

Writing Topic:

Write an informational paper that examines the topic of how people learn and how they can increase their brain power. Be sure to use information from both sources in your paper.

Before you begin planning and writing your paper, read the two passages:

- 1. "Changing Your Mind—One Thought at a Time"
- 2. "Our Brain: For Better or For Worse"

Changing Your Mind—One Thought at a Time

The Plastic Brain

- Your brain is always changing. It will continue to transform throughout your entire life. Whether your brain changes for better or worse is up to you. This has not always been the popular belief, however.
- 2 Historically, it has been thought that the brain developed until a certain age and then became fixed. However, research over the last several years has shown that the brain is not rigid at all, but has the ability to be flexible, or plastic, and is able to change and learn throughout a person's lifetime. The official term for the brain's ability to grow, change, and learn is called plasticity.

Learning

- Learning occurs when new knowledge is gained through instruction or experience. Memory is what allows this new knowledge to be remembered over time. Knowledge and experience, however, are not all that is involved in learning. Long ago, Albert Einstein made a statement about learning that science has only recently begun to understand. Einstein said, "Imagination is more important than knowledge. Knowledge is limited."
- 4 Think of knowledge as a tool and imagination as the hand that uses the tool. The more tools the hand has to use, the more it can build. Using your imagination exercises your brain and increases its ability to use multiple tools for learning.



Some studies suggest that imagination plays a key role in memory, as well. In one study, people were asked to remember a list of words using several different strategies, imagination being one of them. Those asked to use imagination as a memory tool were told to imagine that they were acting out the word. Those that used this approach were able to better remember details than those who used other methods of recall.

A Library of Memories

- 6 Memory and learning go hand in hand. Understanding requires the use of memory: to understand something you must remember it. On the other hand, when something is understood, it also becomes easier to remember. It is important to have a sense of how memory works in order to recognize how memory and learning help each other.
- Think of the human brain as a vast library. Instead of shelf after shelf of books, this library is full of memories. The hippocampus is the part of the brain that acts as a librarian. It is responsible for deciding what to do with short-term memories. It is also in charge of organizing and storing long-term memories. If the brain decides that new information stored in short-term memory is useful, it will deposit the memory into long-term storage. In other words, the brain's librarian will permanently "shelve" the memories your mind deems important enough to remember.
- Not only does the brain store memories in the library of the mind for the use of learning, but it constantly redesigns the physical structure and organization of the library itself, creating pathways for quicker access to "important" information.

The Ability to Think

- 9 Humans have the ability to be aware of their own thoughts. Although the brain remembers information we do not always *choose* to remember, we can decide what information is important by being aware of our thoughts. Some scientists report that because of this, humans who pay attention to their thoughts should be able to *choose* which thoughts will become a part of their long-term memory. Not only can the brain decide which thoughts are worth keeping, but it can choose how it wants to organize its library.
- The thoughts you think about *most* will create the dominant pathways on which the librarian of your brain will travel and build upon. Your thoughts create physical routes in your brain. The more you think a thought, the more you establish the path for that same thought to be more easily repeated. These thoughts are "stored on the shelves" of your long-term memory.



Creating Awareness

- Although we are often unaware of the pathways being built in our brain, the very act of being focused and purposeful about what we are thinking and learning can change the way our brain stores and uses information. In other words, we can give the libraries in our heads an upgrade by simply choosing to focus on what we want to think about.
- How does this work? You have approximately 70,000 thoughts per day. Interestingly, many of those thoughts will be the same ones looping around again and again. The more you think "I can't do this," for example, the more likely that experience will become true for you. This is because thinking these thoughts over and over creates a route for easy access to the shelves that contain the memories of all the things you "cannot do."
- Learning how to exercise your mind and use tools to increase learning is therefore only a part of the learning process. Do you have what it takes to improve your brainpower? The first step is to simply believe that you can.



Our Brain: For Better or For Worse

INTRODUCTION

The human brain has been the topic of many studies, due to advancement in technology and medical science. Scientists at the American Research Institute of Human Learning want to know what influences the brain, for better or for worse. This study looks at three different experiments conducted throughout the country. The following is a brief summary of what was learned.

EXPERIMENT 1: "What effect does exercise have on how the brain performs?" Performed at NRC Laboratories in Spokane, Washington

Subjects and Procedure

The study included 80 subjects (40 females and 40 males between the ages of 30–40) of similar educational background and intelligence. The subjects were randomly assigned to Group A and Group B. There were 40 subjects in each group. Group A participated in 10 minutes of exercise on a treadmill before completing mazes of varying levels of difficulty within a given period of time. Group B did not exercise and was simply asked to complete the same mazes within the given time period.

Results and Discussion

Overall Group A performed better in successfully completing all levels of the mazes. Additionally, subjects in Group A reported greater satisfaction with the ability to focus. There was a significant difference in mental performance between the two groups.

EXPERIMENT 2: "What effect does sleep have on mental function?" Performed at Sleep Research Studies in Hastings, Nebraska

Subjects and Procedure

The study included 20 subjects (10 females and 10 males between the ages of 20–30) of similar educational background and intelligence. All subjects reported they were good sleepers. The subjects stayed in the lab for four nights in a row. Ten (10) subjects were assigned to Group A. They continued to sleep their normal sleep schedule. Ten (10) subjects were assigned to Group B. They were allowed less sleep each night. Each day, subjects were asked to complete mental tasks of a similar level of difficulty.



Results and Discussion

Subjects in Group A received average scores on the daily tasks. Subjects in Group B scored below average. The more sleep lost by subjects in Group B, the longer it took them to complete the tasks and the less accurate their results were. Group A reported greater satisfaction with the ability to focus on the tasks.

EXPERIMENT 3: "What effect does positive or negative expectation have on academic performance?" Performed at Smith College in Northampton, Maine

Subjects and Procedure

The study included 500 subjects (250 females and 250 males between the ages of 17–19) entering their freshman year of college. Based on their high school grades and college entrance exams, the college used a formula to predict what each student's first year grades would be. The same students were given Expectation Tests to determine whether they thought positively or negatively. The tests also measured the way students explained the reasons for outcomes in their lives, both good and bad.

Results and Discussion

Those who scored higher on the "positive expectation" scale were overall more successful than their peers. The Expectation Tests better predicted student success than did the formulas used by the college. Additionally, those who explained failures as being "unavoidable" were less successful than those who described the same failures as being "lessons learned."

OCCT Grade 8 Oklahoma C³ Standards Writing Rubric

Most notations are aligned to the Common Core State Standards and are to be read as follows: 8 (grade level), W (Writing standard,) L (Language standard), and number/letter (objective).

	Argument	Informative	Narrative		
Score	IDEAS AND DEVELOPMENT				
4	 The content is appropriate for audience and purpose. (8.W.4) The writer addresses the prompt with a fully developed argument using relevant, compelling claim(s) and counterclaim(s), accurate text-based evidence, and logical reasoning. (8.W.1.b) The writer quotes and paraphrases evidence avoiding plagiarism. (8.W.8) Writer expresses an insightful perspective towards the topic.(from prior SDE rubric) 	 The content is appropriate for audience and purpose. (8.W.4) Topic is clear and fully developed using relevant text-based facts, definitions, concrete details, quotations, or other examples. (8.W.2.b) The writer quotes and paraphrases evidence avoiding plagiarism. (8.W.8) Topic is consistently sustained throughout the composition. (from prior SDE rubric) 	 The content is appropriate for audience and purpose. (8.W.4) A real or imagined story or experience with a narrator and characters is fully developed using descriptive details. (8.W.3) A context and point of view are clearly defined. (8.W.3.a) Narrative techniques such as dialogue and description are used effectively to develop experiences, events, and/or characters. (8.W.3.b) 		
3	 The content is largely appropriate for audience and purpose. The writer addresses the prompt with a partially developed argument using claim(s) and counterclaim(s), text-based evidence, and reasoning. The writer attempts to quote and paraphrase evidence. Writer sustains a perspective though most of the argument. 	 The content is largely appropriate for audience and purpose. Topic is stated and partially developed using text-based facts, definitions, concrete details, quotations, or other examples. The writer attempts to quote and paraphrase evidence. Topic is sustained throughout the composition. 	 The content is largely appropriate for audience and purpose. A real or imagined story or experience with a narrator or characters is adequately developed using some details. A context and point of view are present. Some narrative techniques such as dialogue and description are evident. 		
2	 The content is limited for audience and purpose. The writer addresses the prompt with an insufficient argument with claim(s) and counterclaims (s), and limited use of text-based evidence, and reasoning. The writer does not attempt to quote or paraphrase evidence. Writer has difficulty expressing or sustaining a perspective. 	 The content is limited for audience and purpose. Topic may be inferred and has limited development using weak text-based facts, definitions, concrete details, quotations, or other examples. The writer does not attempt to quote or paraphrase evidence. Writer does not sustain the topic throughout the composition. 	 The content is limited for audience and purpose. A real or imagined story or experience with a narrator or characters is minimally developed with few details. A context and point of view may not be clearly defined. Narrative techniques may be minimally used. 		
1	 The content is inappropriate for audience and purpose. Writer's response to the prompt is not developed. Little evidence is elicited from the text. Writer has little or no perspective. 	 The content is inappropriate for audience and purpose. Topic is unclear and is not developed. Little evidence is elicited from the text. 	 The content is inappropriate for audience and purpose. A real or imagined story or situation is not developed. A context and point of view are missing. Narrative techniques are missing. 		

	Opinion	Informative	Narrative		
	ORGANIZATION, UNITY, AND COHERENCE				
Score 4	 Introduction presents a clear topic and establishes the argument. (8.W.1.a) Sustained focus on content and structure (prior SDE rubric) Reasons and information that support the writer's purpose are logically ordered. (8.W.1.a) Transitions between ideas are coherent and link reasons. (8.W.1.c) A formal style is established and maintained. (8.W.1.d) Conclusion is compelling and supports the opinion. (8.W.1.e) 	 Introduction is engaging and presents a clear topic. (prior SDE rubric and 8.W.2.a) Text-based facts, details, and examples are presented in a well-executed progression. (8.W.2.b) Transitions are appropriate and clearly link ideas. (8.W.2.c) A formal style is established and maintained. (8.W.2.e) Conclusion clearly flows from the information presented. (8.W.2.f) 	 Introduction engages and orients the reader. (prior SDE rubric and 8.W.3.a) Well-structured event sequence unfolds in a natural and logical manner and moves the reader through the story or experience. (8.W.3.a) A variety of transitions signal shifts in time and settings and show relationships among experiences and events. (8.W.3.c) Conclusion naturally flows from narrated experiences and events. (8.W.3.e) 		
Score 3	 Introduction presents a topic and an argument. Focus on content and structure Reasons and information that support the writer's purpose are partially ordered. Transitions support and link reasons. A formal style is established but may be inconsistent. Conclusion is satisfying and supports the argument. 	 Introduction and topic are evident. Text-based facts, details, and examples are presented in a logical progression. Transitions link ideas. A formal style is established but may be inconsistent. Conclusion is apparent and relates to the information presented. 	 Introduction interests and orients the reader. Event sequence is logical and moves the reader through the story or experience. Transitions signal shifts in time and settings, and show relationships among experiences and events. Conclusion follows from narrated experiences and events. 		
Score 2	 Introduction does not present a clear topic or argument. Lack of focus on content and structure is evident. Reasons and information that support the writer's purpose are ordered in random progression. Transitions are limited and do not link reasons. A formal style may be attempted. Conclusion is incomplete with little support for the argument. 	 Introduction is incomplete and topic is not clearly stated. Some text-based facts, details, and examples are presented randomly. Transitions are limited and fail to link ideas. A formal style may be attempted. Conclusion is incomplete with little support of the information presented. 	 Introduction may leave the reader with questions. Event sequence is unclear or limited which makes it difficult for the reader to follow the story or experience. Ineffective transitions are used. Conclusion may be missing or irrelevant. Lacks logical direction. 		
Score 1	 Lacks logical direction. No evidence of organizational structure 	Lacks logical direction.No evidence of organizational structure	Lacks logical direction.No evidence of organizational structure		

	All Modes Grades 5 and 8			
	WORD CHOICE	SENTENCES AND PARAGRAPHS	GRAMMAR, USAGE, AND MECHANICS	
Score 4	 Figurative language, word relationships, and nuances in word meanings are demonstrated effectively. (5.L.5 and 8.L.5) Concrete words and phrases, sensory details, and domain-specific vocabulary are used effectively to clearly convey ideas. (5.L.6 and 8.L.6) 	 Rich variety of sentence structure, type, and length (prior SDE rubric and 5.L.3.a) Few, if any, fragments or run-ons (prior SDE rubric) Evidence of appropriate paragraphing (prior SDE rubric) 	 Effectively demonstrates command of the conventions of standard English grammar and usage as well as capitalization, punctuation, and spelling. (5.L.1, 5.L.2 and 8.L.1 and 8.L.2) Errors are minor and do not affect readability. (prior SDE rubric) 	
Score 3	 Figurative language, word relationships, and nuances in word meanings are demonstrated. Concrete words and phrases, sensory details, and domain-specific vocabulary are used to convey ideas. 	 Variety of sentence structure, type, and length Few fragments or run-ons Evidence of paragraphing 	 Demonstrates command of the conventions of standard English grammar and usage as well as capitalization, punctuation, and spelling. Errors may be more noticeable but do not significantly affect readability. 	
Score 2	 Figurative language, word relationships, and nuances in word meanings are limited. Concrete words and phrase, sensory details, and domain-specific vocabulary are limited. 	 Limited variety of sentence structure, type, and length Several fragments or run-ons Little or no attempt at paragraphing 	 Demonstrates limited command of the conventions of standard English grammar and usage as well as capitalization, punctuation, and spelling. Errors may be distracting and interfere with readability. 	
Score 1	 Figurative language, word relationships, and nuances in word meanings are not evident. Concrete words and phrases, sensory details, and domain-specific words are lacking. 	 No clear sentence structure Many fragments or run-ons Little or no attempt at paragraphing 	 Demonstrates little or no command of the conventions of standard English grammar and usage as well as capitalization, punctuation, and spelling. Errors are numerous and severely impede readability. 	