

CHAPTER 2

LITERATURE REVIEW

This chapter presents a review of related literature from which the underlying concepts of this study were drawn. It involves creativity, creative thinking, learner-centeredness, the relationship between divergent thinking and learner-centered activities, and the measurement of creativity.

2.1 Definition of Creativity

There are not too many things researches of creativity or related areas agree on, but one thing most agree is that creativity should be implemented in the education system, (Keller-Mathers, 2011; Milgram, 1990) as it prepares students to face the real world and teach them how to deal with unpredicted and novel situations. Creativity is important because it equips students with skills of solving problems with original solutions, both in the personal and vocational areas, (Milgram, 1990) and it helps with identity creation. (Helson, 1990) Also taking into account the fact that “creativity is based on childhood experiences” (Gedo, 1990) emphasizes the need of its implementation in the educational system, especially in the primary school level. It is known that many cognitive aspects are part of creativity, especially creative thinking,

which is further broken down into divergent and convergent thinking.

There are many definitions surrounding creativity in the literature, and most researchers have analyzed and studied gifted students in order to try to single out what makes students creative, and what creativity is. The following are some of the most common definitions; processes of creativity: process, person, product, persuasion; (Simonton, 1990; Brenneis, 1990; Milgram, 1990) characteristics of a creative person: imagination, surprising, novel, original, problem solving skills, situation-fitting, accomplishes a goal, adaption, problem oriented, open minded, experimentalist, independent, assertive, ambitious, confident, curious, active, resourceful, etc.; (Harrington, 1990; Runco, 1990; Gedo, 1990) dimensions of creativity: personality, ability to discover and formulate new problems, intensity of interest and motivation in the chosen domain; (Csikszentmihalyi, 1990) no pinpointed definition: "because it is the single most difficult problem shared by all creativity researchers". (Albert, 1990; Helson, 1990; Amabile, 1990) Characteristics such as the above are used to investigate whether or not students are being creative, such as by the use of checklists. (Kaufman, Plucker and Baer, 2008) Below are some details on the characteristics of a creative person in the language classroom.

- **Imaginative:** being able to come up with new vocabulary, expressions and ideas throughout the learner-centered activities, and using them in new situations in order to convey meaning.
- **Novel:** being able to come up with interesting and unusual vocabulary, expressions ideas throughout the learner-centered activities in the English classroom.

- Original: having and applying unique vocabulary, expressions ideas that others have not thought about or not used in the classroom.
- Problem-solvers: a student who focuses on the given problem and tries to use the previously learned language, including vocabulary and expressions in order to come up with a solution.
- Fit to the situation: being able to change the language use, including vocabulary and expressions, according to the situation imposed in the English classroom.
- Accomplish goals: being able to use one's vocabulary and language knowledge capacity to complete a task.
- Adapt: being able to adjust the language being used to new conditions, which may arise in the language classroom. Being able to adapt the vocabulary being used to the learner-centered activity being presented and participate in the class.
- Open-Minded: being ready to accept new ideas and new concepts regarding the English language, including vocabulary and expressions, and being able to be opened to ideas given by the classmates.
- Experimentalist: the ability to try new vocabulary and expressions, put into practice chunks of language that perhaps have not been studied or presented during class, taking risks regarding the language use, and naming different things in English.
- Independent: not being dependent of the language teacher, being able to work independently or with the support of fellow classmates. Being

able to independently use the English language to convey meaning and be communicative.

- Ambitious: showing motivation to succeed and want to learn more, always trying to use new vocabulary and trying to convey meaning through the usage of vocabulary and expressions that have not been previously attempted.
- Confident: being self-assured, not being scared to be part of the learner-centered activities or to try using new vocabulary and expressions.
- Curious: eager to learn new vocabulary, expressions and general English language knowledge and culture, asking questions and wanting to know more about the language.
- Active: engaging in the student-centered activities, actively using new vocabulary, expressions and ideas proposed throughout the lessons, being eager to participate in class discussions and communicatively convey meaning.
- Resourceful: having new ways to overcome difficulties in conveying meaning and helping others by aiding them with new vocabulary, expression and ideas.

In order to understand what makes a student creative, comparisons between artists and non-artists were made, looking at behaviors most commonly chosen by each group when they were asked about artistic, scientific, and everyday creativity and noncreativity. Table 1 shows a few of these behaviors that compose creative people, labeled "artists". (Runco, 1990) It shows a set of

behaviors which can be seen in both professional and amateur artists and can be looked for in people in order to find creativity.

Table 1 Characteristics of a Creative Person

Artists			
Artistic	Scientific	Everyday	Non-creativity
Expressive	Perfectionistic	Active	Boring
Imaginative	Intelligent	Helpful	Narrow Interests
Humorous	Curious	Humorous	
Open-minded	Patient	Resourceful	
Unique	Thorough	Open-minded	
Emotional		Exciting	
Exciting			

(Runco, 1990)

As it can be seen in Table 1 above, even creative people have non-creative behaviors, such as narrow interests or when being in contact with things that do not interest them, making it boring. In everyday activities creativity can be seen through the artists' behaviors of being active, helpful, humorous, resourceful, open-minded and exciting. Being scientifically creative involves being a perfectionist, intelligent, curious, patient and thorough, and being artistically creative involves being expressive, imaginative, humorous, open-minded, unique, emotional and exciting. In order to look for creativity in students, behaviors such as everyday creative behaviors have to be taken into account, as finding artistic and scientific creative people involve them being talented or gifted in that area.

Family, education and environment play essential roles in the creative process. (Gedo, 1990; Helson, 1990; Csikszentmihalyi, 1990; Milgram, 1990; Keller-Mathers, 2011) Many researchers mention in their researches the importance of past experiences and present creative atmospheres (environment) in order to unleash creativity in children's lives. (Milgram, 1990; Csikszentmihalyi, 1990; Harrington, 1990; Simonton, 1990; Epstein, 1990; Amabile, 1990; Gedo, 1990) Csikszentmihalyi (1990: 204) emphasizes that "the social environment not only facilitates the expression of individual creativity, it often takes the initiative in, and it is always an essential component of, the creative process". The formal education also plays a vital role in creativity. Schools have been educating children out of creativity, using systems where mistakes are being stigmatized and students are not being given the opportunity to think for themselves. (Robinson, 2011) The teacher plays an essential role, where in order to cultivate creativity in the classroom, the teachers and researchers must also be creative. (Runco, 1990; Milgram, 1990) Table 2 shows the characteristics of creative teachers require.

Table 2 Characteristics of Creative Teachers

Teachers:			
Artistic	Flexible	Intelligent	Self-directed
Challenging	Good-designing	Inventive	Sensitive
Curious	Imaginative	Nonconforming	Uninhibited
Exploratory	Independent	Original	Unique
Expressive	Innovative	Questioning	Wide-interests

(Runco, 1990)

As it can be seen in Table 2, in order for teachers to be creative a set of characteristics must be present within the teacher. To become a creative teacher, the teacher must be conscious that he/she is attempting to teach for creativity and try to incorporate these creative characteristics. In order to become a creative teacher, one must first understand their own creativity and imaginative approaches in engaging activities that can develop the primary school students' original ideas. These can be understood by reflecting on the characteristics of creative teachers.

(Cremin, 2009)

A few researchers also link creativity with motivation, arguing that intrinsic motivation increases creativity, whereas extrinsic motivation decreases it. (Amabile, 1990; Csikszentmihalyi, 1990) According to Amabile's research, activities that use evaluation known by the students; surveillance, being watched while working; reward, contracted-for; competition; and restricted choices on how to do an activity; all have a detrimental effect on creativity. Rewards, which are seen as bonus, also known as not contracted for, have been found to have a positive effect. Nonetheless, there are anecdotal evidences which shows that extrinsic motivation is not always negative towards creativity. (Amabile, 1990) Different things might motivate different individuals, and anecdotal evidence

should be carefully taken into account, as although creativity might occur, its levels might differ, for example being motivated by competition might speed the process of creativity and its end product not be as creative as it would be if no competition was involved.

Thus, creativity possesses a set of characteristics that are indispensable to language learning. The characteristics are summarized below:

- Problem-solver: where students must be able to use the acquired language in new situations, where problems may arise and they must quickly solve them through language;
- Being able to adapt to the new culture of the language: in order to understand it and be able to efficiently communicate;
- Be experimentalists: students must not be afraid to use the language learned and experiment with it in order to find what is acceptable or not in the language used by the people;
- Independent and ambitious: so that the language will be learned outside of the classroom as well, thus proficiency and communicative skills may become more fluent;
- Confident and curious: in order to use the language learned and inquire about what they hear, and confidently apply it to new situations.

Taking them into account, implementing creativity in the language classroom will foster such behaviors in students, and therefore benefit their English language learning and their creative levels.

2.2 Creative Thinking

Creativity, creative thinking, divergent thinking and convergent thinking are closely related. Creativity embraces more characteristics than just creative thinking, and creative thinking embraces more characteristics than just divergent thinking, as they are all subsets of one another. (James, 2010) Figure 1 below demonstrates the relationship between them.



Figure 1 Relationship between Divergent and Convergent Thinking, and Creativity (James 2010)

Divergent thinking is one of the two cognitive thinking that make creative thinking, the other one being convergent thinking. It is one of the factors that affect creativity. Although to achieve creativity more than just creative thinking is necessary, this subset is of extreme importance for creativity to be achieved. According to Gomez (2007) and Wand (2010), most IQ tests measure convergent thinking exclusively, which goes to show that schools are interested more in intelligence and convergent thinking rather than divergent thinking and creativity. Convergent thinking points to one correct answer only, whereas divergent thinking takes an aspect of something and explores many different ideas. The difference between divergent and convergent thinking are illustrated in Figure 2 below.

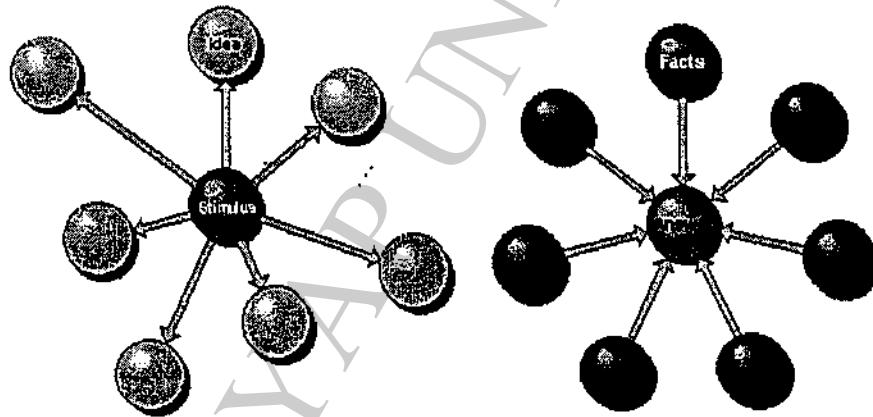


Figure 2 A Comparison between Divergent Thinking and Convergent Thinking

It can be seen that the divergent thinking process produces a number of different and innovative ideas that are developed from one stimulus. One stimulus is given to the students, and from that one stimulus, a number of different ideas is drawn out, as seen from the outward arrows. The convergent thinking process,

however, encourages students to choose the most adequate idea to solve the problem or generate an end product, as seen from the inward arrows, showing that there are a number of stimuli but only one solution. (James, 2010) It is also the most widely known creative thinking skill, and also known as “lateral thinking” in the creativity literature. (Wood, 2009: 47; Eade, 2009: 65)

Although creative thinking is divided into two subsets, divergent and convergent, schools tend to focus on convergent skills, where students are asked to come up with one correct answer only. English teachers emphasize and teach convergent thinking models and therefore students are only exposed to this way of thinking, where they are invited to find only one correct answer and stigmatize mistakes. However, language learning does not fit such pattern, as there are a number of possible ways in which language can be used.

Thus, by training students in the divergent skills in the primary level, they will be equipped to have a more successful language-learning path during the following school years, as they will be trained to think of a number of different responses, which can be used and be helpful in communicating in the English language.

2.2.1 Divergent Thinking

Divergent thinking has been often mentioned in researches where creativity is being looked for, and although it is not equivalent to creativity alone, it is an important constituent of the creative process. (Runco, 1991) It is, furthermore, the most common way of measuring creativity, where the majority of researchers use it in order to prove whether or not creativity is present, has increased or is static within a sample group. According to the Penguin Complete dictionary, divergent thinking is “thinking that is consciously directed away from

conventional routes and assumptions, so as to generate a variety of conclusions or solutions". (Penguin Complete English Dictionary, 2006) However, divergent thinking can be better understood through the approach given by J. P. Guilford (1959, quoted in Runco, 1991), an American psychologist which studied human intelligence, and which is still used today.

Guilford's approach (quoted in Runco, 1991) to divergent production can be read about in many psychology, creative and human intelligence books, and is widely used in the field of creativity. His divergent thinking theory is composed of four aspects: fluency, flexibility, originality and elaboration (FFOE). Runco (1991) attempts to define the four aspects as following:

- Originality: reflects the number of unique, statistically infrequent relative to the complete sample, ideas generated by the child.
- Flexibility: reflects the number of distinct and conceptual categories of ideas used by the child.
- Fluency: reflects the number of ideas given by the child.
- Elaboration: reflects the amount of details given by the child.

Although divergent thinking does not compose creativity on its own, many researches seem to use it and be convinced that if there is divergent thinking there is creativity. (Phialvalve, 2011; Runco, 1991) This concludes that when fostering divergent thinking in students they will be better equipped and more leaned towards being creative both inside and outside the classroom. Runco (1991) argues that creative thinking can be encouraged by explicitly defining the concepts of "originality" and "flexibility" to the students.

Runco (1991: 32) mentions that other researchers argue that creativity itself can be defined as "the production of divergent ideas" and that creative individuals

often find a variety of good and innovative ideas, which shows fluency and originality. In a video composition, a student of the Masters of Creative Studies at the SUNY College at Buffalo State, in New York, argues that divergent thinking is the heart of creativity, where all the new ideas and concepts come from. (Phialvalve, 2011) Runco (1991: xii) argues that divergent thinking, although not synonymous with creativity, is a very important component of the creative process, and “predictive of several expressions of the real-world creativity” and that divergent thinking can usually be fostered mostly during the first two decades of life, and requires special early learning circumstances. (Runco, 1991) Some of the most unusual ideas will be the ones which will be the most useful, (Phialvalve, 2011) and since students are not encouraged to use divergent thinking in the language classroom and only learn that there is always one correct answer, they are scared to speak, afraid that they will be laughed at. Robinson (quoted in Phialvalve, 2011) argues that divergent thinking is the ability to see “lots of possible answers to a question, lots of possible ways to interpret a question”, what many researchers call “to think laterally”, “to think not in linear or convergent ways, but to see multiple answers” instead of only one.

In conclusion, it is necessary that classrooms must implement a different method in order to boost divergent thinking at the primary school level. This is especially helpful in the language classroom, where students are often taught that there is one correct grammar pattern which fits to a number of situations, however, not being taught that there are a number of different ways it can be used and applied, according to the circumstances.

2.2.2 Divergent Thinking in the Language Classroom

Many tools can be used in order to stimulate divergent thinking in the language classroom, such as brainstorming, free writing and mind mapping. According to Bartel (2008), the reason why divergent thinking decreases as children grow up is because of the exposure to stereotyping. He proposes fourteen ways to encourage divergent thinking:

1. Avoid using stereotyping;
2. Encourage work from real experiences, observations and imaginations, rather than by imitation or rote memorization;
3. Provide ample materials, rather than prescribed textbooks only;
4. Use open questions which will encourage innovation and responses which allow a number of correct answers;
5. Do not make suggestions or do the work for the child, instead use what he calls "thinking questions" in order for the child to come up with their own answers to their questions;
6. Encourage the children to be choice makers;
7. Encourage practice rather than repetition;
8. Encourage experimentation and fresh ideas;
9. Celebrate mistakes and use them as learning rather than stigmatizing them;
10. Build students awareness of how language changes and allows for a variety of correct responses;
11. Encourage paying attention to past experiences and how they can help with the present;
12. Emphasize the importance of divergent approaches by changing habits;

13. Encourage creative peer interaction;

14. And finally, encourage students to ask questions of “what if..” And allow them to have a go on it.

All the fourteen ways to encourage divergent thinking by Bartel (2008) can be directly applied to the English classroom.

Guilford’s approach (quoted in Runco, 1991) to divergent production is widely used in the field of creativity and his four aspects of divergent thinking theory were adapted by the researcher to fit the primary level English language-learning classroom. Below is the researcher’s adapted version of the theory:

- Originality: reflects the number of unique vocabulary, expressions and ideas generated by the child.
- Flexibility: reflects the number of distinct and conceptual categories of vocabulary, expressions and ideas used by the child.
- Fluency: reflects the number of vocabulary, expressions and ideas given by the child.
- Elaboration: reflects the number of ideas within each conceptual category of vocabulary in its flexibility.

Thus, the divergent thinking approach towards English learning will provide students not only with the essential skills to successfully learn a foreign language, but also to be successful adults and to prepare them to solve the problems which they might encounter in the future. Taking into account that language is not a certain subject, where more than one answer can be applied, it is important for students to learn from the primary level onwards that more than one correct answer is acceptable, by using the divergent thinking skills, rather than the convergent, which points to one definite answer

only. Students will be able to produce a higher number of unique ideas in order to solve a problem, and will be able to use a higher number of vocabulary to communicate, as they will be trained to always produce a high number of quality responses in the language.

2.3 Learner-Centeredness

The learner-centered approach is not a new concept, being credited to Hayward as early as 1905, and to Dewey's work in 1956. (McMahon and O'Neill, 2005; Attard, Di Iorio and Geven, 2010) The learner-centered approach is a method of teaching where the learner is the center of the instruction. The learners learn take responsibility for their learning and the teachers become the facilitator and a resource person, rather than a lecturer. There is active learning and an emphasis on deep learning and understanding, where students gain an increased sense of autonomy because they have a choice of what and how to learn. By giving them choices, they will be more likely to be motivated.

Mainly, the learner-centered approach is described as the following principles (McMahon and O'Neill, 2005; Attard, Di Iorio and Geven, 2010):

1. The reliance on active rather than passive learning
2. An emphasis on deep learning and understanding
3. An increased responsibility and accountability on the part of the students
4. An increased sense of autonomy in the learner
5. An interdependence between teacher and learner
6. Mutual respect within the learner teacher relationship

7. A reflexive approach to the teaching and learning process on the part of both teacher and learner.

The approach can also be found under the labels of student-centered learning (SCL), student-centered instruction (SCI), student-centered teaching, etc., all with the same principles and characteristics. A number of different approaches have also been linked to the learner-centered approach, such as: active learning, collaborative learning, inquiry-based learning, cooperative learning, problem-based learning, peer led team learning, team-based learning, peer instruction, small group learning, project-based learning, amongst others.

The definition of student-centered instruction given by Collins and O'Brian (2003, cited in Froyd and Simpson, 2010: 1) perhaps better covers the essence of the approach.

"The instructor provides students with opportunities to learn independently and from one another and coaches them in the skills they need to do so effectively. It uses active learning experiences, assigning open-ended problems and problems requiring critical or creative thinking that cannot be solved by following text examples, involving students in simulations and role plays, and using self-paced and/or cooperative (team-based) learning."

This method of teaching increases language students' confidence, intrinsic motivation, independence, creativity, cognitive thinking, risk-taking, amongst other behaviors (McMahon and O'Neill, 2005; Jones, 2007) and results in a greater understanding, more complex critical thinking skills and better class attendance. (Froyd and Simpson, 2010) This is an approach where learning is being taken as a development, and errors are constructive instead of being stigmatized. (Hall, 2006)

According to Attard, Di Iorio and Geven (2010), The European Students' Union Toolkit to student-centered learning emphasizes the benefits that such approach has on students, teachers and education. The benefits to students are: making students an integral part of the academic community; an increased motivation to learn; independence and responsibility in learning; all due to the consideration for student needs. Furthermore, the benefits to the teachers are: a more interesting role for the teacher; solutions to tackling massification and diversity; positive impact on working conditions; continuous self-improvement; increased learner motivation and engagement; and professional development for academia. Lastly, the education benefits are: quality enhancement; the status of the teaching profession; and increased representation in governance structures.

However, in order to create such an environment in the English classroom the teacher's role is of extreme importance. The classroom will only have the right atmosphere if the teacher him/herself is an autonomous student-centered teacher, who practices learner-centeredness in the classroom, where students will be encouraged to become autonomous learners. Murdoch and Wilson (2008) discuss the ideal "learning community", arguing that a set of characteristics must be present in order to make learning more effective. Amongst them are the learners' need to feel respected for who they are; the encouragement of open mindedness and risk taking; shared laughter in order to build a classroom team spirit; risk taking and challenges embracing in an environment that feels safe, supportive and secure; learners' having an active role in decision making, having clear goals, processes, expectations, rules, routines; students taking more responsibility for learning; and understanding the learning process and personal learning

preferences. They strongly believe that these are crucial characteristics, and that children should never be forced to suit a teacher, but instead teachers should develop each student for who they are, taking into account their needs and individual talents. That can be done by taking the time to find out more about the students, their interests, home lives, skill and preferred learning styles; and that can be done by a number of different activities, such as building a class slogan; setting personal goals; setting class goals; writing letters to the teacher; interview between students, or students interview the teacher; amongst other activities which serve to introduce students at the beginning of the year.

Hence, the learner-centered approach has a number of characteristics that can also be found in creativity. Combining the creativity theory with the student-centered approach in the language classroom leads to an innovative approach where both can be fostered, enhancing language learning. Student-centeredness is essential in the primary school level as it prepares students to take responsibility for their learning and be autonomous from an early age, benefiting them in the future school years where being autonomous and having student-centered learning skills is crucial for a life-long learning skills, where students do not only study to achieve a passing grade, but study in order to learn.

Consequently, primary level students have a higher competency to be creative, as they have not yet completely lost such skills, therefore, in order to prevent such loss that benefits language learning, student-centered activities, which are composed of the enhancement of such characteristics, should be implemented at the lower school levels in order to support a successful language learning future.

2.4 Divergent Thinking and Learner-Centered Activities

"It is important that students bring a certain ragamuffin, barefoot irreverence to their studies; they are not here to worship what I know, but to question it"

Jacob Bronowski

People are in a time where accepting ideas and concepts will no longer equip them with enough knowledge and understanding in order to survive in the world of competition; they must question what has been said, they must question scientists, educators, politicians and authorities. (Robinson, 2011) The world is currently changing extremely fast, and language students must be prepared to adapt to these changes, to question them, to see and find solutions to problems. This can be done through learner-centered activities and the enhancement of divergent thinking and creativity.

The student-centered approach and the divergent thinking theory have a lot in common, sharing a number of characteristics, as it can be seen in Table 3, composed by the researcher.

Table 3 Characteristics of Divergent thinking and student-centered activities

Characteristics for Divergent Thinking	Characteristics that Student-Centered Activities Possess
Autonomy	Autonomy
Motivation	Motivation
Imagination	Imagination
Problem-solving skills	Problem-solving skills
Active learning	Active learning
Brainstorming	Brainstorming
Risk-taking	Risk-taking

These characteristics are some of the most important skills that students should be acquiring in the language classroom, but are currently not acquiring them due to the methodologies being used in most classrooms. For the most part, all the characteristics and behaviors needed in order for divergent thinking to occur are encouraged through the learner-centered approach. Amongst a vast number of characteristics and behaviors that each one of them encompasses, over 50% of them overlap.

An essential characteristic, for example, which is encountered in both the learner-centered approach and the divergent thinking theory, is the notion of autonomy. For a student to be a divergent thinker, it cannot depend on other people, as it will not come up with unique and original ideas. Learner-centered students are encouraged to become autonomous and take responsibility for their own learning. In this way, encouraging learner-centeredness will increase autonomy, which will increase the learner's divergent thinking.

Another essential characteristic of both learner-centeredness and divergent thinking is the idea of students being motivated. In order to be a divergent thinker students must be motivated to think and come up with as many ideas as possible, eventually arriving at innovative and unique ideas. In the learner-centered approach students will become motivated because they take part in the process of choosing the topic and ways of learning. Once again the learner-centered approach is fostering a characteristic that is essential in divergent thinking.

Imagination is fostered by learning-centered activities as students are allowed to work on topics that are interested to them, and given the encouragement to work without the teacher's constant input requires students to use their imagination to come up with solutions to their problems, which leads to

the next characteristic. The encouragement to being imaginative works to enhance students' divergent thinking, as being imaginative is very important since it enables students to think of many unique and different ideas.

Problem solving is also encouraged through the learning-centered activities, as students are encouraged to be autonomous and come up with their own solutions to the problems encountered rather than relying on the teacher throughout the entire lesson. Divergent thinking requires students to come up with as many ideas as possible for a solution, and therefore fostering the problem solving skill through the learner-centered activities will enhance students' divergent thinking skills.

Active learning is present in both divergent thinking and learner-centered activities, where by being autonomous and encouraging problem solving students are required to be active. Also, by being given the opportunity to choose topics that interest them, students automatically become more active and interested in the lessons. Being a divergent thinker requires students to be opened and active in order to come up with as many ideas as possible to an stimulus, therefore encouraging such characteristic through learner-centered activities will develop students' divergent thinking.

Another important characteristic is brainstorming. In the learner-centered activities brainstorming is often encouraged through classroom discussion. In order for students to be divergent thinkers they must come up with a number of ideas from one stimulus, and therefore brainstorming is an essential skill.

Lastly, the learner-centered activities encourage students to take risks. By not stigmatizing mistakes, students feel less threatened to try new answers and solutions to problems encountered, gaining confidence to try new ideas and take

risks that otherwise they would not take. Divergent thinking aims at coming up with as many unique and original ideas as possible, and taking risks is very important in order to attempt to come up with original ideas.

The same pattern of relationship goes for characteristics such as novelty, originality, uniqueness, situation fitting, open-mindedness, assertiveness, curiosity, helpfulness, and resourcefulness. All these characteristics are fostered by the student-centered approach and are necessary for divergent thinking. (Runco, 1990; Amabile, 1990; Runco, 1991; Jones, 2007; Hall, 2006; Froyd and Simpson, 2010; James, 2010) Therefore it is evident that by applying a learner-centered approach will enhance learners' divergent thinking skills, enhancing their creativity as well.

These characteristics can be fostered in learner-centered activities and can be implemented in the English language classroom, where as a result of the student-centered learning experience, the learners see themselves differently, being more confident, more motivated, independent and creative to use the language. (McMahon and O'Neill, 2005; Jones, 2007). The learner-centered approach uses activities to promote students' discovery and independent learning in the language classroom. (McMahon and O'Neill, 2005) Students develop a "can do" attitude throughout the process, being able to put into language learned without worrying about the stigmatization of mistakes, (Jones, 2007: 1) which allows them to strive for creativity. When faced with challenges, students in the learner-centered classroom approach them on their own through divergent thinking, and if a solution cannot be found, only then they ask the teacher for help. The classroom activities can be done individually, in pairs, groups or in the class as a whole. In a learner-centered classroom, students learning English talk more,

share their ideas, learn from each other, are more involved, feel more secure and less anxious, use English in a meaningful and realistic way, use the language creatively and enjoy using English to communicate. (Jones, 2007)

Collaborative learning is very effective in the learner-centered classroom, (Murdoch and Wilson 2008) and it helps to build trusting relationships; fosters shared decision making; develops communicative skills which in itself fosters active listening and assertive speaking; fosters laughter and fun, bringing with it open-mindedness and risk-taking; and it teaches students about learning and thinking. A great way to reinforce communication skills through collaborative learning is given by Murdoch and Wilson (2008), where a chart can be made together with the students, to encourage them to give opinions, interact, be open-minded, autonomous, etc. It can be used in the language classroom to make sure students know that they are allowed to talk not having to be anxious with making mistakes. Table 4 below shows the basic information that could be used, however, using creativity throughout the activity could help and make it more fun to students.

Table 4 Motivational Classroom Chart

IT MAKES A DIFFERENCE...		
What you:	If you:	How you:
Think	Care	Share
Say	Trust	Talk
Do	Thank	Act
Dream	Risk	Play
Invent	Laugh	Live
Create	Question	Teach
Decide	Judge	Work

IT MAKES A DIFFERENCE...		
What you:	If you:	How you:
Value	Smile	Communication
Understand	Empathize	
	Give	
	Invite	
	Praise	
	Plan	

A variety of activities that enhance and facilitate creativity in the language classroom such as group work, role-play and writing, reading and telling stories can all be guided towards learner-centeredness, and when done in English are very effective. They will also serve to encourage creativity, without worrying about losing face when they say something unusual or incorrect and can be seen below. (Jones, 2007; McMahon and O'Neill, 2005; Hall, 2006; Froyd and Simpson, 2010)

1. Group works can be done with the class as a whole or smaller groups, in the forms of class discussion, brainstorming, posters, sharing ideas, etc. In a second language classroom, interaction amongst the learners is essential as it reflects the real-life situation of how to use the language and culture. It involves students in listening to others, talking to others and negotiating meaning in a shared context, without focusing on the teacher. (Kirubahar and Subashini, 2011) When learners work together in the English language classroom they tend to speak more, share ideas, learn from each other, become more involved and more motivated, feel more secure and less anxious, use English in a meaningful and realistic way, and enjoy using the language as they are also interacting with their peers; which does not

happen in a teacher-centered classroom. (Jones, 2007) When working with class discussions and ideas sharing, which are typical of a language student-centered classroom, everyone has a chance to collaborate. Discussions can be encouraged through exchanges of views based on pictures, questions, points of view and other stimulating materials. Students might have a lot to say about one question, and nothing about another, which is normal and part of the design of the activity. Group work increases students interest, improve their critical thinking ability, give them an opportunity to practice the production and reception skills in a natural context, increases language learning, self-esteem, open-mindedness, development of interpersonal skills, creativity and retention of the language. (Byrd, 2009; Baesa, 2011) While working in groups, students naturally disagree with one another, which generates discussions and challenges their critical thinking skills and problem-solving skills. (Byrd, 2009) Activities that involve group work also involve students actively in their own learning process, where a number of different studies have shown that active learning enhances language learning. (Smart and Csapo, 2007) When brainstorming is used through group works, it allows for the exploration of what students already know and it helps students to retain more information. (Guilln and Bermejo, 2011)

2. Role-plays can be very useful in the language classroom as it helps some students to feel less self-conscious when playing a role, where they can escape from being themselves during the play. The feedback given by the class and the discussion on how students can improve their performance might encourage them to try the play again, possibly changing roles.

(Jones, 2007) This activity creates a more spontaneous and realist learning atmosphere, which prepares students for social interaction outside the language classroom, by improving their oral performance and confidence. When participating in role-play, learners get spontaneously involved and use their creativity more than when talking to the teacher or being formally inquired about a question. (Kirubahar and Subashini, 2011) It also encourages learners to experiment with the language rather than playing it safe. (Jones, 2007) Role-play in the language classroom stimulates authentic language experiences, as it gives students practice communicating as they would outside the classroom. This increases their confidence, and will prepare them to face similar scenarios outside of the language classroom. It also provides memorable learning experiences, as when going through the role-play process (planning, practicing and presenting) learners will solidify the new information and vocabulary being used. (Keyes and Collier, 2011) Activities that involve drama provide “some of the richest and most memorable experience students have in their struggle with the second language”. (Celce-Murcia, quoted in Keyes and Collier, 2011) Furthermore, this type of activity decreases inhibition and increases students’ confidence, because students are able to act as different people, and being successful in the role-play scenario will allow them to vision being successful outside the classroom as well. (Keyes and Collier, 2011)

3. Activities involving stories, whether being storytelling or story writing, from a linguistic point of view are excellent tools to improve their four skills in English as a second language. (Guilln and Bermejo, 2011) Writing

activities can involve a number of different student-centered activities, such as brainstorming, working together in groups and peer-review. Such activities are done in class, whereas the writing itself, if long, can be set as homework. This will allow students to communicatively interact in the target language as well as write in it. Brainstorming before writing activities will allow students to activate their ideas and organize them prior to writing. (Jones, 2007) Children listening to a story told in a foreign language, where pictures are available, are able to understand the story or its outline in their minds. (Guilln and Bermejo, 2011) When reading stories, children are introduced to the language of the book, also being aware of the punctuation, capital letters and grammar patterns. The language used contains vocabulary, intonation, and grammatical structures all within a context that can be found in realistic situations. It represents what the characters think, interact, cry, shout, smile or act in specific settings as in real life. (Guilln and Bermejo, 2011) Reading stories, listening to stories or writing them require students to draw from their own experiences and frames of reference to understand it. (Smart and Csapo, 2007) By listening to stories and fairytales, children can increase their ability to visualize and also to develop their own imagination. When doing so in larger groups, they ask questions and discuss the story, having a face-to-face interaction, which helps them remember the story and the language used in it. Especially when working with young learners, which easily learn new words but also easily forget them if not used, such activity allows them to communicate and use new vocabulary learner through listening, speaking and writing. (Guilln and Bermejo, 2011)

The three different types of activities mentioned above, group work, role-play and story writing, reading and telling, all have characteristics that are appropriate for the learner-centered approach, and puts the students at the centered of lesson, rather than focusing on the teacher. Thus, learner-centered activities in the language classroom provide students with a set of skills that can also be found in divergent thinking, which develop students' confidence to speak in the English language, encourage them to learn the language by motivating them, and foster the independence and creativity of the students. Using the student-centered activities in order to convey the divergent thinking in students allows them to be exposed to a methodology of teaching that gives them opportunities to learn communicatively, as well as encouraging them to use the language without stigmatizing mistakes, giving them the skills to communicate in the language feeling less anxious and more confident to share their opinions with others.

2.5 The Measurement of Creative Thinking

There are a variety of different methods for measuring creativity, according to the objectives of each research. Amongst them are the consensual assessment technique, the Teachers' Evaluation of Students' Creativity and the Instances Tests.

The consensual assessment technique (Amabile, 1990) is done where the creative product is assessed by those judged to be "experts" in the area. Many researchers criticize the consensual assessment technique, because it does not take into account things such as the process, observation of the activities in progress, if

students enjoyed the activity, and the lack of social validation. (Simonton, 1990; Harrington, 1990; Albert, 1990; Helson, 1990; Csikszentmihalyi, 1990; Runco, 1990) However, it is one of the most common forms of assessment mentioned in research.

Some researchers emphasize the fact that researchers must use creative methods in order to look for creativity. (Milgram, 1990) The most used approach to measure creativity is the divergent thinking tests, where the Torrance tests, divergent thinking tests that can be ordered online and evaluated by the developers of the test, can be administered with the help of an organization, which sells such tests. Although divergent thinking is not synonymous to creativity, it has been proved to be a reliable and valid form of measuring for creativity. (Runco, 1991) Another method is the Teacher's Evaluation of Students' Creativity (TESC) (Runco, 1991), where the teachers are given a set of characteristics which encompass creativity and are asked to answer questions about the students. Table 5 shows the characteristics, where questionnaires with questions such as "to what degree/how often/is this child..." and a Likert scale with 7 scales, rarely, very little, slightly, moderately, considerably, very much, and extremely. (Runco, 1991)

Table 5 Items on Teacher's Evaluation of Students' Creativity (TESC), with Creative and Non-creative Characteristics

Table 5-1

Items on the Teacher Evaluation

1. Self-Directed	9. Exploratory	18. Challenging
2. Curious	10. Insensitive	19. Uninhibited
3. Conforming	11. Unique	20. Independent
4. Original	12. Innovative	21. Sensitive
5. Artistic	13. Flexible	22. Expressive
6. Inflexible	14. Unoriginal	23. Inventive
7. Intelligent	15. Imaginative	24. Good at Designing
8. Interested in Many Things	16. Always Questioning	25. Creative
	17. Nonconforming	

Note: Items 3, 6, 10, and 14 were added by the experimenter to avoid a response set.

Table 5 above was used in order to create the Teachers' Evaluation of Students' Creativity, where all the twenty-five items were put into a five scale Likert scale. The items numbered 3, 6, 10 and 14 account for the non-creative behaviors, which serve as to avoid a response set. The other twenty-one items account for creative behaviors. They were put into questions and allow the teachers to choose what best fit the students' behaviors before and after the research. The items represent the behaviors seen in creative people, with the exception of the four items used to avoid a response set.

Further looking into different ways to measure creativity, Runco (1991) proposes an adapted technique to measure creativity, which has originally been introduced by Wallach and Kogan (1965, quoted in Runco, 1991), known as Instances Tests. The test is broken down in more categories, such as "Instances", "Uses" and "Similarities". Questions involving these would be such as: Instances,

regarding naming things which look a certain way, for example, Name all of the things you can think of that are strong. The Uses questions regard ideas of what are the uses of a certain object, for example, Name all of the uses you can think of for a shoe. The Similarities questions are regarding ideas about how two things are similar, for example, "How are a potato and a carrot alike?". The Instance Test is a reliable test that can be used as a pre/post test, as the activities are simple and easy to understand and the responses can be measured according to the divergent thinking measurement (fluency, flexibility, originality and elaboration). (Kaufman, Plucker and Baer, 2008; Runco, 1991)

There is a lot of tension among researchers on the areas of activity instructions, where on one hand some argue that instructions to activities should be explicitly given with a vast explanation as to validate the questions, so that students' misunderstandings about the activity will not affect the end result (creativity). On the other hand, experts argue that giving explicit instructions to students does not reflect real life situations, where people do not get instructions broken down into detailed explanations. (Runco, 1991) In this study the researcher has chosen to give explicit instructions for each activity, due to the age of the students.

In sum, three main methods were chosen for the study, and will be used as to evaluate students before the implementation of the activities and after the implementation of the activities. The consensual assessment technique (Amabile, 1990) was chosen in order to evaluate the end products; the "Teacher's Evaluation of Student's Creativity", (Runco, 1991) in order to get a perspective from the teachers who know students' characteristics for a long period of time and will easily notice a difference in behavior/creativity/divergent thinking; and the

“Instances” test (Runco, 1991) which will measure students’ process and divergent thinking skills.

2.6 Previous Research

A number of researches have been done regarding divergent thinking of children, mostly using Wallach and Kogan divergent thinking tests, which include Instances, Uses and Similarities questions, looking for Fluency, Flexibility, Elaboration or/and Originality. Amongst the researches done, there is a research called “Creative Writing for Language, Content and Literacy Teaching”. (Guilln and Bermejo, 2011) In this research, 3 groups of students participated, 2 groups of children and one group of student teachers. The research was based on six phases of writing, which included six different activities that at the end resulted in a creative story. All the six phases have learner-centered characteristics. According to the researchers, the six phases helped students to internalize the language in an unconscious manner, encouraged students to interact with one another, stimulated their multiple intelligences, and helped them visualize the information because the phases made them more memorable. According to Guilln & Bermejo (2011), using music and movements throughout the writing process aids students in their creativity and language retention.

Another research called “Effects of Play Program on Creative Thinking of Preschool Children” (Garaigordobil and Berrueco, 2011) consisted of 86 participants aged 5 to 6 years old, where 53 of them were part of the experimental condition group and the other 33 students were part of the control condition group. The researchers used the Torrance Test of Creative Thinking to assess students’ Fluency, Flexibility and Originality; and the Scale of Creative Behaviors and Personality Traits (EPC), where parents and teachers can rate the degree to which

the diverse creative behaviors and personality traits can be applied to their child/student. All tests and scales were administered in a pretest/posttest condition. The plays were structured in three phases: opening phase (where students talked about the goals), development phase (where 2-3 games were played) and the closing phase (where children reflected and talked about the session). Adults who participated in the play sessions promoted creativity, cooperation and creative personality, whereas the games had five structural characteristics: participation, communication, cooperation, fiction-creation and fun. The results obtained in the research show that the program significantly stimulated verbal and graphic creativity, which points in the same direction as previous studies where the efficacy of creativity stimulation programs has been confirmed. Also, the study confirms the value of cooperative-creative activities with a low structural level for the development of children's creativity.

A double research done with 240 children measured the "Teachers' Judgments of Creativity" and "Enhancing the Originality of Ideas". (Runco, 1991) From the 240 children in the study, 97 were considered gifted, 53 talented and 90 non-gifted. The "Teachers' Judgments of Creativity" also had the participation of 6 teachers, who answered the "Teachers' Evaluation of Students' Creativity" (TESC). Students were exposed to the Wallach and Kogan divergent thinking tests. The results have shown that the TESC was reliable. The divergent thinking test scores were significantly related to the teachers' judgments about the creativity of their students, suggesting that a child's divergent thinking abilities is a good predictor of teachers' judgments of creativity. Furthermore, the research on "Enhancing the Originality of Ideas" was designed to compare the subjects' divergent thinking when given explicit instructions and standard instructions. The

results showed that the talented and non-gifted children benefited from the explicit instructions and came up with a higher number of original ideas. A similar research was done using the divergent thinking tests, where 29 adolescents between 15 and 17 years old who participated in a 7-week summer program in calculus and physics took the Wallach and Kogan divergent thinking tests. The "Enhancing the Flexibility of Ideas" (Runco,1991) research also showed that flexibility scores were enhanced when explicit instructions were used.

Finally, there are a number of different researches done using the Wallach and Kogan divergent thinking tests, and it seems to be the most common measurement of creativity. (Runco, 1991) Most results show that students' divergent thinking can be enhanced through explicit instructions and a learner-centered approach to teaching.

2.7 Summary

Chapter 2 presented a review of the related literature from which the underlying concepts of this study were drawn. It included creativity, creative thinking, learner-centeredness, the relationship between divergent thinking and learner-centered activities, and the measurement of creativity. The next chapter presents the research methodology of this study.