



## THE ROLE OF TREFFINGER STRATEGY ON IRAQI INTERMEDIATE EFL PUPILS' ACHIEVEMENTS

ISRAA NADHIM MUSTAFA SALEH, ASST. PROF. DR. ISRAA B. ABDURRAHMAN\*

israanadhim@stu.edu.iq, israaburhan@tu.edu.iq

Tikrit University, College of Education for Women/ Department of English

### ABSTRACT

Treffinger Strategy is a framework that focuses on developing creativity and problem-solving skills in students. One of the main problems related to achievement skills identified by this model is the overemphasis on standardized testing and rote memorization. It is designed to help individuals develop their cognitive and metacognitive abilities, enabling them to become more effective problem solvers and achievers. The aim of this study is to investigate how Treffinger Strategy affects the achievement of EFL secondary school students in Iraq. The study's null hypothesis is that there would be no statistically significant difference between the experimental group, which is taught the Treffinger technique, and the control group, which is taught by the traditional strategy, in terms of mean scores on the post-hoc exam. The second premise is that there is no statistically significant difference between the means of the experimental and control groups at the posttest. A sample of 60 students is randomly selected from the 2022-2023 school year at the Al-Dibis Secondary School for Girls in Kirkuk as a sample. The study sample is divided into two equal groups. Group (A) represents the experimental group consisting of (30) students taught using the Treffinger Strategy. Group (B) represents a control group which also includes (30) appropriately educated students to the conventional method. Encouraging results are obtained from the data analysis, showing a statistically significant difference in mean scores on post-performance tests between the experimental group taught using the Treffinger strategy and the control group taught using the traditional strategy.

**Keywords:** Treffinger Strategy, Achievement, Iraqi Intermediate Pupils, EFL

### 1. INTRODUCTION

Teachers at all levels must create a meaningful educational environment for pupils. Many teachers experience a constant inner struggle when it comes to content and teaching methods (Kay, 2010). Most educators seek novel ways to focus students' attention on certain subjects in order to foster critical thinking and the development of new abilities and knowledge. Through the application of creative thinking tools and techniques in English classroom through the cognitive teaching mode, students' creative thinking or creative problem-solving and other higher-order thinking abilities are cultivated, so that they have the skills needed to solve classroom problems.



The Treffinger strategy is an effective teaching method that may encourage change in the classroom and increase student motivation and involvement. Participants in the Treffinger technique collaborate in groups to come up with original answers for problems or tasks that are founded in reality but frequently lack recognized or established solutions (Caswell, 2006).

In Iraqi schools, it can be observed that most of the teachers are committed to traditional English teaching methods. Traditional teaching methods require English teachers to impart a large amount of information to pupils, and pupils are required to collect the imparted information and accurately reproduce it in tests. Therefore, cognitive teaching strategies and techniques are applied to English teaching to develop students' thinking and other cognitive processes such as perception, memory, retrieval and transfer. As a result, although students graduate successfully at the end of the program, they are unable to process and manipulate information, synthesize and evaluate ideas, make connections between classroom learning and practical testing, and develop ideas individually and creatively.

The recent study aims at investigating the Role of Treffinger strategy on Iraqi Intermediate EFL pupils' achievement and investigating the improvement of EFL pupils' achievement. Accordingly, this study is hypothesized that here is no statistically significant difference between the mean scores of the experimental group which is taught by Treffinger strategy task and the control group which is taught by conventional strategy in post achievement test. It also hypothesizes that there was no statistically significant difference between the experimental group and the control group in the performance average scores of the skill test. The current study is valuable for dynamic tactics, which are becoming more and more popular in teacher education programs because they enable teachers to plan lessons and deliver compelling lessons to students, should be used instead of the traditional ways of teaching English to EFL students. This study is also valuable for curriculum designers who must include current information on how to implement the Treffinger strategy at various levels of textbooks to be used by teachers.

The current study is limited to second-year intermediate pupils, Shuhada Al-Dibis Intermediate School for Girls in Kirkuk during the academic year 2022-2023; Unit 1 and Unit 2 of the textbook Iraqi English for the first semester. The model adopted by Treffinger "CPS Version 6.1 Framework, which has four parts and 8 stages".

## **THEORETICAL BACKGROUND**

### **2.1 DESCRIPTION OF TREFFINGER STRATEGY**

Treffinger Strategy is a creative problem-solving framework that was developed by Dr. Donald J. Treffinger, an expert in the field of creativity and gifted education. This strategy is designed to help individuals generate new and innovative ideas to solve complex problems. With the use of an organized process that incorporates both creative and critical thinking, Treffinger strategy is a creativity technique that aids people or groups in coming up with ideas, finding solutions to issues,



and coming to choices. One of the few models that explicitly tackles the problem of creativity and gives advice on how to attain consistency is the Treffinger Strategy, also known as Creative Problem Solving Strategies (CPS). According to Shoimin (2014:19), the Treffinger technique for encouraging creative learning employs a three-step process, beginning with fundamental components and progressively creating more complicated thinking processes. Students engage in tasks to hone their abilities in the first two phases, and in the third step, they solve challenges from the real world.

Treffinger strategy is a learning model that has developed from a creative learning model that is developmentally focused and prioritizes all components of the process, claims Shoimin (2014:219). Huda (2013: 318) also notes that there isn't much of a difference between the Treffinger model and the Osborn-initiated learning model. Both Osborn and Treffinger make an effort to encourage pupils to approach problems imaginatively, although their grammar varies slightly.

The most remarkable aspect of Treffinger's learning strategy, according to Huda (2013:320), is his attempt to combine students' cognitive and emotional components in order to discover answers to difficulties. This implies that students have the creative flexibility to solve their own problems as they like. It is the teacher's responsibility to lead the way so that the student does not veer off course and run into issues. At each level of the model, the Treffinger strategy possesses cognitive and emotional qualities, according to Shinimin (2014:218). Treffinger strategy highlights how both are interrelated and dependent on one another to foster creative learning.

## **2.2 CREATIVE PROBLEM SOLVING (CPS) VERSION 6.1**

The CPS method has developed into a framework built on five key principles and backed by theory and research since it was first introduced more than fifty years ago. These five fundamental ideas represent the ideas that (1) everyone has the capacity for creativity, (2) everyone can express creativity in a variety of contexts or topics, (3) creativity is frequently discussed in terms of personal preferences and interests, (4) people can function creatively while achieving varying levels of success or significance, and (5) creativity can be improved through self-reflection and deliberate practice.

Divergent or convergent approaches are part of the CPS framework at its most fundamental level. These methods offer a methodical framework for original issue solution. Although preset, the steps will change based on the nature of the problem or scenario, just like the natural problem process. For a CPS organization to be effective, diversity is essential (Isaksen et al., 1994; 102).

According to Treffinger, Isaksen, et al (2003:37), CPS is a tried-and-true, adaptable, strong, useful, and positive paradigm that empowers people to find innovative solutions to issues and adjust to change. Numerous researches have been done on the model's influence and validity during the course of its more than 50 years of usage around the world. It is portable because anyone of any age may use it and it is simple to learn. It can also be utilized in a variety of settings and across cultures. Its ability to produce significant and long-lasting changes in one's life and career makes it strong. It is practical since it may be used to both immediate and long-term opportunities and



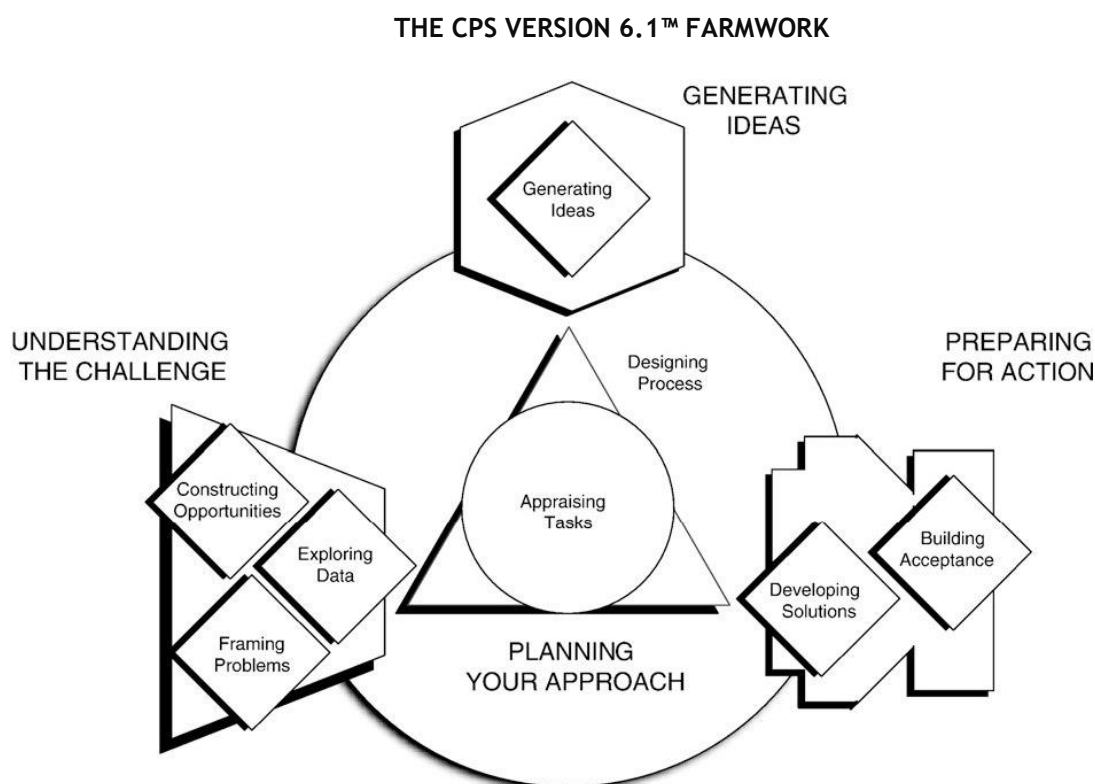
issues. Last but not least, it is advantageous since it promotes original thought and encourages optimistic thinking.

These emerging scholars think that the creation of CPS 6.1 has made the CPS procedure more adaptable. Researchers have switched from a predetermined order of process stages to a more customized evaluation of each circumstance as a result of this new process perspective. The program's final evaluation considers techniques, conditions, people, and outcomes. Task Assessment ( Isaksen et al, 1994:113).

According to Isaksen and Treffinger (2004:75), CPS systems can now contain effective tools for centralizing and creating alternatives, as well as CPS process phases and components, and CPS management components and their integrated applications. The program also incorporates diagnostic tools that treat problematic behavioral style features.

The CPS framework, according to Treffinger (2004: 7), is not a straightforward model with stages that any team may use to address any problem. Instead, effective application of today's CPS models necessitates a significant investment of time, effort, and thinking into innovative problem solution. However, this framework offers a collection of tools that teachers can employ as necessary.

The figure below shows the various parts of the CPS framework. CPS Version 6.1™ consists of four components and eight phases.



The CPS acts as an element of the graphical representation of the system. Taken from CPS Version 6.1, (Isaksen, Dorval, & Treffinger, 2000)



The history of the CPS model's modifications throughout the previous 50 years shows a trend of constant progress and a dedication to seeking out new avenues and seeing procedures from various angles. This model can never be fully developed. According to Isaksen and Treffinger (2004:87), the model's developers are still devoted to fostering continued study, creation, and assessment of CPS levels, tools, and metacognitive components. The next portions of this literature review concentrate on the CPS process' four primary elements, its six supporting phases, and its assessment phase.

### **2.3 CPS COMPONENTS AND STAGES VERSION 6.1**

The strategy was developed by Dr. Donald Treffinger, a leading expert in creativity and innovation. The Treffinger strategy is a systematic, structured approach to generating and implementing innovative problem solutions. Isaksen, Dorval, and Treffinger (2000:89) and Treffinger, Isaksen, and Dorval (2006:35) describe the CPS version 6.1 framework, which consists of four components and eight phases.

#### **1- UNDERSTANDING THE CHALLENGE COMPONENT**

This component consists of three parts that specify what constitutes a useful objective or course of action for problem-solving. Possibilities are framed, information is investigated, and questions are created. Generating thorough, understandable, and practical assertions that aid in establishing guiding principles for problem-solving activity constitutes the process of structuring possibilities. Exploring data entails creating and responding to inquiries that elicit core information, sentiments, impressions, observations, and questions regarding the work. These aid in the development of problem solvers' grasp of current circumstances. Part of framing questions is identifying a focused or particular query (problem statement) to direct further investigation.

#### **2- GENERATING IDEAS COMPONENT**

Developing Thoughts Component is coming up with several unique or uncommon solutions to problems. In this stage, the person or group generates a huge number of ideas using various brainstorming approaches and other creative thinking tools. Quality is less important than quantity, and any suggestions—no matter how outlandish or unrealistic—are welcomed. Finding the most promising concepts and investigating how to turn them into workable solutions are the objectives.

#### **3- PREPARING FOR ACTION COMPONENT**

Problem-solvers utilize the Preparing for Action component to select, develop, or enhance effective solutions and to plan for their successful implementation. This element is divided into two steps: Developing Solutions and Building Acceptance. Good ideas can be analyzed, refined, or improved during the Developing Solutions step. This stage is primarily concerned with narrowing alternatives and transforming promising ideas into acceptable solutions. The stage of Building Acceptance entails identifying possible sources of support and resistance, as well as potential



factors that may influence the successful implementation of solutions. The purpose is to aid in the preparation of solutions for greater acceptance and value.

#### **4- PLANNING YOUR APPROACH COMPONENT**

It includes assessment tasks and design process phases. Planning Your Approach becomes an integrated component (graphics and practice) at the core of the CPS framework. We also differentiate Planning Your Approach into a "management" component that guides the problem solver in the conscious analysis and selection of "process" components and phases.

In CPS Version 6.1TM, we emphasize CPS as a system - a broadly applicable process framework that provides an organizational system for specialized tools that support the creation and development of innovative and beneficial solutions. CPS systems now include tools for generating and focusing alternatives (eg, Isaksen, Dorval, and Treffinger, 1998:93); and CPS management components (assessment tasks and design processes). The system components of a CPS enable an individual or group to use knowledge about the mission, key needs and objectives, and a set of key inputs to formulate and implement successful process decisions that result in meaningful outcomes or outcomes. CPS's systems approach enables individuals and groups to identify and respond to opportunities, address challenges, balance creative and critical thinking, build collaboration and teamwork, and overcome concerns to manage change. Comparing today's CPS framework (CPS version 6.1) with previous versions, summarizes the changes in our understanding of the CPS framework and its application over the course of a decade of investigation.

### **3. METHODOLOGY**

#### **3.1 POPULATION AND SAMPLE OF THE STUDY**

The population of the current study consists of EFL Iraqi Intermediate pupils of the second year for girls in Kirkuk city. The total number of the second year pupils, population is (320). The girls' school Shudaa Al-Dibis has been selected as a case study. Sixty students from two different groups within the scientific curriculum made up the sample. The experimental group, represented by subsection (A), and the control group, with subsection (B), have been selected at random.

#### **3.2 EQUIVALENCE OF THE TWO GROUPS**

In order to level the playing field between the two groups, it is crucial to take into account students' ages, their general level of English, and the education of their parents, all of which can have an impact on their academic performance (Good et al., 1976, 366). This has led to the researcher controlling for the following factors in order to make the individuals comparable: Father's academic level; Mother's academic level; The age of the student; The student's grades in the previous year; and Pre-test results.



### **3.3 Analysis of the Test Items**

The test items are required to be analyzed in order to determine two important features: difficulty level, and discrimination power, as follows: The Difficulty Level of the present test items varies from (0.29) to (0.72). The test item Discrimination Power is found to have a range of (0.29) - (0.71).

### **3.4 PROCEDURE OF USING TREFFINGER STRATEGY**

#### **A. COMPONENT 1 UNDERSTANDING CHALLENGES**

1. Constructing opportunities: The teacher tells the students what skills and knowledge they need to learn.

2. Exploring data. In this step, the teacher shows or explains a nature event that might get the pupils interested. The teacher gives the pupils a picture or video about a problem in the world. Based on the picture or video, the teacher also explains and shows how to ask for and give an opinion in English. In this study, the problems were how pupils use cell phones and how social media affects them. This step can enhance pupils improve their grammar, words, and speech.

3. Formulating problems. The process of formulating problems. In this step, the teacher allows students to identify problems. The teacher forms groups of students and invites them to discuss problems within their group.

#### **B. COMPONENT 2 GENERATING IDEAS**

The teacher gives students the time and opportunity to express their ideas and guides them to agree on the alternative problem-solving strategy that will be assessed. Generate ideas through divergent reasoning. This term was coined to describe this phase of the process. Create as many potential solutions for each creative challenge as possible. Perform this activity alone or with a group. After generating as many ideas as feasible through divergent thinking, we must choose the most promising ones and evaluate their potential value. This demands convergent thought, in which we make deliberate and thoughtful decisions. We implement appropriate criteria on purpose to screen, select, evaluate, and refine the options, recognizing that the ideas will require further development.

#### **C. COMPONENT 3 PREPARING FOR ACTION**

1. Developing solution: After generating ideas, the teacher directs the pupils to create solutions. The teacher encourages students to acquire relevant data and conduct experiments in order to explain and solve problems. The pupils were given the opportunity to express the alternative solution during this phase. On the paper, they record their opinions and proposed solutions. This phase can enhance pupils' creativity and interaction abilities.





2. Building acceptance: After discussing and writing their discussion result, each group presents their discussion in front of the class, and other groups provide remark, feedback, question, and suggestion. The teacher evaluates the group's solution. In conclusion, the teacher assists pupils in creating a summary of the discussion outcome and problem solutions. In this phase, the teacher can enhance pupil's fluency, vocabulary, and comprehension.

**STEP 4 PLANNING YOUR APPROACH**

1.Appraisal Task: the process of evaluating or assigning a value to a learning process using predetermined criteria to determine the extent of knowledge or skill acquisition and application. It is essential to evaluate and assess the teaching and learning process in order to ensure that learning objectives are met. It helps ensure that teachers can continue to enhance their professional practise and grow as teachers.

2. Designing Process: Process entails describing the requirements of the pupils, defining the final goals and objectives of instruction, designing and planning assessment tasks, and designing teaching and learning activities to ensure the quality of instruction. The design process is a structured framework for identifying problems, collecting data, generating potential solutions, refining ideas, and testing solutions.

**4. ANALYSIS OF RESULTS AND DISCUSSION**

**4.1 RESULTS RELATED TO THE FIRST HYPOTHESIS**

**Comparison between the Mean Scores of the Experimental Group and that of Control Group in the Posttest.**

To find out if there is any significant difference between the mean scores of the experimental group and those of the control group in the posttest. Statistics show that the mean scores of the experimental groups are (80.53) and that of the control group is (66.20). By using the t-test formula for two independent variables, the calculated t-value is found to be (3.841), while the tabulated t-value is found to be (2.00) at the degree of freedom (60) and level of significance (0.05), This means indicates that there is a significant difference between the achievement of the two groups and in favor of the experimental group.

Thus, the first hypothesis, which states that there is not any significant difference between the mean scores of the experimental group and that of the control group in the posttest, is rejected, as shown in table (4.1)

**Table (4.1) Means, Standard Deviation, and t-Values of the Two Group in the Achievement Test**

Groups	No. of students	Mean	SD.	T-Value		DF	Level of Significance
				Calculated	Tabulated		
EG.	30	80.53	14.05	3.841	2.00	58	0.05





CG.	30	66.20	14.84	3.841	2.00		
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**4.1.2 THE SECOND HYPOTHESIS**

**COMPARISON BETWEEN EXPERIMENTAL GROUP IN THE PRE-TEST AND THE POST-TEST SCORES**

It is found that the mean score of the difference between the students' performance of the experimental group in the posttest is (80.53) with a standard deviation of (14.05). Whereas that of the pretest is (56.96) with a standard deviation (11.43). The calculated t-value is (9.659), which is found to be higher than the tabulated t-value which is (2.04) at (0.05) level of significance when the degree of freedom is (29), as shown in Table (4.2).

As shown in the table, there was a statistically significant difference between the experimental groups' achievement in the pretest and their achievement in the posttest in favor of the Treffinger strategy. Therefore, the second hypothesis is rejected. (4.2)

**Table (4.2) The T-test Value of paired samples, the Experimental Group Performance in the Pretest and Posttest**

Group	No. of students	Mean	SD.	T-Value		DF	Level of Significance
				Calculated	Tabulated		
Posttest	30	80.53	14.05	9.659	2.04	29	0.05
Pretest	30	56.96	11.43				

**4.2 DISCUSSION OF THE OBTAINED RESULTS**

The findings indicate that both groups improved over time, indicating that the instruction was effective for both groups. However, despite being nearly identical on the pre-test, the two groups significantly differentiated after the instruction. This improvement demonstrates that collaborative work can help students better their classroom performance. The data were collected through observation and testing shown that the Treffinger strategy can have a positive impact on pupils' achievement skills. For example, research has found that pupils who participate in Treffinger-based learning activities tend to demonstrate higher levels of critical thinking and problem-solving abilities, as well as improved creativity and innovation skills. Additionally, these pupils often show higher levels of motivation and engagement in their learning, which can lead to improved academic performance.

The results of implementing Treffinger strategy in teaching achievement skills demonstrated that the strategy can enhance pupils' abilities. Treffinger Strategy is designed to help pupils develop their achievement skills. This strategy focuses on promoting the development of critical thinking, problem-solving, and decision-making skills, as well as creativity and innovation. The idea is that by fostering these skills, pupils will be better equipped to succeed in school and in life. According to Alhadad (2015: p. 36), the Treffinger strategy enabled pupils to express their ideas through



achievement skills. By the end of the course, the experimental group's topic development appeared to be better, most likely as a result of their collaboration with their peers and cooperation. The pupils appear to have mastered ideation, divergent thinking, and convergent thinking. The CPS Version 6.1 framework has four elements and eight stages: define the problem, determine its root cause, develop alternative solutions, select a solution, implement the solution, and evaluate the outcome. As a cycle, each of the eight steps is performed in order, starting with understanding the challenge component. Each stage must be completed prior to proceeding to the next step.

However, it is important to note that the effectiveness of the Treffinger strategy can vary depending on a number of factors, including the teacher's implementation of the strategy, the pupils' prior experiences and background knowledge, and the resources available to support learning.

The researcher employs the "CPS Version 6.1" Treffinger Strategy. Creative Problem-Solving is an effective method for motivating and engaging pupils with their education. It facilitates the incorporation of real-world experiences into the classroom setting and engages students in an authentic learning process.

By using the Treffinger strategy, pupils are able to develop a deeper understanding of language and its use, and they are able to apply this understanding to real-life situations. Additionally, this approach helps pupils become more confident and independent learners, as they are encouraged to take ownership of their own learning process.

Generally, the post test questions are divided in to two levels which are recognition and production level. As a sample of analysis, the researcher uses question one (**unseen passage**) for the **recognition** level and question six (**writing a composition**) for the **production** level to apply Treffinger Strategy "CPS Version 6.1".

## 5. CONCLUSIONS

The following conclusions can be drawn in the light of the results of the study based upon the test the researcher's observation while teaching and testing:

Treffinger strategy is a teaching approach that focuses on helping pupils discover their strengths and interests and develop their creativity and problem-solving skills.

1. Treffinger strategy is more effective and has superiority over the traditional methods on improving intermediate school students' achievement in English.

2. The study finds out that there is statistically significant difference between the mean scores of the experimental group which is taught by Treffinger strategy and the control group which is taught by traditional strategy in posttest achievement.

3. The researcher concludes that Treffinger strategy can be a very beneficial teaching strategy for pupils by making learning more active, collaboration, creativity and problem solving. The achievement test of the experimental group which is exposed to Treffinger strategy is better than the control group which is taught according to the traditional method.



4. Pupils work supportively with each other and raise their understanding as well as exchange ideas by depending on Treffinger strategy.
5. Treffinger strategy helps to decrease the gap between teachers and pupils when cooperating together, and makes the teacher as a close friend, who is facilitated the process of teaching and learning.
6. Treffinger strategy increases pupils' motivation to learning and raises the degree of cooperation among intermediate students.
7. Treffinger strategy increases student-center learning, which provides fluency practice and reduces the dominance of the teacher in the class.
8. The results of this study show that Treffinger strategy gives positive effect on EFL pupils writing skill significantly.

Here are some important points to keep in mind when using the Treffinger strategy in the classroom:

1. Focus on the pupil: This strategy emphasizes the importance of understanding each pupil's individual strengths, interests, and learning styles. By doing so, teachers can tailor their lessons and activities to better meet the needs of each student.
  2. Encourage creativity and problem-solving: The Treffinger strategy encourages pupils to think creatively and to develop their problem-solving skills. Teachers can use open-ended questions, hands-on activities, and real-world problems to help pupils think outside the box and find creative solutions.
  3. Foster a growth mindset: This strategy encourages pupils to see mistakes and challenges as opportunities for growth, rather than as failures. Teachers can create a supportive classroom environment that emphasizes the value of hard work and persistence, and helps pupils develop a growth mindset.
  4. Emphasize the process over the product: Treffinger strategy places a greater emphasis on the process of learning, rather than just the final product. Teachers can encourage pupils to focus on the steps they take to find solutions, rather than just the answer itself.
  5. Encourage collaboration: This strategy encourages pupils to work together and share ideas. Teachers can create group projects, problem-based learning activities, and other collaborative assignments to help students develop teamwork and communication skills.
- By incorporating these elements into their teaching, educators can help pupils develop their creativity, problem-solving skills, and sense of self-efficacy, and create a supportive and engaging learning environment.

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