Developing Expressive Skills through Non–Linear Thinking Tasks: An Exploratory Study

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Abstract

EFL learners face dual challenges in writing sessions due to inadequate writing skills and the inability to generate and organize ideas as expected by the instructor. Differences in cultural backgrounds too act as hindrances and prevent them from thinking in a uni-directional way. Thus, a good number of learners show disinterest in writing sessions. Therefore, it becomes imperative to encourage learners to think differently from peers and acknowledge their efforts. The study adopted an exploratory sequential method to find the impact of non-linear/multiple-solution tasks on the expressive writing skills of learners. The sample comprised 39 students pursuing the first level of an undergraduate course at Prince Sattam bin Abdulaziz University. This study went through two stages of data analysis, first: Performance Evaluation, based on a four-level assessment process. The performance indicators were: fluency, flexibility, originality, and elaboration. Second, a questionnaire was distributed to the participants after the fourth intervention to measure four indicators of motivation: attention, relevance, confidence, and satisfaction. The results showed a significant relationship between divergent thinking, motivation, autonomy, and expressive writing skills. Based on the results of the present study, it can be suggested to give adequate importance to divergent thinking to develop expressive writing skills in students.

Keywords: autonomy, non-linear thinking, motivation, expressive writing skills

1. Introduction

Among the four language skills, EFL learners consider writing to be the most challenging. It is a challenging skill as it requires proper organization, appropriate vocabulary, accurate sentence structure, correct spelling, etc. Due to its complexity, learners require flexibility in learning and a variety of tasks to keep them motivated. EFL learners face dual challenges in writing sessions due to inadequate writing skills and the inability to generate and organize ideas as expected by the instructor. The difference in cultural backgrounds also acts as a hindrance and prevents them from thinking in a uni-directional way. The conventional approaches based on Behaviorist theory consider teachers to be the sole decision-makers and knowledge sharers. These teacher-centered approaches narrow down the scope of overall development and aggravate anxiety among learners. It has been concluded by numerous studies that linear thinking tasks restrict the boundaries of expression. Linear thinking, as conceptualized by Groves & Vance(2015), involves a decision-making process built on simplified cause-and-effect relationships. It extends beyond mere causal connections to encompass any form of rational and logical decision-making. The key characteristics of linear thinking, according to the scholars are: i) Focus on External, Tangible Data and Facts: Linear thinking centers on the examination of observable, external data and concrete facts. This indicates a reliance on information that is tangible, verifiable, and directly perceivable. ii) Application of Conscious Logic and Rational Thinking: In linear thinking, there is a deliberate use of conscious logic and rational thought processes. It suggests a methodical, step-by-step analysis of information, wherein individuals consciously employ reasoning to comprehend and interpret data. iii) Formation of Knowledge, Understanding, or Decision: The ultimate objective of linear thinking is to derive knowledge, understanding, or a decision. Through the systematic application of logical and rational processes, individuals strive to reach a conclusive outcome that serves as a basis for subsequent actions. The rigid instruction patterns make the students passive and demotivated learners. Therefore, the current pedagogies have stressed the importance of non-linear thinking to promote creativity and spontaneous expression of ideas. Non-linear thinking is a cognitive approach that involves considering ideas, problems, and solutions in a non-sequential or unconventional manner. It contrasts with linear thinking, which follows a step-by-step, logical progression. Thus, to conclude linear thinking is considered to be rational, logical, and analytic, and, nonlinear thinking is based on intuition, insight, and creativity. In this perspective, linear thinking is related mostly to cognitive intelligence, while nonlinear thinking is related mostly to emotional intelligence. The importance of thinking creatively was first emphasized by Guilford (1956) through the concept of non-linear thinking patterns as they lead to creativity. Guilford (1968) considers flexibility to be an important attribute as it provides autonomy to the learners to “change in the meaning, use, or interpretation of something." Non–linear thinking technique is a set of techniques used to stimulate creative or "out of the box" thinking. Divergent thinking techniques interrupt normal, linear thought patterns, to facilitate the transition between patterns, and to widen the range of possibilities. (Palmiero et.al, 2020) define Non –Linear Thinking as the ability to form new and unique ideas and solutions. (Japardi et al., 2018) claim that it empowers the students to come up with creative ideas using their analytical skills. According to Razumnikova (2017),

Non–Lear Thinking is a collection of 'domain-specific skills and involves four attributes: Fluency, Flexibility, Originality, and Elaboration. Similarly, Khatri & Dutta (2018) consider originality as the ability to 'discover unique, novel or fresh ideas'. They further state that 'this happens in a spontaneous and a free–flowing manner; wherein numerous creative ideas are stimulated and appraised". Baer (1997a) states that elaboration is "the richness of detail in the ideas one produces.The framework of non-linear thinking is firmly grounded in the following components, as outlined in the Encyclopaedia of the Sciences of Learning (ESL): i) Lateral Thinking: Coined by Dr. Edward de Bono in 1967, this technique stimulates creative or unconventional thinking, interrupting typical linear thought patterns to broaden the scope of possibilities. The goal is to transition between patterns and, encourage "out of the box" ideas. ii) Deducting and Inducting: Divergent thinking involves generating numerous responses or solutions to open-ended problems. It encompasses various cognitive processes, including intuitive and rational thinking styles, fostering the ability to think divergently. iii) Identifying: Learners must identify problems and explore potential sources for relevant information extraction. This process aids in discovering strong links or associations related to the problem at hand. iv)Synthesizing: In divergent thinking, synthesizing information is pivotal. This involves accurately reporting information from diverse sources, organizing it coherently to identify correlations between ideas, and communicating the information. The goal is to draw conclusions and generate novel ideas based on acquired knowledge. v) Problem Solving: This refers to the intricate process of finding solutions to complex issues. It involves defining a problem, recognizing its origin, discovering and prioritizing potential solutions, and finally, applying the chosen solution. vi) Critical Thinking: Self-directed thinking that produces innovative ideas and solves problems. Critical thinking encompasses characteristics such as asking questions, defining problems, examining evidence, analyzing assumptions, avoiding emotional reasoning, avoiding oversimplification, considering other interpretations, and tolerating ambiguity. It aids in understanding logical associations, evaluating arguments, identifying errors in reasoning, and systematically solving problems. vii) Creating: considering problems from multiple perspectives, plays a crucial role in creative processes. It often leads to the discovery and development of original solutions. Divergent thinking, with its focus on multiple perspectives, is a key contributor to creative processes.The following theories have influenced the concept of non-linear thinking.a)Disinhibition Theory :The concept of disinhibition, as opposed to constraint, comprises a broad personality trait indicating variations in the capacity to self-regulate or manage one's conduct, extending from being uncontrolled to overcontrolled (Clark & Watson, 2008). Individuals with high disinhibition tend to act spontaneously, often without considering the potential long-term consequences of their actions (Watson & Clark, 1993). Moreover, those scoring high on this trait are frequently characterized as disorganized, careless, and displaying minimal concern for others (Vaidya et al., 2010). Disinhibition always doesn't result in negative behaviors. It can also contribute to positive outcomes, such as heightened self-expression or creativity. The impact of disinhibition is dependent upon the specific context and individual factors. b)Cognitive Information Processing Theory:Cognitive Information-Processing Theory was developed by American psychologist George Miller in the 1950s. It is a cognitive theory that focuses on how information is encoded into our memory. It describes how our brains filter information, from what we're paying attention to in the present moment, to what gets stored in our short-term or working memory and ultimately into our long-term memory. CIP theory focuses on problem-solving and decision-making skills. (Peterson et al, 2016) state that CIP theory gives importance to (i) how persons use knowledge structures to organize, add, and modify knowledge they have about themselves and their ideas; (ii) the rational and intuitive processes applied to arrive at a decision, and (iii) the metacognitive processes used in problem-solving. Dosier & Osborn(2018)claim that the theory recognizes the significant role played by emotions and behavior in decision-making and problem-solving. According to the cognitive-processing theory, the attempt to create a narrative and freely express one's ideas and thoughts on a stressful or difficult circumstance is part of the reason for the reduction of negative emotion and the increase in positive mental and physical health (Lepore & Greenberg, 2002).c)Self-regulation Theory: The self-regulation theory considers the individual as an active agent who engages in a dynamic process of first assessing the issue and then applying problem-solving strategies to resolve it. Nguyen(2022)claims that this model focuses on individuals' cognitive representation, which is based on experience and newly acquired information. The self-regulation model captures the influence of the complex interaction between individual and socio-cultural factors. Reynolds et.al (2012) consider self-regulation to comprise of several stages. In the stages, individuals must function as contributors to their motivation, behavior, and development within a network of reciprocally interacting influences.Bandura(1991) from the study on self-regulation concluded that behavior, environment, and the cognitive, emotional, and physical factors influence one another. He further stated that the processes of goal attainment and motivation result from an equal interaction of self-observation, self-reaction, self-evaluation, and self-efficacy.d) Transformative Learning Theory:Transformation theory is based on the fact that we, as beings, inherently seek to make meaning (Mezirow,1994, p. 1). According to Mezirow, the learning process involves drawing upon previous interpretations to formulate new or revised understandings of the meanings derived from our experiences. These interpretations then serve as guides for our actions (Mezirow,1994). This process can occur intentionally, accidentally, or unconsciously, as each individual possesses an intricate framework of meanings. At times, either intermittently or during various life stages or in response to significant life events, a sense of unease may arise, signaling that things no longer align and prompting a reconsideration of how meanings are construed. Such experiences serve as catalysts for transformative learning, challenging previously unquestioned assumptions. Mezirow views the quest for meaning through the constructivist perspective of Kelly(1963) and describes transformative learning as a distinctively adult form of metacognitive learning (2003, p. 58). It is defined as the "process by which learners become aware of and increasingly in control of habits of perception, inquiry, learning, and growth that have become internalized" (Maudsley in Mezirow, 1981, p. 12).

1.1 Research Problem

The conventional approaches based on Behaviorist theory consider teachers to be the sole decision-makers and knowledge sharers.

Teacher-centred approaches in conventional classrooms, assign linear tasks based on convergent thinking patterns. Convergent thinking is not enough because the learners are encouraged to think straight or narrowly without combining the environment or learning experience (Simon & Bock, 2016). These rigid instruction patterns devoid the struggling EFL writers from freely expressing -their concerns, feelings, or experiences thus, aggravating writing –anxiety and, eventually, leading to passive learning and demotivation. Thus, the study aims to measure the effectiveness of adopting non-linear thinking patterns through divergent thinking tasks thereby, encouraging freedom of thought and expression. The following research questions guided this study) - Why are Linear thinking tasks unsuitable for improving the expressive writing skills of EFL learners? – 2) How can Non–Linear Thinking tasks develop the written expression of EFL learners?

1.2 Literature Review

Expressive skills refer to the ability to convey thoughts, emotions, and ideas effectively through various forms of communication. Expressive skills play a pivotal role in personal, academic, and professional spheres. Through the practice of expressive writing, a learner can effectively integrate, organize, and analyze their experiences by concentrating on the reconstruction of their reality (Bryan & Lu, 2016; Zheng & Gan,2019). (Russell, 2020) claims that engaging in expressive writing proves to be a transformative journey as participants anticipate an experience, derive valuable lessons from it, and acknowledge both their achievements and future goals stemming from that experience. This process of reflection empowers students to find a sense of purpose in their coursework encounters. This, in turn, has the potential to enhance motivation, and retention, and improve academic performance. Numerous educators consider expressive writing as a tool for fostering resilience in the face of challenges, as it aids in reducing stress and anxiety (Pennebaker & Smyth, 2016). Marien et.al (2022) conclude that the combination of the transactional model of stress and expressive writing improved young learners' emotional reactions to diverse problems. Numerous educators consider expressive writing as a tool for fostering resilience in the face of challenges, as it aids in reducing stress and anxiety (Pennebaker & Smyth, 2016). Marien et.al (2022) conclude that the combination of the transactional model of stress and expressive writing improved young learners' emotional reactions to diverse problems. Alkhalaf (2022)in a study based in the Saudi context claims that writers achieve higher syntactic complexity when engaging in expressive writing tasks. The results of the study indicate that expressive writing tasks have a significant effect on three syntactic complexity measures: length of production units; amount of subordination; and phrase sophistication. This observation has been supported by Myers (2021) and Gao(2022). Despite the benefits discussed above, in conventional writing sessions, convergent or linear thinking is still encouraged. This acts as a hindrance and restricts the free flow of thoughts and emotions. The stereotyped topics decided by the teachers limit the boundaries of imagination and prevent the learners from thinking out of the box. Numerous studies in the EFL context have concluded that among the four language proficiency skills, Writing is considered to be the most challenging as it is a highly demanding cognitive skill and, is closely related to academic success (Curtis, 2019). Many studies have concluded that one of the reasons for the difficulty of students in producing appropriate content is due to limited thinking opportunities and lack of autonomy. Adenan(2019b) claims that learners find it difficult to handle content, and write incorrect content at times overlapping due to their failure to use the thinking model properly. In addition, student achievement in the overall essay is weak as teachers adhere to conventional sources (Hasnah, 2016). Hmouri(2021), claims that university students are pragmatically incompetent and this prevents them from expressing themselves successfully despite being grammatically competent. In addition, Ismail & Darus (2012) states that students face the challenge of learning expressive writing, especially when the linguistic rules of their mother tongue are different from those of the target language. Further, researchers state that expressive writing tasks based on linear patterns make them think in a unidirectional way thus, deviating their focus from linguistic development to gathering ideas. Priawasana et al. (2020), claim that there is a connection between students' development of critical thinking skills and the elaboration learning process. In addition, there are chances that the learner may face 'Cognitive dissonance' a term coined by (Festinger, 1957). He claims that because of the incompatibility between what one believes and what others tell them is true or correct, the person may face cognitive dissonance. Cognitive dissonance can have a wide range of effects on individuals – from feelings of discomfort and anxiety to changes in behavior, reactions to new information, and decision-making processes.(Yahya & Sukmayadi, 2020).

Thus, due to the limitations of convergent thinking, numerous studies have supported non–linear thinking patterns. Non-linear thinking styles are a necessary skill within the larger theoretical framework of digital literacy (Leu et al., 2011). Nonlinear thinking styles are defined as using intuition, insight, creativity, and emotions when comprehending and communicating information (Vance et al. 2007; Ahmad & Sahar,2019; Yi et al,2015; Mulyanto et.al, 2018). Kaufman& Sternberg (2010) state that Non–Linear thinking promotes creativity and enhances cognitive capacities and problem-solving.

1.3 Research Gap

Currently, there is a lack of integration of nonlinear thinking styles in training pre-service teachers and in preparatory management curricula for working professionals (Vance et al., 2007). There is a limited amount of research that exists concerning nonlinear thinking styles (Vance et al., 2007). Zabelina & Ganis (2018), claim that teachers to a great extent have not been successful in molding the behavior of the students towards Non–Linear Thinking. In addition, Webb et al. (2017) comment that the inability of the students to think differently is due to the existing teaching pedagogies that focus on linear thinking. Simhadi(2019) states that when designing tasks, instructors should take into consideration, the personal dimensions of the learners, autonomy, confidence, and anxiety-free condition. However, the association between learning styles and non–linear thinking continues to be an area to be explored. Moreover, Creative thinking has been considered one of the most essential skills of the twentieth century and cannot be ignored. Linear thinking tasks have to be replaced to a great extent with tasks that promote considering problems from multiple perspectives and discovering and developing original solutions as it plays a crucial role in most creative processes. (Simon & Bock, 2016). Numerous studies (Fakhomah & Utami, 2019; Rintayati, et al, 2021; Liu et al, 2021 Kusuma et

al 2019; Wang, 2019) in the study concluded that non–linear thinking increases creativity. This is supported by Wang (2019). Numerous studies have covered anxiety issues and their causes and the promotion of positive mental and physical well-being(Lepore & Greenberg, 2002; Ramain et al 2021,) but, have not included limited autonomy and linear thinking patterns to be one of the major causes of student anxiety. Pennebaker(2018) suggests expressive writing tasks to be encouraged in EFL classrooms as "concealing or holding back powerful emotions, thoughts, and behaviors is itself stressful" (p. 226). It is to be noted that while expressive writing stands as a powerful tool for self-reflection and resilience-building, the integration of non-linear thinking styles remains underexplored. As educators and researchers, it is imperative to bridge this gap by exploring innovative methodologies that foster expressive skills and non-linear thinking patterns. By adapting diverse pedagogical approaches and fostering a culture of creative inquiry, learners can be empowered to express their ideas with clarity and confidence.

2. Methods

The study adopted a mixed/triangulation approach with an exploratory sequential method to find out the effect of Non –Non-linear thinking patterns in improving the expressive writing skills of EFL learners. For the exploratory sequential method, first, a focus group interview was organized for fifteen students regarding their perception of post-pandemic learning and, based on the findings, the quantitative data collection was decided. Since the results of the focus group revealed a lack of motivation, four intervention-based tasks were given and the difference in performance between the two types of tasks was calculated. The dependent variable was 'expressive writing' and the independent variables were 'convergent' and 'Non–Linear Thinking'.

2.1 Participants

For eight weeks, 39 students aged between 18-20 years, pursuing writing courses at the first level of the undergraduate program at the Department of English, at Prince Sattam bin Abdulaziz University, participated in the study. The interventions were conducted in a classroom setting. Demographic information was not collected. The participants of the study were level one students as their writing course includes paragraph writing and, composition. Informed consent was collected from all thirty-nine participants. The participants were assured that without their consent they would not be forced to participate, they could quit as participants at any point in the study. Their ideas and, opinions will be confidential, their identity will not be revealed and they will be identified by a participant code.

2.2 Research Instruments

As the study attempted to find out the effectiveness of non-linear thinking on written expression, a mixed approach was selected. First, the data was collected on the perception of learners on Post-pandemic learning second, data was based on performance in the writing tasks focussing on the four dimensions: Fluency- number of ideas2. Flexibility-producing ideas in numerous categories 3.Originality- unusual or unique ideas and, 4: Elaboration - adding details to ideas. Each category was assigned 5 points. Overall each intervention was calculated out of 20 points. Further, the performance in both types of writing tasks (convergent and Divergent) was analyzed through the software introduced by (Pennebaker& Smyth,2016). The software is called Linguistic Inquiry and Word Count (LIWC). It assisted in calculating the number of words and tracing the diverse vocabulary used to express diverse ideas. Second, a questionnaire was distributed after the four interventions to measure the motivation level of the students based on four parameters introduced by (Keller,1983): attention, relevance, confidence, and satisfaction.

2.3 Procedure

Data were collected in four intervention sessions. In all the four interventions, the participants worked individually. All sessions lasted 60 minutes each. Before the intervention based on Non–Linear Thinking, the 39 participants were assigned a task based on linear thinking patterns (convergent thinking). The instructor did not introduce a brainstorming session. The task assigned was to write a composition of 500 words on "The Benefits of Homework.' Later, four interventions were provided to improve the expressive writing skills of the participants. The interventions were based on non-linear thinking patterns. A paired-sample t-test was conducted to determine whether learners' performance in expressive writing tasks was better in linear (cognitive) or non-linear thinking tasks within the same group.

Tier one Intervention*:* Which one do you prefer: swimming in the pool or watching TV? Why? The objective was to encourage unstructured brainstorming. The task provided an opportunity for the learners to look at the options from many perspectives and angles to justify their choices.

Tier Two Intervention: To encourage Non–linear thinking, a balance was maintained between cognitive and affective learning. A modified version of the Creative Problem Solving (CPS) model (Hidaya et al, 2024) was used to design the writing task. Murwaningsih & Fauziah (2022) suggest the CPS model for writing tasks as it enables the learners to 'generate and analyze their ideas to their full potential'.This model has been supported by (Kanchanachayaa & Shinasharkey, 2015; Wang, 2019). The CPS learning process consists of four stages. Learners were instructed to write an essay of about 750 words: a) Discuss your personality traits. b) Distinguish between the positive and, Negative traits. c) How would you like to improve your negative traits? Based on the CPS model with slight variation, the learners were explained about personality traits to enable the learners to understand the expected solution. In the second stage, they were encouraged to introspect and identify their positive and negative traits. In the third stage, the learners shortlisted three negative and three positive traits and, finally in the last stage they used their analytical skills to find solutions to improve their negative traits.

Tier Three Intervention: A type of Non–Linear Thinking called 'Illumination' was introduced as it is inquiry-based and requires answers to 'what if' questions. Palmiero et. Al (2020) claim that the ability to think divergently has been associated with different cognitive processes,

including intuitive and rational thinking styles. The learners were provided with the following situation: 'This is your first job. Unfortunately, you have a boss who keeps nagging and, seldom appreciates your work. Would you quit your job or try to ignore it and move on? Why?'

Tier Four Intervention: The task focussed on "Hijacking", another type of Non–Linear Thinking that focuses on 'thinking out of the box'. The aim was to give more importance to emotional expression rather than cognitive processing. The objective of the task was to encourage creativity and, give importance to student preferences. The task was based on the need achievement theory advocated by (McClelland, 1988; Atkinson, 1974). They claim that if an individual's intrinsic motivation to take part is stronger than their fear of failure, they will engage in a task but, if their fear of failure is stronger than their intrinsic motivation, they will either avoid or withdraw from the task. Participants were asked to create a fictional character that was just the opposite of themselves."Motivation consists of the amount of effort a person is willing to exert in pursuit of a goal" and the context of learning, "motivational tactics have to support instructional goals"(Keller, 2006a, P3). After the completion of four interventions, a questionnaire comprising ten statements was distributed to the thirty-nine participants. The questionnaire was based on Keller(1983) ARCS model and was divided into part A focussing on(A) Arousing student's curiosity and interest and, B- Relevance(R) Relating to student's experiences and needs. Part B focussed on Confidence(C) Scaffolding student's success in meaningful tasks. Satisfaction (S) Building student's sense of reward and achievement. A 3-point Likert scale was used to measure the amount of motivation. The results of the questionnaire also preferences, gaps in teaching pedagogy, and readiness to learn.

3. Results

Table 1. Performance in Linear-Thinking Task

Fluency	Flexibility	Originality	Elaboration	Duration	Word Limit
2.07	2.00	1.64	1.69	25- 35 mints	120-150

3.1 Pre-intervention Task

It was based on a convergent thinking pattern. There was no flexibility in terms of expressing ideas. It has been observed that a good number of students looked disinterested. Out of thirty- nine students, thirty-two, completed the task while seven failed to reach the word count and hardly wrote about 150-160 words. Though thirty-two completed the task, six of them incorporated irrelevant points. As the control group adopted a linear thinking pattern seventeen students found the task to be tedious. Also, a lot of time had been taken by them.

Table 2. Performance of Tier One Intervention (Non-Linear)

Fluency	Flexibility	Originality	Elaboration	Duration	Word Limit
2.25	2.30	2.25	2.23	30-45mints	200-250

3.1.2 First Intervention Task

It was a task based on a non-linear thinking pattern. There were two options to choose from: watching television and swimming. The results indicated when compared to the convergent, the performance improved. Most of the participants seemed to be less distracted and, were more expressive. Also, when compared to the previous task, less time was taken to complete the task. However, the most visible disadvantage was lack of creativity as 36 out of 39 students opted for watching television and centered their writing around entertainment and their favorite show. In addition, a few students felt the options were not interesting and could not think of too many ideas. Over the performance was better than the previous task but not satisfactory.

Table 3. Performance of Tier Two Intervention (Non-Linear)

Fluency	Flexibility	Originality	Elaboration	Duration	Word Limit
3.20	3.30	3.46	3.25	40-60 mints	350- 475

3.1.3 Second Intervention Task

It was based on the Creative Problem Solving (CPS) model (Sari et al., 2018) and was related to personality traits. The creative problem-solving part was suggesting measures to improve their negative traits. The performance of the participants was the best among all the four interventions. They freely expressed their ideas, introspected their personalities, and came up with a variety of suggestions to minimize their negative traits. It was interesting to note that some were frank enough to admit their negative traits and, a few tried to justify their negative traits by sharing the circumstances that led to the formation of negative traits. Overall they found this task to be not only interesting but thought-provoking. There was an increase in the word limit because they liked the task they were involved in writing for the entire 60 minutes. As each personality is unique, originality was evident.

Table 4. Performance of Tier Three Intervention (Non-linear)

Fluency	Flexibility	Originality	Elaboration	Duration	Word Limit
2.23	2.10	1.56	1.92	20-45mints	170-200

3.1.4 Third Intervention Task

The situation task (Illumination) based on (TASC) model was considered to be a very challenging task. It required a vision and, not everybody is a good visionary. 5 out of 39 Participants could write just 8-10 sentences. 27 out of the remaining 34 participants did not display any critical skills or novelty of ideas. All the participants who opted for the 'quit' option, wanted jobs with better remuneration. The participants digressed from the behavior of the boss and focused on monetary benefits. A sharp fall was evident in the word limit. As they found the task to be challenging, most of the participants seemed disinterested and, tried to complete their task much before the submission time.

Table 5. Performance of Tier Four Intervention (Non-linear)

Fluency	Flexibility	Originality	Elaboration	Duration	Word Limit
2.79	2.92	3.00	3.07	45-60mints	350-400

3.1.5 Fourth Intervention Task

It gave more importance to emotional expression rather than cognitive processing. Participants were asked to create a fictional character that was just the opposite of themselves. Though the grades were included as part of the internal assessment, the participants did not show any kind of anxiety and, enjoyed the task. Participants came up with numerous adjectives, expressed their feelings and, emotions strongly, and, took maximum time when compared to the other tasks.

Table 6. Performance difference between Linear and Non-linear tasks

	Convergent Task	Divergent Tasks			
	M	M1	M2	M3	M4
Fluency	2.07	2.25	3.2	2.23	2.79
Flexibility	2.00	2.30	3.3	2.1	2.92
Originality	1.64	2.25	3.46	1.56	3.0
Elaboration	1.69	2.23	3.25	1.92	3.07
				t-test (paired) 39=0.0043	

A paired-sample t-test was conducted to determine whether learners' performance in expressive writing tasks was better in linear (cognitive) or non-linear tasks within the same group. In the Expressive writing tasks, the 'fluency' performance mean for linear thinking (M=2.07, SD =1.98), was significantly lower than the mean for non-linear (M = 2.61, SD = 2.28). The 'flexibility' performance mean for linear thinking (M=2.00, SD =2.32), was significantly lower than the mean for non-linear (M = 2.65, SD = 2.36). The 'originality ' performance mean for linear thinking (M=2.00, SD =1.78), was significantly lower than the mean for non-linear (M =2.65, SD =2.32). The 'elaboration' performance mean for linear thinking (M=1.64, SD =1.38), was significantly lower than the mean for non-linear (M = 2.56, SD = 2.27). t (39)= 0.0043. The results of the paired-sample t-tests t (39)= 0.0043 revealed significant mean differences in fluency, flexibility, originality, and, elaboration between the linear (convergent) and non-linear tasks). (see Table 8). The results indicate that there was a difference of 0.54 in the mean value between the 'fluency' of convergent and Non –Linear Thinking tasks. Since the learners were given autonomy to express their unique ideas, the learners found interventions to be interesting and thus were able to express their ideas more fluently. Further, the results indicate that there was a difference of 0.65 in the mean value between the 'flexibility' of convergent and Non –Linear Thinking tasks. Regarding 'originality', there was a difference of 0.65 in the mean value between the two types of tasks. Learners were given the autonomy to think divergently and therefore, came up with many original ideas. The learners were given a platform to 'think out of the box'. Lastly, a difference of 0.92 was seen in the mean value between the two types of tasks about 'elaboration'. The highest difference in the mean value between the tasks was for 'elaboration'. Since the learners enjoyed autonomy, they were more expressive in communicating their ideas.The results of the linear thinking /convergent thinking task indicate that when students were made to streamline their ideas, some of them faced difficulty in finding appropriate vocabulary and ideas related to the topic.

3.3 Results of The Questionnaire to Measure Motivation

Table 7. Agreement and Relevance

	Agree	Sometimes	Disagree
Interesting topics are provided by the teacher.	13.6	62.7	23.5
Topics are decided in consultation with the learners	11.50	15.6	72.90
Learners have a lot of opportunities to use their creativity	23.70	69.50	6.80
Topics are related to real-life experiences	52.50	23.70	18.6
I enjoy tasks based on imagination	24.4	48.6	5.10

The majority of the learners expressed that sometimes interesting topics are provided by the teacher. The results indicate that the performance of the learners varies depending on the topics. If the topics are not interesting, the learners fail to come up with good creative ideas. This results in limited vocabulary and brief expression of ideas. The majority of the learners expressed that the teacher does not provide the learners an opportunity to give their topic preferences. The results indicate that the sessions are teacher-centred and the learners are not provided autonomy to choose their topics / give preferences. Most of the learners further expressed that they do have a lot of opportunities to use their creativity. This is due to a lack of interesting topics. The performance to a great extent depends on the level of interest of the learners. Motivation enhances productivity. Thus, creativity is proportional to interest. Most of the learners expressed that the topics are based on real-life situations. It is to be noted that though the topics may be related to real life, the interests of the learners may vary. When compared to real-life tasks, less number of learners prefer to have tasks based on imagination. It is to be noted that all the learners are not visionary.

Table 8. Confidence and Satisfaction

	Agree	**Neutral**	**Disagree**
I can provide solutions to problematic situations	61.00	23.70	5.10
Learners have opportunities to apply strategies	72.90	15.60	1.70
Teacher's feedback helps me to monitor my work	100.00	-	-
There is a positive expectation for success	89.00	6.80	4.20
Learning outcomes match my personal goals.	74.60	16.90	8.50

Most of the learners expressed that they could provide solutions to problematic situations. This indicates that they like to take up challenging tasks. It further assists in concluding that divergent thinking tasks are suitable for developing their expressive writing abilities because of their problem-solving abilities. Most of the learners expressed that they have ample opportunities to apply different cognitive and meta-cognitive strategies. This flexibility gives them the space to learn, eventually developing their confidence and providing satisfaction. In a heterogeneous classroom, flexibility is essential to instill confidence among learners. All the learners consider the teacher's feedback to be a part of the learning process. They get a direction from the teacher to proceed and also know the status of their progress. This helps them to perform better in the next task. Most of the learners agree that there is a positive expectation for success. This is because of the flexibility in expressing ideas. The biggest advantage of non-linear thinking pattern tasks is the learner is free to express ideas as all ideas are acceptable. The learners do not face many task–anxiety issues and this enhances productivity. Most of the learners find a connection between the learning outcomes laid down by the teacher and their personal goals. This provides them, a reason to give their best and remain focussed. In a heterogeneous class, each learner has a set of goals, To be intrinsically motivated, the learning outcomes should match the personal goals of the learners. This makes them self-driven and responsible. The proportion of performance for the linear (convergent thinking) based task (p1) is less than the non-linear (divergent thinking (p2). Therefore in the population; $p1 < p2$.This means there is a positive correlation between divergent thinking and, expressive writing and, a negative correlation between convergent thinking and expressive writing. Thus, the findings conclude that divergent thinking tasks will result in improving the expressive writing skills of the learners.

4. Discussion

The results of the study answer the two research questions that aimed to investigate why linear thinking tasks(convergent thinking) are unsuitable for developing expressive writing skills of EFL students and how Divergent thinking tasks assist in developing the written

expression of learners. Writing has always been considered the most challenging skill for EFL learners. The mechanics of writing make the learners more conscious about their writing skills. Convergent tasks as results indicate and, observed by (Adenan,2019b) streamline the thinking and consume more time than the cognitive process. Due to limited expressive scope, the learners struggle to come up with appropriate vocabulary and, usually fail to express their ideas clearly and effectively. Learners often complain that they do not get enough opportunities to use their creativity. According to them, the tasks are stereotyped, and monotonous. Creativity is an essential component of learning. (Simon & Bock, 2016; Tomlinson,2015) consider promoting creativity in ELT classrooms to be important as it balances the affective and cognitive abilities of the learners. Ramain et.al (2021) concluded that cognitive control abilities have large effects on divergent thinking. The study concluded that inquiry arousal could enhance creativity. EFL learners prefer to have flexibility in learning. However, with non–linear tasks there is very little scope to express their ideas freely. The results indicate that divergent thinking tasks provide flexibility to the learners. This is in agreement with the observations of Keller (1983). He claims that when learners are given the freedom to focus on their tasks and express themselves freely, they are less anxious and eventually more productive. Similarly, the results agree with the findings of Mrochuk (2016). The study concluded that during the interventions, the participants did not feel under pressure, and expressed their ideas freely. The results of the questionnaire on motivation reveal that the learners felt intrinsically motivated as the tasks allowed them to develop their expressive skills. The increase in word count was an indicator that they were able to express more ideas. The results are in agreement with (Keller,1983). He suggests that through some degree of control over their learning, the learners should believe that their success is a direct result of their effort. The results also indicate that tasks that involved personal expression: Tier 2 and 4) had better performance. The results are in agreement with(Palmiero. et. al,2020; Nath et al., 2017; Javadi & Tahamsbi, 2019). Their studies concluded that it is important to attend to the affective needs of the learners. Nath. et.al claims that 'Feeling and thinking are interlinked.'In addition,(Javadi & Tahamsbi, 2019) suggests that learners could be engaged in activities related to learners' lives and experiences that involve excitement and emotions. Cheng et al. (2022) conducted a study on the effects of the social-emotional classroom climate on academic achievement for elementary students. The results indicated that the social-emotional climate had a positive effect on school achievement, and divergent thinking plays an indirect role between social-emotional climate and academic achievement. The results of the study indicate that some participants ended the task abruptly due to cognitive dissonance as discussed (Yahya & Sukmayadi, 2020; Green 2020). The task expected the participants to consider homework to be beneficial to students. However, some students differed in opinion as they preferred to spend time with family and friends. Some participants were against the idea of carrying the heaviness home as it aggravates the stress level. Thus, the results are in line with Yahya & Sukmayadi (2020). They claim that cognitive dissonance can have negative effects on individuals – 'from the feeling of discomfort and anxiety to changes in behavior, reactions to new information, and decision-making processes.' It is important to understand that a class comprises heterogeneous students. Each learner has his/her way of interpreting and expressing ideas.

5. Conclusion

The study concludes that Divergent thinking has a positive effect on developing expressive writing skills of EFL Learners. Many aspects of divergent thinking can be traced in numerous approaches related to learning. For instance: theories of specific learning styles, multiple intelligences, individual's ability to construct meaning, knowledge, and, skills. Findings confirm that autonomy, emphasis on self-esteem, and self-actualization can make the learning process individualized. More than extrinsic motivation, language learners require intrinsic motivation to take up writing tasks seriously. Though a blend of divergent and convergent thinking is frequently adopted in the learning process, divergent thinking is best suitable for open-ended problems as it promotes creativity. When students write about their experiences and express their emotions, the quality of writing is much better. Pressure to write on the topics decided by the teachers can prove to be detrimental to learning, eventually resulting in disinterestedness and dissatisfaction. Divergent thinking develops confidence in learners and makes learning more flexible and enjoyable. Therefore, language instructors must shift from linear thinking patterns to non-linear thinking patterns to minimize anxiety, lack of confidence, and confusion, thus promoting self-identity.The following techniques can promote divergent thinking: a)Brainstorming can be beneficial as it helps to place ideas in a creative yet, unstructured manner. b)Starbursting could be an effective visual brainstorming technique. c)The instructor can place an idea in the middle of a whiteboard and draw a six-point star around it to represent questions: who, what, when, where, why, and how.d) SWOT analysis can be another effective strategy as it focuses on strengths, weaknesses, opportunities, and threats. e) Free writing helps in expressing and producing spontaneously. It helps to focus on a specific topic. f) Lightning decision jams provide opportunities for the students to write down positives and negatives about a topic and prioritize what needs to be addressed. g)Mind Mapping can help the students generate new ideas and deal with concepts in detail. h) Journal writing helps to record ideas, and develop or revert to them when convenient. i) Freewheeling provides flexibility to the students. They do not have to be conscious about the organization. j) Self-evaluation trains the learners to use their meta-cognitive strategies.

6. Limitations and Implications for Further Research

The study had some limitations. It was based on the challenges of EFL learners in the Saudi context. The sample size was small. The study included participants from level 1 of the graduation course, who were recently introduced to paragraph writing. These limitations may have affected the quality of the study's findings to some extent. Since Non-linear thinking remains relatively neglected in research, this paper calls for the need to understand and explore the potential benefits and applications of non-linear in various contexts. In addition, there is a need to design instructional methods with effective teaching strategies that encourage non-linear thinking. Another research area could be the association between non-linear thinking and decision-making styles. Exploring the relationship between non-linear thinking and decision-making styles could have implications for education and training programs.

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