language teaching is widely acknowledged, there remains a lack of grade-specific instruments designed to accurately assess this construct. Most existing tools, such as the *Creative Behavior Inventory* and the *Torrance Tests of Creative Thinking (TTCT)*, are domain-general and fail to address the contextual and linguistic nuances of English learning. Recent advancements, however, reflect a growing shift toward domain-specific and automated approaches to creativity assessment. For instance, the *Synthetic-Divergent Association Task (S-DAT)* introduces a multilingual, AI-driven method for evaluating creative thinking across languages, including English (Haase, Hanel, & Pokutta, 2025). Similarly, the *Engineering Creativity Assessment Tool (ECAT)* offers a discipline-specific framework tailored to measure creativity within engineering contexts (Akdemir-Beveridge, Zaghi, & Syharat, 2025). These developments underscore the urgent need for parallel, contextually grounded tools that can effectively assess creativity in English language learning, particularly at the higher secondary level.

According to Williams's Taxonomy, creativity in language learning is a multidimensional construct encompassing fluency, flexibility, originality, and elaboration (Williams, 1969). Moreover, cognitive maturity and creative self-efficacy—the belief in one's ability to think creatively—significantly influence senior secondary students' creative performance (Karwowski et al., 2013). Evidence from English as a Foreign Language (EFL) contexts further suggests that students' self-efficacy beliefs are positively associated with their English proficiency, particularly in open-ended speaking and writing tasks that demand creative thinking and expression (Wang, Chen, & Wan, 2022; Raoofi, Tan, & Chan, 2017). Recent research also emphasizes that foreign language learning itself enhances students' creative capacities, particularly when personality traits and contextual learning factors are considered (Li & Wei, 2024). Together, these studies highlight the dynamic relationship between creativity, self-efficacy, and linguistic proficiency, underlining the importance of fostering creativity within English language classrooms.

The development of the Students' Creativity Scale in the subject of English for Grade XII addresses the pressing need for grade-specific, contextually relevant tools to measure creativity. Grounded in well-established theoretical frameworks and supported by psychometric validation, this scale focuses on the distinct cognitive and linguistic capacities of senior secondary students. It aims to equip teachers, researchers, and curriculum developers with a reliable and valid instrument to assess creativity, enhance reflective learning practices, and inform evidence-based instructional strategies. Furthermore, the initiative aligns with the United Nations Sustainable Development Goal 4 (Quality Education), which emphasizes inclusive, equitable, and skill-oriented education that fosters lifelong learning opportunities for all (United Nations, 2015).

### **Purpose**

This study aimed to create a valid and reliable Students' Creativity Scale for evaluating the creativity of Grade XII students in English. This scale was created to fill the current gap and meet the increasing demand for standardized instruments that assess higher secondary students' English creativity.

## Research Model

This research aimed to develop a scale for measuring the creativity of Grade XII students in the subject of English, which necessitated the selection of an appropriate and adequately sized sample. The study employed the screening method as a descriptive research design, a commonly used approach for identifying the characteristics of a population based on data collected from a representative sample (Karasar, 2006; Creswell & Creswell, 2018). Specifically, a cross-sectional screening model was adopted, in which data were collected at a single point in time to provide an overall snapshot of students' creativity levels in English. This design was deemed most appropriate for forming generalizable conclusions about the creativity of Grade XII English students in Lahore.

### Process Steps in Developing the Scale

This study was carried out with consideration for the scale development phases proposed by Seçer (2015). Describes the following steps of scale development:

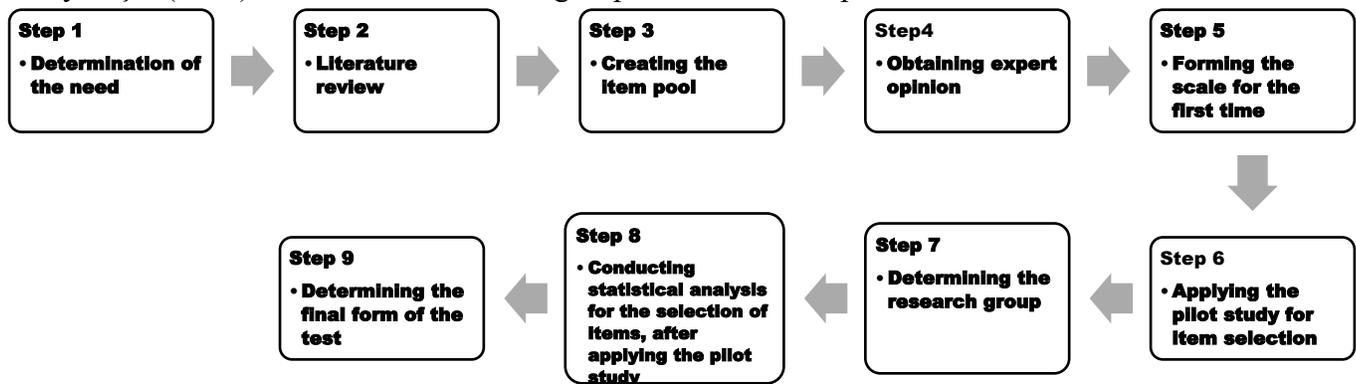


Figure 1.1 Steps in Developing the Scale

### 1. Determination of the Need

In recent years, numerous studies in the international literature have focused on measuring students' creativity across diverse academic and cultural contexts (Torrance, 1974; Runco & Acar, 2012; Kaufman & Sternberg, 2010; Plucker, Beghetto, & Dow, 2004). However, within Pakistan, most available instruments remain either general measures of creativity or localized adaptations of internationally developed tools (Beghetto & Kaufman, 2007; Khurshid, 2018). Cross-cultural adaptation of creativity scales presents several challenges, particularly concerning linguistic equivalence, cultural validity, and construct relevance (Akbaş & Korkmaz, 2007; Cook, Schmitt, & Rothstein, 2005; Sharma & Sharma, 2023). Scholars such as Savaşır (1994), Şahin (1994), and Erkuş (2007) have long emphasized that instruments designed in one cultural context often fail to capture the nuances of another. Similarly, Sireci and Berberoğlu (2000) and Cronbach (1990) caution that scales used across socioeconomic and educational settings may not accurately measure the intended construct. Recent educational measurement research echoes these concerns, advocating for the development of culturally grounded, psychometrically robust tools to ensure contextual validity and reliability (Zhu, Wang, & Huang, 2022; Çıkrıkçı-Demirtaşlı, 2007).

At the moment, there isn't a standardized Students' Creativity Scale created especially for assessing how creative Pakistani students in Grade XII English are. Therefore, by creating a reliable and accurate scale, this study aimed to close this gap.

Therefore, this study was conducted to fill this gap by developing a valid and reliable scale. It is expected that the Students' Creativity Scale will serve as a useful tool for teachers, researchers,

and policymakers to assess and enhance students' creative abilities in English at the higher secondary level, thereby contributing to improved pedagogical practices and students' outcomes.

## 2. Literature review

There are many different approaches to creativity based on the situation, and no single assessment method has achieved universal consensus. Feist (2017) describes creativity as the capacity to use modalities such as writing, art, and other expressive forms to reveal one's imaginative traits. According to Sternberg and Lubart's (1991) investment theory, creativity is a multifaceted domain influenced by intellectual ability, knowledge, thinking styles, personality, motivation, and context. Intelligent testing may be applied to evaluate these factors (Kaufman & Baer, 2006).

An extensive review of the literature on creativity theories and existing measurement tools revealed a lack of instruments specifically designed to assess the creativity of Grade XII students in the subject of English, particularly within the Pakistani context. Most available instruments are either general measures of creativity or tailored to other academic disciplines, limiting their applicability in language learning contexts (Kaufman & Beghetto, 2009; Runco & Acar, 2012). The present study seeks to explore the theoretical foundations of creativity and examine its relevance to English language learning among Grade XII students. Drawing upon Torrance's Theory of Creativity (Torrance, 1974), which highlights the essential creative dimensions of fluency, flexibility, originality, and elaboration, this framework provides a comprehensive lens for understanding and fostering creativity in English classrooms. These dimensions encourage students to generate diverse ideas, adopt flexible thinking approaches, produce unique responses, and expand upon their ideas in depth, thereby supporting both linguistic and cognitive growth in line with 21st-century educational goals.

### Torrance Theory

One of the most influential frameworks for understanding creativity is Torrance's Theory of Creative Thinking. Ellis Paul Torrance, often referred to as the "*Father of Modern Creativity*," transformed the study of creativity through his emphasis on divergent thinking and the development of the Torrance Tests of Creative Thinking (TTCT). His framework provides a foundation for evaluating and nurturing creativity across educational and psychological contexts (Reisman, Keiser, & Otti, 2012). Torrance's theory highlights the importance of originality and cognitive flexibility, proposing that creativity involves generating multiple, diverse, and unique solutions rather than seeking a single correct answer.

According to Torrance, divergent thinking is central to the creative process, as it expands cognitive possibilities by encouraging individuals to produce numerous potential solutions to a given problem. This contrasts with convergent thinking, which focuses on identifying one correct answer, as seen in traditional intelligence tests. Runco and Acar (2012) further emphasize that divergent thinking requires adaptability, openness, and a willingness to explore new ideas—qualities that form the essence of creative expression.

Torrance (2002) defined creativity through five core components, which together serve as indicators of creative potential:

- **Fluency:** The total number of relevant ideas generated. For instance, a person with high fluency might list numerous possible uses for a spoon, demonstrating an extensive capacity for idea generation.

- **Flexibility:** The variety of idea categories produced. Responses that include both practical uses like “eating” and imaginative ones like “using it as a musical instrument” indicate mental flexibility (Runco, 1991).
- **Originality:** The statistical rarity of an idea. Suggesting that a spoon could be used to plant seeds or as a paint-texture tool would score higher in originality (Kim, 2006).
- **Elaboration:** The extent of detail added to ideas. For example, elaborating on how a spoon could create distinct paint textures demonstrates deeper engagement and imaginative expansion (Torrance, 1990).

Overall, Torrance’s theory provides a robust framework for examining creativity in education, emphasizing how divergent thinking and cognitive flexibility foster students’ innovative potential, particularly in language learning contexts (Said-Metwaly, Kyndt, & Van den Noortgate, 2020).

### 3. Creating the item Pool

For the purpose to collect various aspects of students' creative abilities in the English course, an initial questionnaire containing 120 items was developed. To ensure full understanding of the construct, the items were created after an extensive review of relevant research on creativity, language acquisition, and assessment frameworks. When drafting the items, important factors like fluency, flexibility, originality, and elaboration were taken into account. This helped to align the items with domain-specific perspectives on creativity as well as theoretical models like Torrance's framework. The items' relevance, clarity, and cultural suitability were assessed through expert consultations with psychometricians and subject matter experts. This iterative procedure made sure that the initial pool was sufficiently large to encompass various aspects of creativity while reducing repetition for further improvement during the pilot testing and validation phases.

### 4. Expert opinions

The item pool was shown to five field experts for item review and to a language specialist for spelling examination in order to ensure coverage and face validity (Table 1).

**Table 01**

*Demographic characteristics of the expert group*

No.	Title	Department	University
01.	Professor/ Director	Education	University of Sargodha
02.	Chairperson, Associate Professor	Secondary Education	Lahore college for Women University
03.	Deputy Director (Planning & Coordination)	Education	Quaid-e-Azam Academy for Educational Development (QAED)
04.	Principal	Education	Fazaia College of Education for Women
05.	Assistant Professor	Education	University of Education

Table 01 presents the draft version of the Students’ Creativity Scale, which was developed to assess content validity and distributed among a panel of experts. The form included the scale items, their sources (e.g., student opinions, relevant literature, and researcher input), and evaluation sections asking experts to rate item appropriateness, provide reasons for any inappropriateness, and suggest necessary revisions. Each expert independently reviewed the items using a structured content validation form. Based on their ratings, the Item-Level Content Validity Index (I-CVI) was computed to determine the proportion of experts who judged each item as relevant. Additionally,

Universal Agreement (UA) and the Scale-Level Content Validity Index (S-CVI) were calculated using both the universal agreement method (S-CVI/UA) and the average method (S-CVI/Ave). According to Polit and Beck (2006), an I-CVI value of 1.00 is desirable when the expert panel consists of three to five members, while an S-CVI/Ave of 0.90 or higher and an S-CVI/UA of at least 0.80 indicate satisfactory content validity. In this study, the S-CVI values ranged from 0.87 to 1.00 across the indicators, reflecting a high level of expert agreement. The overall S-CVI/Ave value was within the acceptable range, confirming that the items were judged to be both relevant and representative of the construct of students' creativity in English at Grade XII. These findings validate the adequacy and clarity of the items developed for the scale, ensuring that the tool effectively captures the intended dimensions of creativity (Polit & Beck, 2006; Polit, Beck, & Owen, 2007; Yusoff, 2019).

### **5. Forming the Scale for the First Time**

This tool was sent to five subject experts for review and validation. These professionals carefully examined and evaluated the scale and offered recommendations based on their findings. They looked at every item and evaluated it based on the relevant factor. According to expert recommendations, some items were deemed unclear and irrelevant. The scale still contained 90 items.

After a thorough examination by the experts, a number of items were changed or removed based on their recommendations. A preliminary draft form of the Students' Creativity Scale in English was created as a result of this process, which reduced the original pool of 120 items to 90 items.

This students' creativity scale is based on four sub-construct fluency, flexibility, originality and elaboration. Initially, 20 items were constructed for fluency, 24 items were constructed for flexibility, 26 items were constructed for originality and 20 items were construct for elaboration. Cumulatively, there were 90 items. These items were developed on 5- point Likert scale (strongly agree= 5, agree= 4, neutral=3, disagree=2, strongly disagree=1).

### **6. Applying the Pilot Study for Item Selection**

The draft form, containing of 90 items and developed with the guidance of expert opinions was administered to a pilot group of twenty Grade XII students from the college. The students were requested to complete the draft form within one classroom hour. The primary purpose of this pilot study was to examine the clarity and comprehensibility of the items, as well as to estimate the time required for completion. Following the administration, students' feedback was collected and analyzed.

#### **Pilot Testing of the Scale**

After the instrument's validation, information was gathered from 300 college students via in-person interactions and a Google Form. 250 of the 300 surveys were deemed complete. An exploratory factor analysis was performed to assess the instrument's factor structure.

### **7. Determining the research group**

The research group consisted of 300 Grade XII students selected from three centrally located colleges in Lahore. To ensure diversity in the dataset, maximum variation sampling, a type of non-probability convenience sampling, was employed. This method was used to capture a wide range of perspectives by including students with varying levels of academic achievement, gender, and socio-economic backgrounds. Such diversity strengthens the representativeness of the sample and enhances the generalizability of the findings within the context of higher secondary education. The use of this sampling approach is consistent with the recommendations of Cohen, Manion, and

Morrison (2018) and Büyüköztürk et al. (2009), who emphasize its suitability for scale development studies where practicality and representation are both essential considerations.

### 8. Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) is a multivariate statistical technique used to uncover the underlying structure among a set of observed variables. The primary goal of EFA is to identify the smallest number of latent factors or sub-constructs that can explain the patterns of correlations within the data. In other words, it seeks to determine the hidden dimensions that represent the structure and organization of measured variables. This technique helps in identifying clusters of interrelated variables, offering insights into the conceptual composition of the construct being studied.

In the social and behavioral sciences, these factors are often understood as latent personal traits or psychological attributes that cannot be measured directly but are inferred from patterns in individuals' responses. Variations in the observed scores across participants are considered manifestations of these underlying traits (Tucker & MacCallum, 1997; Watkins, 2018; Fabrigar & Wegener, 2012).

**Table 02**

*KMO and Barlett's test values for Students' Creativity Scale*

Kaiser-Meyer-Olkin Value	KMO	.825
Bartlett's Test of Sphericity	Ki-kare Value	2365.993
	df (degree of freedom)	276
	P (Probability)	.000

According to the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, values between 0.50 and 0.60 are considered *miserable*, values between 0.60 and 0.70 are *mediocre*, values between 0.70 and 0.80 are *middling*, values between 0.80 and 0.90 are *meritorious*, and values above 0.90 are regarded as *excellent* (Leech, Barrett, & Morgan, 2005; Tavşancıl, 2005). The KMO value obtained for this study was 0.825, which falls within the *meritorious* range, indicating that the sample size was adequate for conducting factor analysis.

The result of Bartlett's Test of Sphericity was statistically significant,  $\chi^2( ) = 2365.993, p < .05$ , confirming that the data matrix was suitable for factor analysis and that the variables were sufficiently intercorrelated to proceed. Together, the KMO and Bartlett's test results indicated that the dataset was appropriate for factor extraction (see Table 2).

During the varimax-rotated exploratory factor analysis (EFA), a systematic item elimination process was conducted across multiple iterations. In the first EFA, items 4, 9, 12, 23, 26, 32, 37, 46, 51, 60, 62, 78, 85, and 88 were removed due to overlapping factor loadings. In the second EFA, items 5, 8, 14, 20, 22, 27, 31, 48, 53, 64, 72, 79, 83, and 89 were eliminated. In the third EFA, items 1, 3, 9, 13, 17, 25, 33, 36, 40, 43, 50, 54, 66, 68, 73, 82, 84, and 90 were excluded. The fourth EFA resulted in the removal of items 7, 10, 15, 18, 28, 35, 39, 41, 44, 47, 56, 59, 67, 70, 74, and 86. Finally, in the fifth EFA, items 55, 61, 65, 76, 77, and 80 were deleted.

Items were removed when their individual variance contributions fell below 5%, as factors explaining less than this threshold are not considered meaningful for interpretation. Furthermore, the total variance explained was used as the criterion for determining the number of retained factors—when an additional factor contributed less than 5% to the total variance, factor extraction was ceased (Yaşlıoğlu, 2017).

**Table 03**

*Percentage of explained variation of the factors*

Factors	Eigenvalues	Percentage of variance explained (Total)	Percentage of variance explained (Cumulative)
F1	7.083	29.513	29.513
F2	2.133	8.886	38.339
F3	1.683	7.010	45.410
F4	1.588	6.618	52.028

As a vertical rotation method, the varimax technique in Table 03 produced a structure with 24 items and 6 (4) factors that accounts for 52.028% of the total variation. It is anticipated that the overall explained variation in multiple factor analysis will exceed 40% (Kline, 2011). These four factors account for 29.513%, 8.886%, 7.010%, and 6.618% of the variation that can be explained.

### 9. Determining the final foam of Scale

**Table no 04**

*Factor Loading for Students' Creativity Scale*

Item	F1	F2	F3	F4
<b>Originality</b>				
01. I often come up with creative ways to present my arguments to make them more persuasive.	.742			
02. I often create a variety of characters or settings when writing stories.	.640			
03. I can create metaphors or similes that are fresh and innovative.	.631			
04. I can consider different cultural contexts to enrich my analysis of a text.	.580			
05. I can create short stories with unique and surprising elements.	.578			
06. I enjoy coming up with ideas that are different from those of my peers when completing writing tasks.	.567			
07. I can identify different themes when writing creative pieces.	.566			
08. I can provide unexpected yet meaningful interpretations of texts during analysis	.490			
<b>Fluency</b>				
09. I feel confident providing diverse examples to strengthen my arguments in speeches.		.723		
10. I can generate multiple ideas to share when participating in class debates.		.721		
11. I can contribute thoughtful and varied responses during group discussions.		.710		
12. I find it natural to generate numerous titles for a story, essay, or poem.		.644		
13. I can express my thoughts in several tones in humorous context.		.613		

Flexibility		
14	I can modify the tone of my writing to align with the expectations of my audience.	.694
15	When faced with a challenge in writing, I can quickly think of alternative ways to express my ideas.	.676
16	I can switch between various tones (e.g., persuasive, humorous, or reflective) in my writing.	.597
17	When brainstorming, I can shift my focus easily from one idea to another without losing track.	.583
18	I enjoy considering different viewpoints to build well-balanced arguments in discussions.	.480
19	I feel confident switching between formal and informal tones depending on the task.	.433
20	I can easily approach a topic from multiple perspectives when writing in English.	.422
Elaboration		
21	I feel confident in adding sensory details (sights, sounds, smells, etc.) to make my writing more vivid.	.793
22	I can easily elaborate on a single topic by providing multiple supporting points.	.785
23	I feel confident using concrete details to strengthen my arguments in writing.	.674
24	I can expand simple sentences into descriptive paragraphs.	.656

Table 04 shows how the scale items are distributed among its sub-dimensions. Examining the factor load values of the items which compose up the scale, the first factor's load value varies between.490 and.742, the second factor's load value falls between.613 and.723, the third factor's load value varies between.422 and.694, and the fourth factor's load value ranges between.656 and.793.

**Table 05**

*Distribution of items by factors at the end of EFA analysis*

Factor	The draft form of the scale	Scale items after EFA
Fluency	1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20	2-6-11-16-19
Flexibility	21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44	21-24-29-30-34-38-42
Originality	45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70	45-49-52-54-57-58-63-69
Elaboration	71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90	71-75-81-87

The first factor, which consists of five items (2, 6, 11, 16, and 19 items), is called "Fluency" at the end of EFA. The second factor, which consists of seven items (21-24-29-30-34-38-42) is called "Flexibility." The fourth factor, which consists of eight items (45, 49, 52, 54, 57, 58, 63, and 69), is called "Originality," and the fourth factor, which consists of four items (71, 75, 81, and 87), is called "Elaboration" (Table 5).

**Table 06**

*Descriptive Statistics and Reliability Coefficients*

Name of Factor	No of item	Mean	SD	Cronbach's Alpha	Serial number in final scale
Fluency	5	4.01	.703	.811	01 to 05
Flexibility	7	3.89	.577	.765	06 to 12
Originality	8	3.88	.611	.812	13 to 20
Elaboration	4	3.93	.727	.795	21 to 24

Table 06 presents the descriptive statistics and reliability coefficients for the four factors of the creativity scale. The mean scores indicate that students scored highest in fluency ( $M = 4.01$ ,  $SD = 0.703$ ), followed by elaboration ( $M = 3.93$ ,  $SD = 0.727$ ), flexibility ( $M = 3.89$ ,  $SD = 0.577$ ), and originality ( $M = 3.88$ ,  $SD = 0.611$ ), reflecting generally above-average creative abilities in English. The Cronbach's alpha values, ranging from 0.765 to 0.812, demonstrate good internal consistency for all factors, with originality and fluency showing the strongest reliability. These results indicate that the scale is a reliable tool for assessing different dimensions of students' creative abilities, with fluency emerging as the most prominent strength and flexibility representing a relatively lower, though still positive, dimension.

**Table 07**

*Correlation Matrix of the sub-scale*

Variable		Fluency	Flexibility	Originality	Elaboration
Fluency	Pearson	1	.478**	.464**	.490**
	Sig (2-tailed)	.000	.000	.000	.000
	N	250	250	250	250
Flexibility			1	.550**	.398**
	Sig (2-tailed)	.000	.000	.000	.000
	N	250	250	250	250
Originality				1	.416**
	Sig (2-tailed)	.000	.000	.000	.000
	N	250	250	250	250
Elaboration					1
	Sig (2-tailed)	.000	.000	.000	.000
	N	250	250	250	250

Table 7 shows the correlation matrix of all four creativity dimensions are significantly and positively related ( $p < .01$ ). Fluency moderately correlates with flexibility ( $r = .478$ ), originality ( $r = .464$ ), and elaboration ( $r = .490$ ), indicating that students who generate more ideas also tend to adapt, think uniquely, and expand their ideas effectively. The strongest relationship is between flexibility and originality ( $r = .550$ ), suggesting that adaptable thinkers are more likely to produce novel ideas. Moderate links between flexibility and elaboration ( $r = .398$ ) and originality and

elaboration ( $r = .416$ ) highlight that while related, each dimension captures a distinct aspect of creativity.

### Discussion and Conclusion

This study successfully developed and validated the Students' Creativity Scale for Grade XII students in the subject of English. The scale, grounded in Torrance's theoretical framework, offers a reliable and valid measure of creativity that can be utilized by educators, researchers, and curriculum designers. By addressing the lack of standardized instruments for measuring English-related creativity in higher secondary education, this study provides a foundation for future research and practice aimed at enhancing creative competencies in English learning.

The primary aim of this study was to develop a valid and reliable scale to assess the creativity of Grade XII students in the subject of English. The results of the statistical analyses provided strong evidence supporting the psychometric soundness of the Students' Creativity Scale.

The Kaiser-Meyer-Olkin (KMO) value of .825 indicated an adequate sample size for factor analysis, while the significant Bartlett's Test of Sphericity ( $\chi^2 = 2365.993$ ,  $p < .000$ ) confirmed that the data were suitable for factor extraction. These findings are consistent with the recommendations of Hair et al. (2010), suggesting that the data structure was appropriate for identifying underlying factors.

The exploratory factor analysis revealed a four-factor structure — Fluency, Flexibility, Originality, and Elaboration, explaining a cumulative variance of 52.028%, which demonstrates that the scale captures a substantial proportion of creativity-related constructs in the context of English learning. The eigenvalues and percentage of variance explained by each factor (Fluency = 29.51%, Flexibility = 8.88%, Originality = 7.01%, and Elaboration = 6.62%) highlight the multidimensional nature of creativity in language learning environments.

Furthermore, the Cronbach's alpha values for all factors ranged from .765 to .812, indicating acceptable to good internal consistency, consistent with contemporary guidelines suggesting that values above .70 demonstrate reliable internal consistency (Taber, 2018). These findings validate that the scale provides a dependable measure for assessing creativity among Grade XII students in English classrooms. The emergence of the four dimensions aligns with Torrance's Theory of Creativity, which emphasizes fluency, flexibility, originality, and elaboration as key indicators of creative potential.

Overall, the results indicate that the Student Creativity scale is a robust tool for capturing the creative skills of Grade XII students in English, filling a significant gap in the existing literature, particularly within the Pakistani educational context where standardized creativity scales are scarce.

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