

## Effect Of Picture Comprehension On Higher-Order Thinking Skills Of Grade Six Students

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### Abstract

*The current study analyzes the effect of picture comprehension on higher-order thinking (hot) skills of grade six students of private schools in Karachi. The research population comprised grade six students of all private schools in Karachi. A purposive sampling design was adopted. It was quasi-experimental research, with a pretest and post-test control group design. A questionnaire was designed to get the demographic information of the students. Data was collected from N=42 students in grade six in a private school in Karachi. The data were analyzed using SPSS 19, quantitatively and qualitatively. Results revealed that pictures are helpful didactic tools if selected punctiliously, play an effective role in developing higher-order thinking skills, help maintain the interest and enthusiasm of young learners for a longer period, and save energy and resources in academic scenarios.*

**Keywords:** *Effect, picture comprehension, higher-order thinking skills, picture comprehension techniques, private schools.*

### Introduction

Since the Renaissance, pictures have remained a competent tool for teaching and learning with didactic clarity. Pictures serve to develop and maintain the interest of learners and lessen the lengthy explanations. Be it any sphere of human interest; pictures have always influenced teachers and learners to sustain interest, motivation, and enthusiasm.

If selected punctiliously, as per learners' knowledge, age, and interest, pictures reduce the thinking process and create self-reliant students who can think, organize, and create opinions by analyzing, comparing, contrasting, and judging the scenario under consideration. Guiding one's thinking is the main challenge of today's teacher and learner, and it is also a key to the achievement of the most demanded 21st-century skills, as mentioned in Pakistan's curriculum. One of the constraints in achieving the curriculum objectives is the teachers' unawareness of their own and learners' thinking capacities (Maitlo, Soomro & Lashari, 2023).

More specifically, the genera of thinking skills proposed by Bloom (1956) play a significant role in identifying various levels of knowledge and their application. Clark (2010)

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described Bloom's taxonomy as being from the lower level of recall, understanding, and application to the higher level of analyzing, evaluating, and creating, which immensely impacts students' skills in academic scenarios. Pogrow (2005) explored that one must practice higher-order thinking skills to confront academic issues.

Purposefully, learning systems are striving to develop higher thinking levels in students. Much has been written in Pakistan, but we lack the prime movers for such policies. As pointed out by Rear (2017), Asian students are quieter, shy, and reluctant to be active in the classrooms, exhibiting retarded natural thinking and creativity skills.

In contrast, learning should be an approachable and easy-to-participate task. Ashley (2016) suggested that comprehension is a good source of teaching-learning activities. If comprehension is in picture form, then learning becomes a fun-filled activity. Fisher, Frey, and Lapp (2008) discussed various types of comprehension, including background knowledge, summaries, inferencing, predicting, inquiring, visualizing, and evaluating for a clear understanding of what has been taught or read. Picture comprehension, as a teaching aid, stimulates critical and creative thinking. "Visual Thinking Strategies" by Arnheim (1964) effectively uses visual images to develop creativity and critical thinking. It could be flashcards, diagrams, colouring books, PowerPoints, videos, movies, cartoons, or real objects (Roger et al., 2009). Rayo et al. (2015) explained that for effective learning with pictures, one must be surprised to think about what could come next. It helps maintain interest and motivation for a more extended period. Pictures stop the learner from being bored with chalk, talk, books, and daily procedural traditional learning (Kauret al., 2017).

Currently, the learner is loaded with information, and to invest his time, energy, and resources in selecting valid knowledge, savviness is required and availed through higher-order thinking strategies (Fitriani, Adisyaputra, & Komala, 2018).

Likewise, Azhar, Ali, Taj, and Habibi (2020) mentioned that the primary source of interest behind all educational activities is the learners; accordingly, education aims to create self-standing, independent problem solvers and critical thinkers.

## **Research Questions**

1. How far can pictures be effective in developing higher-order thinking skills in students?
2. What is the most effective comprehension technique to develop students' higher-order thinking skills?

## **Hypotheses**

### **Hypothesis # 1**

*H<sub>0</sub>*: There is no significant difference in the mean scores of the higher-order thinking skills in the Pretest of the experimental and control group.

*H<sub>1</sub>*: There is a significant difference in the mean scores of higher-order thinking skills in the Pretest of the experimental and control group.

### **Hypothesis # 2**

*H<sub>0</sub>*: There is no significant difference in the mean scores of higher-order thinking skills in the Pretest and Post-test of the experimental group.

*H1*: There is a significant difference in the mean scores of higher-order thinking skills in the Pretest and Post-test of the experimental group.

### **Hypothesis # 3**

*H<sub>0</sub>*: There is no significant difference in mean scores of higher-order thinking skills in the Pretest and Post-test of the control group.

*H1*: There is a significant difference in the mean scores of higher-order thinking skills in the Pretest and post-test of the control group.

### **Hypothesis # 4**

*H<sub>0</sub>*: There is no significant difference in the mean scores of higher-order thinking skills in the post-test of the experimental and control group.

*H1*: There is a significant difference in the mean scores of higher-order thinking skills in the Post-test of the experimental and control group.

### **Literature Review**

The natural capacity of humans to perceive and understand information is a divine power bestowed by the Lord Almighty. Each person has their thinking capacity, which can be improved and sharpened. Developing critical thinking skills is a dynamic process that can be enhanced by practising logical queries and generous motives regardless of the IQ of students (Fisher, 2005). The recent years have been declared an Industrial Era, where every individual is a global technological competitor, striving to avail the best market opportunity. This technological era cannot go without higher-order thinking skills. Detailed comprehension skills, alternative ideas, rational thoughts, and a realistic approach enable learners to make space for themselves in the technically savvy industrial market.

Becton (2022) stated that Benjamin Blooms (1956), an American educational psychologist, contributed significantly to this matter when he emphasized the thought processes and declared a dire need for training the thought processes to achieve the desired action. His multi-tiered model of classifying thinking into six cognitive levels of complexity is a conceptual and theoretical base for this research, which smoothly transits a learner from a lower thinking order of knowledge, comprehension, and application to the higher thinking order as Analysis, evaluation, and creativity. These are the learning goals, divided into three domains known as (i) cognitive domain, dealing with sharpening the mental skills, which is considered knowledge-based; (ii) practical domain, which encounters the emotional side dealing with attitudes and feelings; and (iii) psychomotor domain which is related to physical abilities as skills.

Tajularipin (2017) exclaimed that the most applied and examined skills at every step of education improvement are the higher-order thinking skills between the two higher and lower-order skills. This is because, in the current era of globally intact competitors, it has been observed that many students are not fit to compete, as many lack the thinking capacity required to reach the plateau demanded by the world.

The abovementioned levels of knowledge have been a great help for teachers of all eras in inculcating smart thinking strategies in themselves and their students. Higher-order thinking develops due to assimilating and accommodating new information from the prior one by exploring one's capacities to enhance, reorganize, evaluate, and create (Lorin Anderson & David Krathwohl, 2001). Brookhart (2010) admitted that learning should enable students to

analyze the contents in detail, reflect on what they have been taught, and creatively apply what they have learned to solve real problems, besides retrieving or comprehending knowledge from prior learning. Buriro et al. (2023) place the utmost responsibility on teachers to plan and manage learning effectively in teaching students both logical thinking and skills.

Multiple research studies including Gunduz, Alemdag, Yasar, & Erdem (2016); Kinay & Bagceci (2016); Mahoney and Harris-Reeves (2019); Tybaev, Sedelnikova, & Voytovich (2015) affirmed that the traditional teacher-centred approach, if changed by developing habits of students, centred approaches, and inculcating activities where students are active participants, then there is no reason Higher order thinking skills are not developed. Samejo, Lashari and Mahar (2023) stated that there is a lack of proper pedagogical knowledge of particular teachers to teach HOT and that they are unaware of how to teach higher-order thinking to students. They sometimes believe that they are teaching higher-order thinking skills (Ahmed, Lashari & Golo, 2023). However, they were catalyzing lower-order thinking among their students, leading to the inability to design and implement effective instructions during teaching and learning sessions, hurdling mastery over the skills of higher-order thinking learners.

Teaching strategies where students are active learners are proven effective in developing higher-order thinking skills. These include reflections, questioning, self-directed learning, etc. (Angel, Duffey, & Belyea, 2000; Chenoweth, 1998; Colucciello, 1997). Kamal (1999) mentioned that a nationwide study was conducted in 1998 to assess the implementation of the revised curriculum for a nursing degree, involving 17 nursing schools in Pakistan's public and private sectors. The study indicated that nursing students were not encouraged to think and question. It was reflected in a student's comment that when a student says he has not understood, the response was that there is no need to understand; remember it. Grabe (2009) stated that Collaborative Strategic Reading (CSR) can cooperate learning by combining various reading strategies.

Students should efficiently utilize the information they have acquired to effortlessly summarize the text's essential ideas and formulate the desired queries about the text. Paul & Elder (2002) considered questioning the heart of critical thinking. Johns (2010) asserted that there are so many kinds of questions, and each question is essential. The question method is a skill to bridge to move from the unknown to the known through the knowledge routes. Ahmed, Lashari and Golo (2023) portrayed Pakistani classrooms as traditional, teacher-centred, and textbook-oriented, where questioning is not encouraged. A combination of thoughts, ideas, and solutions for the existing issues, giving a more profound opportunity for each one to be exposed to three levels of higher order thinking (Analysis, evaluation, and creating), contributing and generating a pool of ideas, leading towards a tentative solution, is the essence of brainstorming (Anderson et al., 2001).

Enabling students to understand main concepts and differentiate between various concepts through analytical skills should be the purpose of the teaching-learning process. Students should also be taught to identify and categorize concepts and align thinking as a sign of moving beyond understanding and memorization. Students should practice the smooth transition of concrete and abstract concepts well. The use of concrete materials in teaching abstract concepts reinforces learning. Inferring helps develop logical conclusions after examining the information, evidence, or fact. Students should competently make connections

between concepts and smartly move from known to unknown information with more profound interest, understanding, and clarity.

Graphic organizers can also be of great help, as in drawing diagrams or mind maps, students can connect concepts better and see their relationships.

### **Method & Procedure**

The sample was intact, non-randomized, and consisted of two sections of a private school in Karachi, grade six. One was the experimental group comprising twenty students, whereas the other was the control group of twenty-two students. Both groups were given a questionnaire containing demographic information regarding their primary education, favourite subject, and language spoken at home. The sample was asked to compose a moral-based story of at least two hundred words, beginning with the given opening line, with at least more than two characters displaying protagonist and antagonist traits in at least two events using figurative language such as similes or metaphors, onomatopoeia, with appropriate grammar usage, suitable setting, suitable ending, and an appropriate title, in pre and Post-test of ninety minutes.

Both groups were taught analyzing, evaluating, and creating for three months, for two consecutive periods of forty-five minutes in each section daily. The experimental group was taught hot skills through pictures, whereas the control group was taught conventionally, without pictures. Both groups were taught to compare and contrast, infer, judge, and create their thoughts and imaginations. To control the extraneous variables, the researcher, the time slot, the theme of the content, and the instructions were constant. After the experimentation, a post-test was conducted in the two sections. A standardized rubric (Jacob, 1981) was adapted and used to authenticate results.

The obtained data were analyzed using SPSS 19. Statistical techniques such as frequency tests, percentages, and paired sample t-tests were applied. The data was also examined qualitatively to describe, justify, and share the first-hand observations and experiences the researcher encountered while dealing with the students directly.

The threats to the internal validity of the experiment were controlled by:

All students were between the ages of 11 and 12, with the majority completing primary education from the same school, i.e., having almost similar academic exposure. The Pretest for both groups showed no significant difference in English language competencies and hot skills. Hence, the validity of the selection procedure was controlled.

The researcher, the sole instructor with constant instructions, planned the same tests the same day, even the content themes during experimentation, for both groups under study were kept constant to control the internal threat to validity regarding instructor and instructions.

The temporal threat was controlled by following uniform steps, content, and timings. For example, from 9:30 am to 11 o'clock, if the "compare/contrast" skill was explained and practised with the experimental group, the same skill was explained and practised with the control group from 11:30 am to 1 pm the very same day.

To control the environmental factors, two classes of the same school were selected, and both groups were highly motivated by choosing exciting topics to minimize boredom.

To encourage students to share their experiences and to ask questions, the atmosphere of the classrooms was kept friendly.

## Results

**Table 1** Students in the two Groups.

Group 1 (Experimental)	20
Group 2 (Control)	22
Total	42

The demographic information regarding the primary education of students showed that 75% of experimental and 81% of control group students completed their primary education from the same school. Another question about students' favourite subjects was disclosed: 30% of the experimental and 31.8% of the control group students chose English as their favourite subject. In response to a question regarding the language spoken at home, 50% of students were Urdu speaking, 20% Punjabi, 15% English, and 15% other language speakers constituted the experimental group. In contrast, the control group comprised 54.4% Urdu speakers, 18.2% English speakers, 9.1% Punjabi speakers and 18.2% speakers of other languages.

**Table 2** Paired Samples T-test Showing the difference between the Mean scores of Higher-Order Thinking Skills in the Pretest of Experimental & Control Group.

Pretest Total	N	M	SD	t-value	df	Sig.
Experimental Group	20	17.55	4.4185	2.039	19	.056
Control Group	22	14.77	3.571			

Table 2 shows the results of a paired samples t-test to compare the mean scores on students' higher-order thinking skills between the Experimental Group and the Control Group in the Pretest (before treatment). No significant difference was found in the mean scores of students between the Experimental Group ( $M = 17.55$ ,  $SD = 4.41$ ) and Control Group ( $M = 14.77$ ,  $SD = 3.57$ );  $t(19) = -2.039$ ,  $p = .056$ . Hence, it can be concluded that before treatment (picture comprehension), the experimental and the control groups did not significantly differ in their mean scores for higher-order thinking skills.

**Table 3** Paired Samples T-test Showing the Difference between the Mean Scores of Higher-Order Thinking Skills in the Pretest and Post-test of the Experimental Group.

Experimental Group	N	Mean	SD	Corr.	t-value	df	Sig.
Pretest	20	17.5500	4.4185	.455	-6.349	19	0.00
Posttest	20	23.8500	3.9772				

Table 3 shows the results of a paired samples t-test to compare students' mean scores on higher-order thinking skills between Pretest and Post-test in the Experimental Group. A significant difference was found in the mean scores of students between Pretest ( $M = 17.55$ ,  $SD = 4.41$ ) and Post-test ( $M = 23.8$ ,  $SD = 3.97$ );  $t(19) = -6.349$ ,  $p = .000$ . Hence, it can be concluded that the treatment (picture comprehension) has shown a significant impact on higher-order thinking skills of students in the experimental group.

**Table 4** Paired Samples T-test Showing the difference between the Mean Scores of Higher-Order Thinking Skills in the Pretest and Post-test of the Control Group.

Control Group	N	M	SD	t-value	df	Sig.
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Pretest	22	14.77	3.571			
Posttest	22	15.27	3.027	-1.003	21	.070

Table 4 shows the results of a paired samples t-test to compare students' mean scores on higher-order thinking skills between Pretest and Post-test in the Control Group. No significant difference was found in the mean scores of students between the Pretest ( $M = 14.77$ ,  $SD = 3.57$ ) and Post-test ( $M = 15.27$ ,  $SD = 3.02$ );  $t(21) = -1.003$ ,  $p = .070$ . Hence, it can be concluded that without treatment (picture comprehension), no significant impact on higher-order thinking skills was found between the Pretest and post-test in the control group.

**Table 5** Paired Samples T-test Showing the difference between the Mean Scores of Higher-Order Thinking Skills in the Post-test of Experimental & Control Groups.

Posttest Total	N	M	SD	Corr.	t-value	df	Sig.
Experimental Group	20	24.00	4.267	.444	6.985	19	.000
Control Group	22	17.86	2.834				

Table 5 shows the results of a paired samples t-test to compare the mean scores on students' higher-order thinking skills between the Experimental Group and Control Group in the Post-test (after treatment). A significant difference was found in the mean scores of students between the Experimental Group ( $M = 24.00$ ,  $SD = 4.26$ ) and Control Group ( $M = 17.86$ ,  $SD = 2.83$ );  $t(19) = 6.985$ ,  $p = .000$ . Hence, it can be concluded that after treatment (picture comprehension) the Experimental Group and the Control Group have a significant difference on their mean scores of higher-order thinking skills.

The paired sample t-test revealed a p-value of 0.00, a significant difference between the two scores of Pretest and Post-test, with themes as understanding 0.004, application 0.015, creativity 0.002, analysis 0.000 and evaluation 0.001, making it evident that higher-order thinking skills developed remarkably in the experimental group after the implication of the treatment, supporting the words of Abdullah (2019) that pictures are helpful. Teachers should use images more often during the process of teaching and learning.

The Pretest and post-test scores of the control group showed no significant difference with a p-value of 0.070, whereas the Pretest of the experimental and control group showed a p-value of 0.056, depicting a similar level of English Language competency and thinking skills. While a p-value of 0.00 was obtained in the post-test of the experimental group and control group, a significant difference in the mean scores of the two groups was observed.

Statistical Analysis revealed the following findings:

1. The significant findings were that pictures are helpful in inculcating higher-order thinking skills in students, with a p-value of 0.000, a substantial difference in Pretest and Post-test of the experimental group, depicting the development and enhancement of hot skills in the Post-test.
2. A difference of 0.056 in the Pretest of an experimental and controlled group shows similarity in the level of English Language Competency and thinking skills.
3. In the control group post-test, a p-value of 0.070 indicates no significant hot skills have taken place without pictures.

**Table 6** Qualitative Analysis of Control Group to Justify the Differences in the Groups

Student	Theme	Category	Pretest	Post-test
A	Creativity	Story Ending	4	3
	Analysis	Comparison/Contrast Ability of Characters; Settings.	4	1
B	Evaluation	Critical Thinking, Judging	1	3
C	Creativity	Story Ending	1	5
	Evaluation	Critical Thinking, Judging	1	3
D	Creativity	Story Ending	3	1
	Application	Grammar and Usage	3	4

Table 6 shows that student 'A' scores in the control group were lowered in the Post-test in Creativity from 4 to 3 and in Analysis from 4 to 1 because of the student's absenteeism from class due to ill health. Student 'B' scored 1 on the Pretest in Evaluation and gained 3 on the Post-test after comparing and contrasting the characters age-wise and habit-wise, judging "good habits make a good man."

Whereas, student 'C' showed thinking development, with an increase in score from 1 to 5 in Creativity and Evaluation, scored 3 on the Post-test with a pretest score of 1, gave a logical ending to the story, with a clear indication, that "Strangers never give gifts, without any reason, and gifts were the ways and mean to trap children." Student 'D' scores lowered from 3 in the Pretest to 1 in the Post-test, as he focused on grammar and showed acceptable improvement in "grammar usage" from 3 to 4 but could not complete the ending of the Post-test in the allotted time.

Though the growth of hot skills in the control group was not so evident as in the treatment group, the reason being the pictures were indeed the stimulus of interest, enthusiasm, and open-mindedness, whereas the text, used in the control group, was a slothful, monotonous procedure for the young learners.

Furthermore, with the experimental group, no activity or game was needed besides "pictures." The students were found to be waiting for the class and always eager to learn, though both groups were on the same level of language competency and age.

Besides the reasons mentioned above, most of the students in both groups were very creative during discussions, as some students, besides age and educational status, pondered over the characters' social status, inferring from the story's characters. However, they could not deliver the same through writing, vocabulary handicap being the topmost reason, followed by fear of mistakes. This is indicated in the t-test, with the p-value of pre and Post-test for application and usage of grammar being 0.088, showing no significant difference before and after experimentation. The researcher focused on developing higher-order thinking skills, which are the problem under consideration, whereas grammar skills require a lot more practice, which could not be done due to limited time.

### Discussion

A high level of enthusiasm and interest was observed during the discussion of the story "The Stray Dog". Students were intensely motivated while sharing in-depth information about "dog breed", "animal rights," etc. All students seemed aware of the animal's needs and exhibited humaneness. The researcher entrusted that each contribution is meaningful (Megawati, Basikin & Wibawa, 2020). Abundant imagination and creativity were seen when one of the students changed the theme of the story, considering the dog a pet, but due to some mishap,



was left on the street and being a pet dog, it was not accustomed to eating bin rotten food, therefore could not get food, and had to steal it. The galvanizing collaborative environment enabled students to think outside the box; some supported the greediness of the animal as a typical trait, expressing that the stray dog was so hungry that stealing food was average; this view fueled a debate of values regarding "stealing", "greediness" and "natural desires" because most students disagreed with the statement.

The researcher encouraged them to respect and listen to others (Benlahcene, Lashari & Lashari, 2020). One group mentioned that the animal stealing food was the human failure of not providing food and shelter to the animal. This situation, though time-consuming, proved to be effective in dealing with such conflicts.

Consequently, while discussing the story "Two Classmates", the two characters coming to school by car and van were opined as rich and poor. This statement was opposed by most, but as the students shared their views, the class calmly listened. Later, all views were heard patiently.

Learning can be made effective by using students' favourite sports, games, or hobbies; for instance, in the story "Bike Riders", they enjoyed adding details of various parts and processes such as brushing, scrubbing, oiling the chains, checking tires, cleaning the brakes, pedals, and wheels, as bike riding, being the favourite sport of the boys (Brewster, Ellis & Girard, 2003).

The compare/contrast exercises, first taught with fruits, enabled students to give thoughtful details about the uses of fruits and their peels. Later, they could compare characters using traits such as poor, hardworking, ambitious, rich, lazy, etc. The antagonist characteristics, besides commonalities, were whistling in class, breaking promises, cheating on tests, stealing things, lying, and remaining untidy. The protagonist's characteristics were being truthful, sincere, helpful, and religious.

Subsequently, the students were able to infer unseen clues, such as in the story "The Stray Dog," the butcher's age, financial background, and attitude towards the animal were discussed, but some also mentioned that the butcher realized his mistake, and took the animal to the vet, after being cured, took special care by feeding it daily. This revealed the students' creativity when comparing the same characters so differently in two different scenarios, constituting a higher level of thinking through character interpretation (Peterson & Taylor, 2012).

Notably, most students gave a very brief title but clearly understood the story, such as "The Criminal" and "The Danger", as there were no restrictions on words or phrases for the title. But, few students gave titles such as "Values Never Fade" and "True Friendship is a Gift of God", which grasped the interest and attention of the reader.

Hence, it was detected that discussion before commencing writing activities enables learners to come across the hurdles of writing English, as most students went thinking beyond the boundaries with a little push of vocabulary, as proposed by Chitravelu, Sithamparam & Teh (2005).

Although the conclusion of the stories had the common moral-based ending of bad being punished, some gave a new dimension of thought, such as the negative character being turned positive after learning a lesson, and some gave the spiritual conclusion that even animals are grateful to God and sing songs of gratitude, showing humans that they too should always be

thankful to God. This proves that correct directions with a well-planned way of thinking and judging lead to creativity. Additionally, it enhances students' academic achievement.

### **Conclusion**

The conclusion is that picture comprehension is an effective educational tool for building higher-order thinking skills, a transitional process of gradually moving from a low cognitive level of recall to generating new ideas at a higher level of cognition. Various techniques such as oral repetition, chain words, and building blocks with simple sentences proved to be a better opportunity for recipients of English as a second language. The results indicate that higher-order thinking skills should be practised in each discipline. The study's results are limited and can be generalized only to a setting similar to where the experiment occurred, i.e., a private school. It cannot be applied in rote learning scenarios, with yes or no responses and no opportunity to compare, judge, and create opinions (Holmes, 2008).

Instead, in welcoming discussions, with pictures, through print or electronic media, with stories, essays, or descriptions, this research is a very effective source of developing higher-order thinking skills, being a dire requirement of the world, requiring teachers to exhibit how savvy they are in handling their noble profession (Azhar, Ali & Taj 2020).

The thinking skills, particularly, need to be inculcated in every brainy being; as the old saying goes, "Charity begins at home." the researcher firmly believes that "Charity begins first in thoughts", then it is diffused elsewhere, so it is essential as to what we think and how we build our thinking monument that becomes our views and ultimately our actions and deeds. Therefore, teachers must strive to play the role of philanthropists and teach children how to think, as this would eliminate most of the issues in the academic world.

Nevertheless, higher-order thinking skills are developed even without pictures, but it would be a sluggish process, with much extra potential such as efforts to maintain the interest of the learner, maybe by engaging them in some activities and games such as "Simon Says" "Pick the Chit", or "Passing the Pillow". When selected carefully, visual materials save energy, time, and resources, especially for young learners, making learning effective and fast (Ali, 2014).

### **Recommendations**

To maintain the students' interest, the teachers of grade 6 suggested using and selecting pictures and topics of learners' interest. The discussions before written tasks help learners come across a pool of vocabulary from their classmates and teachers. Sequenced pictures in a simple to complex manner help develop the interest and motivation of the learners. Pictures with an open-ended response are the best source of discussion.

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